

## **Report of the Director-General of Health / Commonwealth of Australia.**

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# COMMONWEALTH DEPARTMENT OF HEALTH 1970-71

## The Annual Report of the Director-General of Health 50th Anniversary Year



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*ON THE COVER: An early-vintage passenger liner and a Boeing 747 jet aircraft illustrate the years spanned by the Commonwealth Department of Health, which celebrated its fiftieth anniversary in March 1971. The quarantine officer illustrates the prime function of the Department in its early days—the quarantine inspection of ships and passengers arriving at Australia's ports. Fifty years later, in the jet era, quarantine activities are still an important part of the Department's functions.*

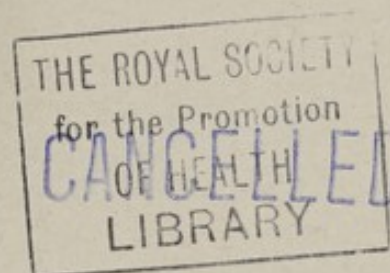


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COMMONWEALTH DEPARTMENT OF HEALTH

**Annual Report  
Director-General  
of Health  
1970-71**



AUSTRALIAN GOVERNMENT PUBLISHING SERVICE  
CANBERRA 1971

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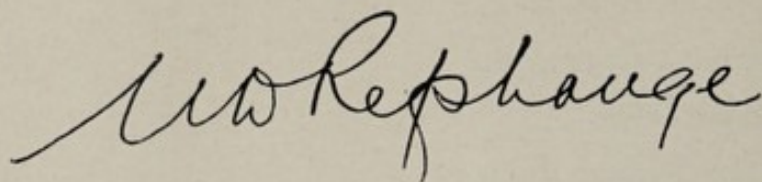
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# Contents

Introduction	<i>page</i> 5
The Past Fifty Years	7
Health Insurance and Benefits	27
Pharmaceutical Benefits	35
Policy Secretariat and Legislation	39
Planning and Research	41
Establishments and Finance	43
Automatic Data Processing	45
Divisional Offices	48
Northern Territory Health	51
A.C.T. Health	58
Quarantine	66
Tuberculosis	72
Public Health	76
Therapeutic Substances	80
National Biological Standards Laboratory	84
Commonwealth Health Laboratories	89
Commonwealth Acoustic Laboratories	93
Commonwealth X-Ray and Radium Laboratory	97
Commonwealth Bureau of Dental Standards	100
School of Public Health and Tropical Medicine	103
Institute of Child Health	111
International Health	113
National Health and Medical Research Council	115
Commonwealth Grants	119
National Fitness	121
Appendix 1—Statistics	123
Appendix 2—Publications	169
Directory of Senior Officers	177

*Senator The Hon. Sir Kenneth Anderson  
Minister for Health  
Commonwealth of Australia*

*I present herewith my report of the activities  
of the Commonwealth Department of Health  
for the year ended 30 June 1971.*

A handwritten signature in dark ink, reading 'W D Refshauge'. The signature is fluid and cursive, with the first letters of 'W', 'D', and 'R' being capitalized and prominent.

*W. D. Refshauge  
Director-General of Health  
September 1971  
Canberra, A.C.T.*

# Introduction

The year 1970-71 marked the fiftieth anniversary of the Commonwealth Department of Health. In those fifty years the activities of the Department have changed significantly, both in nature and extent. When it was first established in 1921, the Department's primary function was to provide a quarantine service and its focus was largely confined to disease prevention. Today the Department has a multiplicity of functions. Many of these are still based on traditional preventive health practices but others, comprising now a significant part of the Department's total activities, are concerned with the provision of services and benefits designed to fulfil the comparatively recent criteria that good health requires not just an absence of disease but a sense of well-being.

In 1970-71, while continuing to provide its full range of services, the Department was again closely involved in the process of enquiry, negotiation and debate which has accompanied changes in the system of national health benefits and the increasing attention to behaviour-based health problems.

The Department provided assistance and information for three major parliamentary enquiries during the year—the Senate Select Committee on Drug Trafficking and Drug Abuse, the Senate Standing Committee on Health and Welfare's enquiry into the problems of mentally and physically handicapped persons and the House of Representatives Select Committee on Pharmaceutical Benefits.

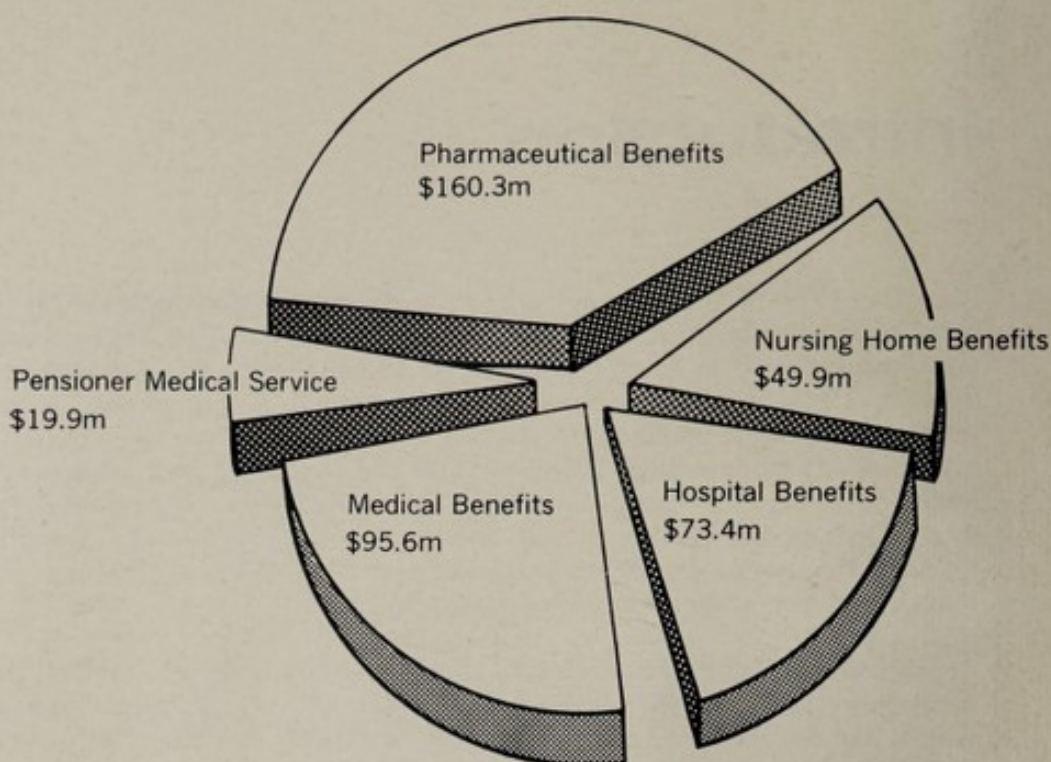
In the field of medical benefits, new benefit levels were arranged to operate from 1 July 1971 for general practitioner consultations and home visits. This followed the announcement by the Australian Medical Association of new fees for these services. A reconstructed Medical Benefits Schedule Advisory Committee, comprising representatives of the Department, the A.M.A. and the health funds, began operations in July 1970 to advise the Minister on anomalies in the most common fees and on new or changed medical services.

Referral procedures were introduced into the Medical Benefits Scheme, following the introduction in 1970 of differential benefits for specialist medical services, and Specialist Recognition Committees were established in each State to determine the medical practitioners to be recognised for the purpose of payment of specialist medical benefits.

Further progress was also made during the year in planning and negotiations for the introduction by health insurance funds of comprehensive hospital insurance tables to cover the full costs of hospital accommodation, treatment and services in State public hospitals.

There was a further significant increase during 1970-71 in Commonwealth expenditure on national health benefits. Expenditure rose by \$74.4 million to a total of \$399.1 million. Expenditure on pharmaceutical benefits rose by \$23.6 million to \$160.3 million, on nursing home and handicapped children's benefits by \$2.5 million to \$49.9 million, on hospital benefits by \$9.0 million to \$73.4 million, on medical benefits by \$38.7 million to \$95.6 million, and on the Pensioner Medical Service by \$0.7 million to \$19.9 million.

## COMMONWEALTH EXPENDITURE ON NATIONAL HEALTH BENEFITS 1970-71



In other areas too, the Department had a year of increased activity, with continued expansion of a number of functions. In the field of health education, for instance, the campaign to make the community aware of the perils of drug abuse gathered momentum and good progress was made in the preparation of information and educational material.

The Northern Territory and Australian Capital Territory health services were under particularly heavy pressure in coping with increased demands stemming from rapid population growth.

The following pages contain reports of the activities of the various Divisions and Branches of the Department. To mark the fiftieth anniversary of the Department's establishment, a special chapter has been included which records the Department's role in the provision of health care in Australia.

# The Past Fifty Years

The history of the Commonwealth Department of Health reflects the growth of public concern with health measures generally and the ability of the community to handle its health problems with increasing effectiveness. The change in approach to public health administration in Australia in the past fifty years is shown in the difference between the view of quarantine as the sole Federal health measure proposed by the framers of the Commonwealth Constitution, and today's array of agencies which reach into the lives of every Australian.

## *Early problems*

When the First Fleet arrived, Sydney Cove was regarded as a healthy place. But the convicts and soldiers were not free from the epidemic scourges common in the more civilised parts of the world. Much of the disease introduced into the young colony flowed from the insanitary conditions of English jails and the transport ships which brought the convicts to Australia. Diseases recorded in the struggling days of the first settlement included cholera, dysentery, smallpox, typhus fever, typhoid fever and venereal diseases.

The Aborigines suffered from the new age that was upon them when in 1789, one year after the arrival of the First Fleet, the first epidemic of smallpox recorded in Australia caused deaths among them over a wide region.

Official concern with 'public' health dates back to the early days of colonial history when regulations were promulgated which were designed to prevent the pollution of the water supply at Sydney Cove. To combat smallpox, supplies of vaccine were sought from England and by 1806, 1,000 of the population of 7,000 had been vaccinated. In the same period vaccinations against smallpox were also given at the convict settlements in Tasmania and Norfolk Island. The first line of defence against the importation of disease was also established in this period. In 1804, vessels from New York were ordered into quarantine for fourteen days on arrival at Port Jackson, because of an 'infectious distemper'<sup>(1)</sup> raging in their home-port. In the following year the ship *Richard and Mary* was quarantined 'till further orders' in Sydney Harbour as the crew was 'infected with a dangerous fever'.<sup>(2)</sup>

As the Australian colonies developed, each used quarantine as a primary safeguard of the community's health. Medicine was just beginning to establish the basis of a scientific approach while public health techniques were generally confined to establishing and maintaining clean water supply and sewerage systems, and enforcing standards for food handling and quarantine. The practice of separating travellers suspected of being disease carriers was well established, dating back to Venice in the fourteenth century.

## *First quarantine measures*

The fragmented nature of the Australian colonies and their differing quarantine measures in the days of sail were not then of great public concern. The time taken on the voyage from Europe, England or America ensured that

<sup>1</sup>. Cumpston, J. H. L.: 'Public Health in Australia'. *The Medical Journal of Australia*, Vol. 1, No. 17, 1931. p.497.

<sup>2</sup>. *Ibid* p.498.

any infectious disease incubating among passengers or crew would have broken out by the time the ship arrived at its Australian destination and could be detected and dealt with. Quarantine measures were generally able to prevent the diseases penetrating the port population. With the speeding up of sea transport in the latter half of the last century, the opening of the Suez Canal and the growing practice of ships calling at a number of Australian ports instead of only one, as was the practice in earlier days, the picture began to change. Ships using the Suez route were not only reaching Australia more quickly but were touching at Middle Eastern and Asian ports where serious diseases were endemic.

In 1884 the Government of New South Wales convened a conference of representatives from each colonial government, known as 'The Australasian Sanitary Conference of Sydney, N.S.W., 1884'. It called for a co-ordinated scheme of quarantine for both Australia and the nearby Pacific Islands. The delegates were insistent that a co-ordinated quarantine system be accompanied by effective internal sanitation measures. Their report said:

'Quarantine can be, and is, of value commensurate with its costs only to countries whose internal sanitation is good; it cannot be considered, therefore, except as a part of the general subject of State Medicine.'<sup>(3)</sup>

As part of an Australia-wide quarantine system the conference sought the establishment of two quarantine stations—one at Albany in Western Australia and the other at Cooktown in Queensland, the two main shipping approaches to Australian ports. Nothing came of the recommendations, but the need to protect the people of Australia from imported disease was not lost sight of altogether. When the Constitution for the Commonwealth of Australia was finally established, quarantine measures were included in the legislative powers of the Commonwealth. Health measures as such, however, were to remain a province of the States.

### *Changing emphasis*

Until late in the nineteenth century, public health measures were rather primitive. They were often based on surmise and reflected lack of information about the nature of disease. But with the increase in scientific knowledge more precise information became available on which to base methods of preventive medicine. At the same time the seeds of a shift in emphasis in public medicine were being sown. The first Director General of the Commonwealth Department of Health, Dr J. H. L. Cumpston, pointed out that as public health began to come under the rules of scientific method it also began to be accepted that:

'... the proper objective of governmental (health) administration was ... nothing less than positive health, freedom from all illness and disability for every individual human unit in the community'.<sup>(4)</sup>

The growth of medical knowledge had enabled the expansion of governmental policy in health administration from one of a narrow concept of public health to the larger view of private health.

The newly-formed Commonwealth Government found very early in its life that it had to become involved in a practical way with health measures when, in 1900, plague reached Australia. Though not the first time that the disease had appeared in Australian ports, it was the first time since the Commonwealth had assumed responsibility for quarantine measures. The outbreak lasted ten

<sup>3</sup>. Report of the Australasian Sanitary Conference of Sydney, N.S.W., 1884, in *Report upon the Activities of the Commonwealth Department of Health from 1 July 1909\* to 30 June 1930*, p.223.

\*MSS in Commonwealth Department of Health Library. The 1909 date is the start of the Federal Quarantine Service which was absorbed by the Department of Health in 1921.

<sup>4</sup>. Cumpston, J. H. L. *Health of the People*, Canberra, National Library of Australia, MSS 613,2/4.



*The quarantine launch Jenner approaching a newly-arrived ship in Sydney Harbour—a picture from the earlier days of the Commonwealth Department of Health.*

years in a sporadic pattern affecting all states except Tasmania. Although it did not reach alarming proportions the occurrence prompted co-ordinated action by the States.

### *Plague and national quarantine*

It had been established by then that infected fleas from rats spread plague and Commonwealth action to prevent the entry of the disease was sought. In 1904 health authorities from each State and the Commonwealth met and recommended the creation of a Federal Quarantine Service, to be controlled by the central Government but operated by the Chief Health Officers in each State, to whom authority would be delegated by the Commonwealth. Finally in 1906, the six State Premiers agreed to hand over quarantine administration to the Commonwealth and on 1 July 1909 the Federal Quarantine Service began operations, within the Department of Trade and Customs.

However, this somewhat loose method of Commonwealth-State co-operation soon ran into difficulties. In 1910 Victoria withdrew from the system, with the State Government claiming that the performance of quarantine duties by its senior officer interfered with State health duties. The Commonwealth was urged to appoint its own staff and in August 1911 this was done with the appointment of a Chief Quarantine Officer for Victoria.

With the exception of Tasmania, all the States found problems which interfered with the smooth working of the original proposal and by 1916 a Commonwealth Medical Chief Quarantine Officer had been appointed to each of the mainland states. In Tasmania the original system continued until July 1929.

The main problems of this exercise in State-Commonwealth co-operation revolved around the Commonwealth being called upon to administer a public service with part-time staff. The States found difficulty in carrying out their ordinary health duties because of the arrangement. The situation was further

complicated by the fact that the Commonwealth was legally responsible for a service which was administered by officers who were not responsible to the Commonwealth.

The powers of the Commonwealth were seen as complementary to those of the States and not dominant. The States, on the other hand, could prescribe measures but did not have the facilities to carry them out. The Quarantine Act was amended by the Commonwealth on a number of occasions in the next few years as new problems arose. The amendments expanded the Commonwealth's authority in quarantine matters to cover internal epidemics, as well as improving overall quarantine methods for diseases from outside the country.

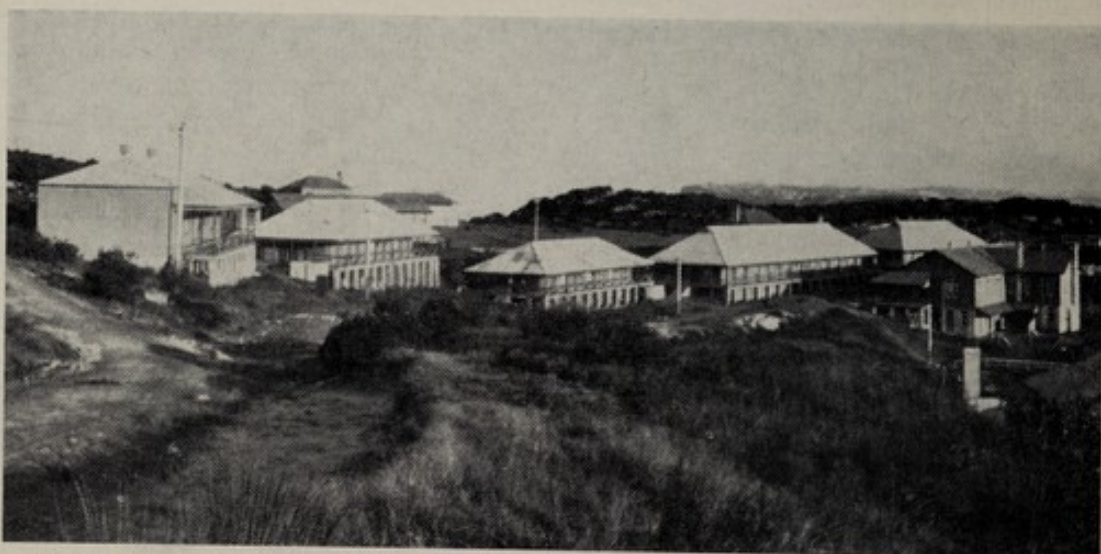
While the Commonwealth was without a mandate to enter the States' preserve of public health, it had been making progress in some aspects of the subject other than quarantine. It had, for instance, taken on international obligations by agreeing to supply information to other countries on the occurrence in Australia of infectious diseases. This was part of a world-wide system of reporting which sought to contain disease outbreaks and at the same time improve quarantine measures throughout the world. Unity had been growing slowly in other directions too.

### *Early action with States*

In 1910 an Australia-wide conference had been held to draw up standards for food and drugs; in 1911 there was an interstate conference on tuberculosis; in 1912 a Royal Commission was appointed to look into food and drug standards in the States.

Attitudes in Federal circles towards co-ordinated preventive medicine became warmer when it was realised that much of the illness which attracted pensions under *The Invalid and Old-Age Pensions Act* 1908 was preventable. An analysis of 23,000 medical certificates showed that 32.3 per cent of the diseases which attracted a pension could be prevented, either in whole or in part.

Similarly, when the Maternity Allowance Act was introduced in 1912, people soon began to ask if the \$1 million spent annually under the scheme could not be better spent in improving the health of mothers and reducing the risks of child-birth. It was evident that the benefits of the Maternity Allowance Act were not improving the maternal mortality rate. The need for overall direction and control of a wider range of public health measures was more sharply emphasised when Australia became involved in World War One.



*An early photograph of the North Head Quarantine Station in Sydney. North Head is still a quarantine station for the port of Sydney today.*

## World War One

The War for instance brought Commonwealth action to provide a source of anti-toxins and other biological agents when overseas supplies became scarce. The Commonwealth Serum Laboratories were set up to produce locally preparations no longer available from overseas manufacturers, and was administered at first by the Federal Quarantine Service.

In 1916 the Federal Government appointed a committee to investigate the causes of death and invalidity throughout Australia. The committee reported that, apart from taking specific measures in major disease areas, the Commonwealth had essential interests and duties regarding public health:

'It is clear that valuable service could be rendered by the Commonwealth in an attempt to secure uniformity in the State Health Laws and in their administration; in the collection of sanitary data, and in the promotion of health research. An enormous impetus would be given to progress if the Commonwealth Government would offer to contribute to the cost of appointing District Medical Inspectors throughout Australia, and would undertake to invite at its own expense an annual conference of the Chief Health Executive Officers of the several States with the Director of Quarantine. These are the two measures which, in the opinion of your Committee, would be most effective in levelling up legislation, in promoting good administration, and in lessening mortality and invalidity in every direction.'<sup>(5)</sup>

## Final impetus

In the last two years of the second decade, two further events proved decisive in reaching agreement on direct Commonwealth influence in the field of health. In 1919, when the world-wide influenza epidemic reached Australia, conflict developed between the Commonwealth and States in the administration of quarantine measures and was followed by a critical review of their relationship in dealing with health matters. Added to this, it was feared that troops returning home would introduce many of the diseases prevalent in the areas in which they had served.

In 1918 hookworm infestations of serious proportions were discovered in North Queensland and a joint campaign was carried out involving the Commonwealth Government, the States and the International Health Board of New York. They joined in a five-year campaign to survey and treat the disease in Australia. This exercise provided a final impetus to the pressures which pushed the hesitant Commonwealth into a sphere which had until then been the responsibility of State and local authorities.

In 1919, the then Federal Director of Quarantine, Dr J. H. L. Cumpston, prepared a memorandum, which was submitted to a Commonwealth-State Ministers Conference, that economic benefits were to be gained from an increased level of health in the community. He suggested two possible lines of action—first direct Commonwealth control of public health functions throughout Australia and second a co-ordinating role for the Commonwealth in which it would supervise research and subsidise the States in disease eradication measures, but would retain control over quarantine matters. The States approved action along the lines of the second proposal.

Shortly afterwards came the offer of the International Health Board to provide the help of specialists in fighting the hookworm outbreak. The board also offered to provide medical scholarships for Australian students. A condition of the offer, however, was the creation of a Commonwealth Department of Health to supervise these and other health activities.

The Commonwealth Government approved the move in February 1921, and the Department came into being on 7 March of that year. Its headquarters were established in Melbourne (the Department moved to Canberra in 1928).

<sup>5</sup>. Report of the Inter-Departmental Committee on the Causes of Death and Morbidity in the Commonwealth (1916) in *Report upon the Activities of the Commonwealth Department of Health from 1 July 1909 to 30 June 1930*, p. 50.

The functions of the new department were specified in the Order in Council which authorised its creation. These were to administer the Quarantine Act; investigate the causes of disease and death, establish and control laboratories for this purpose and assume control of the Commonwealth Serum Laboratories; collect sanitary data and investigate methods of preventing disease and factors affecting health in industry; administer subsidies to the States for the eradication, prevention or control of any disease; conduct campaigns of prevention of disease in which more than one State was interested; administer the Australian Institute of Tropical Medicine; administer the control of infectious disease among discharged members of the Australian Imperial Forces; generally to inspire and co-ordinate public health measures; and carry out other functions which might be assigned.

Thus, after twenty-one years of Federation, against a background of increasing medical knowledge, the Commonwealth had moved from a tentative engagement on the fringes of public health to an active role in providing services designed to promote the health and well-being of the total population.

### *Laboratories*

An early move by the new Department was the establishment of laboratories in some major provincial centres to provide medical practitioners with facilities that were otherwise only available in the metropolitan areas. They were considered an essential part of the quarantine system as they would allow speedy diagnosis of disease which escaped detection by the usual quarantine measures, and could also conduct research into local health problems. The first of the laboratories was established in Rabaul, on the island of New Britain in December 1921. By 1929, nine laboratories had been established and with further expansion after World War Two, the number now stands at fifteen. (This figure does not include the Rabaul laboratory, which was handed over to the New Guinea administration soon after it was established.)

At first the Department was divided into five main administrative areas. These were a Laboratories Division, covering the health laboratories and the Commonwealth Serum Laboratories in Melbourne; a Division of Tropical Hygiene, handling questions of tropical health in Northern Australia and including the Institute of Tropical Medicine; and the Divisions of Industrial Hygiene, Public Health Engineering, and Marine Hygiene which administered quarantine activities.

Other Commonwealth responsibilities apart from strictly medical ones were also given to the new Department. Medical Inspectors of Shipping were provided under the Navigation Act to oversee the examination of seamen, the quality of provisions, the purity of water and the identity and quality of medical stores. Their other duties included the oversight of standards of accommodation for crews and passengers. Medical work under the Seamen's Compensation Act was added to these functions later.

### *New plague problem*

The Department's responsibilities in the area of epidemic disease were soon to be tested. In August 1921 a fatal case of plague was notified in Brisbane and further cases were found in Sydney. The control of the disease and measures to destroy the rats which carried it were undertaken by State health departments in New South Wales and Queensland. The Commonwealth assumed the responsibility of preventing the spread of plague to uninfected areas. In contrast with experience during earlier epidemics involving quarantine, an effective degree of co-operation was obtained and the danger was considered over by March 1923.

The Department's functions were developed during the 1920s but, with the depression at the end of the decade, the Health Department, together with other Commonwealth departments, came under critical examination. There was pressure for it to be abolished but instead a slower programme of development was

instituted in some areas, while activities such as Public Health Engineering were terminated. Overall, the divisional system of administration was replaced by a uniform internal departmental structure. In the later 1930s the growth of the Department resumed. But, in spite of its growing importance in health administration generally there were still occasional areas of disagreement with the States.

### *Internal quarantine*

Some questions of internal quarantine, for instance, were still to be settled as an outbreak of poliomyelitis in 1937 was to show. The disease first became evident in Victoria, and New South Wales asked the Commonwealth to arrange a border quarantine between the States. The Commonwealth said it was unable to comply but New South Wales went ahead, stationing hundreds of police along the Victorian border. This, however, did not stop poliomyelitis from spreading into N.S.W. and Queensland. Following this experience, the N.S.W. Government passed the Public Health Amending Act (1937) giving it power to act in health matters which are normally the responsibility of the Commonwealth if the Commonwealth declined to act.

Another development of this period followed a suggestion to the League of Nations by Australia's delegate Mr S. M. (later Lord) Bruce, that the poor nutritional status of the world was a problem to be considered by the League. Australia set up an Advisory Council on Nutrition, which conducted a survey for three years (1936-7-8), before it was absorbed into the National Health and Medical Research Council which was established in 1937.

The work of the Department was further extended with the establishment of the Lady Gowrie Child Centres in the late 1930s. One centre was established in each capital city, to investigate effective programmes for the mental, social and physical growth of children. The Department's responsibilities were widened considerably by its association with a number of institutions, some already in existence when the Department was created and others which were created in response to particular needs.

### *Health in the tropics*

The Commonwealth Government had been involved in the study of tropical medicine ever since it took part in the establishment of the Institute of Tropical Medicine in Townsville in 1909, in conjunction with the Universities of Sydney,



*The original headquarters of the Australian Institute of Tropical Medicine, which was established in Townsville in 1909. Its isolation from other centres of medical research led to its transfer to the University of Sydney, following a recommendation by a Royal Commission on Health in 1925.*

Melbourne and Adelaide and the State Governments of Queensland and New South Wales. The Institute's work had been interrupted during the war years, but after the war its role grew in importance again.

Australian responsibilities for tropical territories were enlarged when the former German Territory of New Guinea was placed under Australian control by the League of Nations. The general question of whether European peoples could undertake hard work in tropical climates was of great importance, as it had been decided to discontinue the importation of Pacific Islanders to work on the sugar cane farms of North Queensland. In 1920 the Fourth Session of the British (now Australian) Medical Association Congress examined the early work of the Institute and other available material and declared it was:

'unable to find anything pointing to the existence of inherent or insuperable obstacles in the way of the permanent occupation of tropical Australia by a healthy indigenous white race.'<sup>(6)</sup>

The congress went on to say that the whole question of settling the northern tropics revolved around 'applied public health in the modern sense'.<sup>(7)</sup>

There was a surge of renewed activity in the Institute, following its take-over by the Commonwealth. Research into the causes of specific diseases was continued and special attention was paid to the physiology of life in the tropics. Post-graduate courses for doctors in the special field of tropical medicine were developed. The isolation of Townsville from the other medical teaching centres in Australia was, however, preventing the Institute from developing its teaching role. Following a recommendation by a Royal Commission on Health in 1925, the Institute was merged into the School of Public Health and Tropical Medicine, established by the Commonwealth in conjunction with the University of Sydney, within the University grounds.

### *Institute of Anatomy*

Two other bodies whose administration was taken over by the Department were the Institute of Anatomy and the Commonwealth Serum Laboratories. The establishment of the Institute of Anatomy stemmed from the studies of Sir Colin McKenzie of the skeletal and muscular formation of Australian fauna in relation to pathology and abnormal function in man. His work demonstrated the need for organised research into the structure and functions of Australian animals. Sir Colin's laboratory and breeding reserve near Melbourne were taken over by the Department and in 1924 Sir Colin was appointed the Director of the National Museum of Australian Zoology. The museum was transferred to Canberra in 1930, where it was renamed the Australian Institute of Anatomy.

### *Commonwealth Serum Laboratories*

The Commonwealth Serum Laboratories had their beginnings in 1883 in a depot established in Royal Park, Melbourne, to produce calf-lymph vaccine for inoculation against smallpox. The Victorian Central Board of Health transferred the depot to the Commonwealth in 1912. When the Federal Government established the Commonwealth Serum Laboratories in 1916 to produce badly-needed biological preparations, the depot was absorbed. Dr W. J. Penfold came from England to head the new organisation.

In their first year the Laboratories produced fourteen vaccines for sale but by 1930 the annual catalogue had grown to 101 pages covering a wide range of preparations. Special products were also manufactured to the orders of doctors.

The Laboratories operated as part of the Department of Health until 1961 when a statutory authority, the Commonwealth Serum Laboratories Commission,

<sup>6</sup>. Report of the British Medical Association Congress, in *The Medical Journal of Australia*, Vol. 2, No. 12, 1920, p. 293.

<sup>7</sup>. Ibid.

was established to control operations. This move was aimed at improving the operation of the organisation, which did not fit smoothly into a public service structure. The Laboratories have many outstanding achievements to their credit, including the large-scale preparation of insulin shortly after its isolation in Canada, a triumph they shared with only three overseas laboratories. Through the Laboratories, Australia became one of the first countries in the world to manufacture penicillin for general use by the civilian population. As well as supplying biological products for human and veterinary use and maintaining an emergency production capability, the Laboratories have been continuously involved in research and development.

### *Health campaigns*

One of the first public health campaigns with which the Commonwealth Department of Health was associated was the fight against the hookworm infestation in North Queensland mentioned earlier. Other campaigns in which the Department was involved from its early days include those against malaria and tuberculosis.

With the return of First World War servicemen from malaria-infected war theatres, there was concern that the disease could become widespread in Australia, together with other diseases such as bilharziasis, a parasitic infection. The Department co-operated with the State Governments and the Repatriation Department in finding malaria cases and arranging treatment. Their combined efforts prevented any local epidemic of the disease from starting. While it is not possible to state categorically that there was no transmission of malaria by returned servicemen to their families or other members of the community, no instances were ever recorded.

Commonwealth interest in tuberculosis started with the investigation into the causes of death and morbidity it authorised in 1916. From this followed a pilot scheme in Bendigo where a health laboratory with X-ray facilities was established. Later, tuberculosis diagnosis campaigns were conducted among miners in New South Wales, Western Australia, Victoria and Tasmania, as well as stone-masons, rock-choppers, sewer diggers and quarrymen.

The 1925 Royal Commission on Health recommended that a Tuberculosis Division be established within the Commonwealth Department of Health. It came into being in 1927 and began working with the States in their anti-tuberculosis campaigns. Venereal disease was also added to the Department's sphere of responsibility. In 1916 the Commonwealth had begun subsidising the States in their efforts to control the disease. In 1927 a Division of Venereal Diseases was created in the Department, again to co-operate with State agencies in surveys of the incidence of the disease.

Quarantine regulations required arrivals suffering from such diseases to be isolated at a Quarantine Station, or treated at a clinic or hospital. After signing an international agreement in 1928, the Commonwealth became responsible for providing free treatment for visiting seamen suffering from venereal diseases.

### *X-Ray and Radium Laboratory*

Growing interest in the effectiveness of radium in the treatment of cancer led to the purchase by the Commonwealth in 1927 of ten grammes of radium. The Government also subsidised campaigns in New South Wales, Queensland, South Australia and Western Australia to raise funds for research into cancer treatment. A radium centre was established in each capital city and a Cancer Advisory Committee was formed to advise the Commonwealth Government. A national organisation was built up and treatment and research centres were extended to centres outside the capital cities.

The work of the centres was co-ordinated by the Health Department and in 1929 the Commonwealth Radium Laboratory was established (within the University of Melbourne) to act as the custodian of all Commonwealth radium and to

ensure its safe and proper use. As the need for research into the physical aspects of cancer treatment techniques (and later the need for research and advice on all aspects of radiation, including atomic radiation) became apparent, the functions of the Laboratory were expanded.

In 1935 the Laboratory was re-named the Commonwealth X-Ray and Radium Laboratory. Today this laboratory provides an advisory service in the physical aspects of medical radiology and radiotherapy, including radiological protection and also conducts an extensive film-badge service. It distributes radio-isotopes throughout Australia for diagnostic investigations and treatment of patients. The Laboratory also develops and maintains national standards for the measurement of ionising radiations and radioactive substances, as well as keeping watch on the levels of radioactivity in the Australian biosphere.

Another activity in which the Department of Health showed an interest from the beginning was sanitary engineering. The division of Public Health Engineering—formed in 1921 to advise engineers and local government authorities—did valuable work until it was disbanded in 1930. Officers of the division gave advice on sewerage, water and refuse disposal schemes in a number of States. In its short life the division showed that public health engineering was a specialised field and that engineers who wanted to be effective in this work needed some biological training.

### *Depression slowdown*

Some other functions of the Department which were abandoned in 1931 were maternal and infant hygiene, marine and industrial hygiene, tuberculosis and venereal disease control activities and tropical hygiene investigations. At the same time, because of the depression, research activities were largely curtailed. Commonwealth interest in these functions was not lost entirely, however, and was to be revived in later years, mostly in different forms.

Although the early 1930s were a period of decline for the Department a level of activity was maintained in a number of areas. From 1936 annual grants were made to the Flying Doctor Service and in 1938 the Department assumed responsibility for Health Services in the Northern Territory.

### *N.H. & M.R.C.*

The Federal Health Council was enlarged and modified in 1937 to become the National Health and Medical Research Council. It was charged with the administration of grants for research work. The original Federal Health Council, which had been set up in 1926 following a recommendation of the 1925 Royal Commission on Health, consisted of senior Commonwealth and State Health officers. They met to consider a co-ordinated policy on health matters and to advise their respective governments on appropriate action.

The creation of the National Health and Medical Research Council added the advice of the medical profession to what until then had been a purely public service body. The new Council incorporated members of the British Medical Association in Australia, the medical colleges, and university medical teaching staffs. One of the main tasks of the new body was to discuss the spirit and purposes of medical research, which was now seen to be an asset to the national economy. In 1970-71 the Council made grants totalling \$2.44 million from the Medical Research Endowment Fund to assist research projects and provide scholarships.

### *National Fitness*

A National Fitness scheme was launched in 1939 under which the Commonwealth Government provided grants to the States to assist in the development of facilities for physical training and recreation. Unfit people were seen as a reduction of the human resources needed for the nation's success in international economic

competition and in the looming Second World War. National Fitness continued as a Commonwealth concern after the war years and, by 1953, sixteen permanent establishments were available in all States for conducting fitness programmes.

## *Health insurance*

The war proved to be a significant period in the development of national health activities within Australia. Firstly came the exercise of mobilising the nation's medical service to serve both the military and civilian spheres. Secondly the war saw the start of planning that was to lay the foundations of a post-war national health insurance scheme.

The first attempt at a national health insurance scheme had been in 1938 when a Health Insurance Bill was passed by Parliament. It had not been adopted, however, because of political opposition and apparent public apathy. Despite the immediate pressures of the war effort, concern for some form of protection against the high costs of illness became a significant political issue.

In 1941, the Joint Parliamentary Select Committee on Social Security came into being, and among the topics it discussed was the need for a national health service. The requirements for such a scheme were also considered by the National Health and Medical Research Council, whose investigations covered both medical and hospital services. The British Medical Association in Australia also examined the question and indicated agreement with some form of national health service, providing it maintained a confidential doctor-patient relationship and allowed professional responsibility to be retained by doctors.<sup>(8, 9)</sup>

## *Debate on methods*

By this time there was no longer any questioning of the need for improved health services for the nation. The argument revolved on how they were to be provided. It was agreed that health was a public asset and that every citizen had the right of adequate access to medical services. But while there was general agreement on the desirability of a scheme which would remove the fear of the high cost of medical and hospital care, there was much debate on how it was to be done. The proposals which were to come were breaking new ground and, despite the social idealism motivating them, the new schemes were to meet strong resistance from medical interests.

The first step in providing some form of financial assistance with medical costs came with the *Pharmaceutical Benefits Act* in 1944-45. The Act was designed to provide certain drugs to the public at a reduced cost but it was opposed by a section of the medical profession in Victoria and declared invalid by the High Court.

## *Referendum*

The core of the problem was now laid bare. No amount of planning it seemed, would overcome the Commonwealth's inability to operate in a field in which it had no constitutional power. However, a referendum in 1946 approved measures by the Commonwealth Government to extend its powers. As a result, Placitum 23A was added to Section 51 of the Constitution of the Commonwealth. This gave the Government power to legislate for the provision of . . . 'pharmaceutical, sickness and hospital benefits, medical and dental services (but not so as to authorise any form of civil conscription) . . . '

In 1947 a Pharmaceutical Benefits Act was again passed by Parliament while a National Health Service Act received Royal Assent in 1949. The British Medical

<sup>8</sup>. British Medical Association Federal Council Sub-committee report on National Health, in *The Medical Journal of Australia*, Vol. 2, No. 18, 1941, p. 517-721.

<sup>9</sup>. British Medical Association Federal Council report in *The Medical Journal of Australia*, Vol. 1, No. 17, 1943, p. 376-377.

Association in Australia however, maintained its objections to the Government's Pharmaceutical Benefits Scheme and in 1949 a provision which required doctors to use an official form in prescribing medicines was declared unconstitutional, being held to comprise a type of civil conscription. In 1945, the Government introduced the Hospital Benefits Act which allowed Commonwealth benefits to be paid to qualified hospital patients.

In regard to health services the Minister for Health and Social Services, Senator J. M. Frazer said in 1945:

'It is intended, although this stage has not yet been reached, that every person shall have the right to receive medical advice from a doctor whenever he is ill and without any cost to himself. This will apply in the case of every Australian citizen, including women and children, and will not be limited by any consideration of the financial status of the patient.'<sup>(10)</sup>

## *New Government*

Following the 1949 election the Liberal-Country Party coalition government came into power. Benefits and services introduced by Labour were continued under the new government but the emphasis in the medical and hospital schemes, was now placed on voluntary insurance and government subsidy.

This approach was summed up by the Minister for Health, Sir Earle Page, in 1953:

'The great danger in any government-aided health scheme is the tendency to develop a psychology of dependence and diminished personal and community responsibility. The fundamental aim of any social security scheme should be to raise the individual to a level at which he can help himself. Any such scheme should contain elements that encourage self-reliance and a sense of personal responsibility. Also it should stress the obligation of the individual to make at least a part of his contribution directly to the functioning and cost of the Scheme. The Government is doing this by a unique device of stimulating voluntary insurance by government aid, which tremendously increases the value of the premium in medical security.'<sup>(11)</sup>

The administration of the National Health Act has constituted a major part of the Department's activities in the last two decades. The Act has been kept under constant review and broadened and updated to provide improved services and benefits. Its administration has accordingly become progressively more complex.

## *Wide-ranging activities*

There have also been frequent additions to the Department's functions in the post-war years and many administrative problems have arisen from the consequent widening of the range of activities. The Department had needed wide-ranging professional competence for the efficient provision of many public services of a medical and specialised nature. In the sphere of research the Department's activities are even more widely diversified, although perhaps less well-known than those which provide a more direct benefit or service to the public. On the managerial side the Department has to administer part or all of a total of twenty-two Acts, a number of them involving arrangements with State Governments which actually carry out many of the nation's health responsibilities.

In July 1964 a step was taken which has led to the more efficient organisation and administration of the multiple functions of the Department. A re-organisation was made which allotted responsibility for particular functions to specified divisions.

<sup>10</sup>. Senator the Honourable James M. Fraser, Minister for Health and Minister for Social Services, *The Health Policy of the Australian Government*, Canberra 1945, p. 8.

<sup>11</sup>. House of Representatives, Canberra, 27 March 1953. *Parliamentary Debates (Hansard)*, Vol. 221, p. 1757.

At present, the day-to-day work of the Department's Central Office is carried out through six Divisions covering Management Services, Health Insurance and Benefits, National Health, Laboratory Services and Quarantine, Tuberculosis and the National Health and Medical Research Council. Each Division contains a number of branches which in turn are broken up into sections handling particular activities.

### *Welfare expenditure*

The growth of Commonwealth involvement in health services can be seen in an examination of expenditure. To take the National Welfare Fund alone (covering hospital, pharmaceutical and medical benefits, nursing home and handicapped children's benefits, the Pensioner Medical Service, anti-tuberculosis campaign and free milk for school children, etc.), the expenditure here has risen from \$143,020,748 in 1960-61 to \$426,447,000 in 1970-71.

Expenditure on Pharmaceutical Benefits is the biggest single item in National Welfare Fund expenditure, reaching \$160,275,000 in 1970-71, while expenditure on Hospital Benefits during the year was \$73,367,000, on Medical Benefits \$95,604,000 and on the Pensioner Medical Services \$19,898,000. Overall in 1970-71, the Commonwealth Department of Health was responsible for administering the expenditure of \$476,313,000.

Computer processing was first adopted in 1965 (complete conversion was achieved by 1967) to handle claims by chemists under the Pharmaceutical Benefits Scheme. At first, computer-time was provided by the Bureau of Census and Statistics. But as the volume of work grew a need was seen for the Department to acquire its own computing equipment. By 1971 two computers were operating in the Central Office in Canberra and are now being used to carry out a variety of functions, as well as the processing of chemists' claims under the Pharmaceutical Benefits Scheme.

### *Health Insurance Division*

The growth and complexity of the Medical and Hospital Benefits Scheme has led to a corresponding increase in the administrative structure needed to supervise them. In 1946 a section was established to supervise the payment of benefits to State and private hospital authorities. By 1970 the former section had become a Division in its own right—the Health Insurance and Benefits Division. The new division supervises and administers the medical and hospital insurance schemes as well as providing health benefits to sections of the community such as pensioners, and subsidising low income earners to cover their health insurance contributions.

In addition to its expanded activities in the administration of the National Health Scheme, the Department's functions have also increased significantly in other areas.

### *Broadening of services*

Further responsibilities were acquired in the nineteen-forties, including the administration of several new services. In 1947 the Immigration Medical Service was established to care for immigrants during their stay in migrant camps.

Tuberculosis received active attention from the Commonwealth again when, in 1945, an Act was passed to provide funds to the States to aid the diagnosis, treatment and after-care of tuberculosis patients, and the payment to patients of a special allowance as a supplement to their invalid pension. To carry out work associated with the anti-tuberculosis campaign, the Tuberculosis Division was re-established in the Department in 1947.

Experience showed that further action was needed and in 1948 a second Tuberculosis Act was passed which provided Commonwealth funds for capital

expenditure, assistance with maintenance costs and the payment of allowances to patients. Regarded as model legislation of its kind,<sup>(12)</sup> the Act repeated the basic form of Commonwealth participation in particular health projects by which the Commonwealth provides the funds while the work is carried out by the States under an agreement with the Commonwealth.

In 1947 the Commonwealth Acoustic Laboratories came into being with a head office in Sydney and branches in each State. The Laboratories had their origin in wartime research into the effects of noise on servicemen and in later work on deafness caused by maternal rubella. The Laboratories conduct research into audiology and fields such as ultra-sonics, as well as supplying hearing aids to children and pensioners. In 1967-68, a new service for pensioners with hearing problems was introduced and hearing aids are now provided by the Laboratories for a hiring charge of ten dollars. The Laboratories also carry out work on noise and hearing problems for the military services and the aviation industry.

An Industrial Medicine Unit was attached to the School of Public Health and Tropical Medicine in Sydney in 1948, together with an Institute of Child Health. This latter institution was later transferred to the Royal Alexandra Hospital for Children but remained under the control of the Department. Research into child nutrition became a function of the Institute of Anatomy in Canberra in 1947. A war-time innovation that has continued is the Munitions Medical Service which provides a health service for workers in munitions factories.

### *Northern Territory*

At the end of the Second World War, the Department resumed responsibility for health services in the Northern Territory which had been taken over by the military in war-time. These services have steadily expanded with the Territory's growth in population as new pastoral, agricultural and mining ventures have attracted more settlers.

The need for improved health services in the Territory has been emphasised in recent years by the effects of social change on formerly remote communities of Aborigines, whose way of life is changing from that of the nomad subsisting from hand to mouth to a more settled existence on missions and settlements. While food is now more easily obtained this change has not been accompanied to any great extent by an appreciation of the improved standards of hygiene necessary where large numbers of people congregate for long periods. As a result, an apparent increase in morbidity among Aborigines has been revealed. Although they comprise only about one-third of the population of the Territory, they occupy some two-thirds of the hospital beds.

The services provided through the Northern Territory Medical Service now cover public health, school medical services, infant, home and public health nursing, and laboratory, dental, hospital and quarantine services. The Northern Territory Aerial Medical Service operates as an adjunct to these services. It has a fleet of six aircraft and uses commercial and charter aircraft when required. The Aerial Medical Service assists in conducting preventive health campaigns throughout the Northern Territory in conjunction with the Rural Health and Public Health nursing sections. In addition, it provides both emergency and routine medical transport.

Within recent years, Groote Eylandt has become a port for overseas ore shipments and quarantine procedures and health measures have had to be introduced in an otherwise undeveloped area. There has also been a major growth in quarantine work involving aircraft, with Darwin now an important port of call for both commercial and military planes. (Darwin, incidentally, was the first quarantine port in Australia to handle aircraft arriving from overseas when, in December 1919, Ross and Keith Smith landed on the first flight from England.)

<sup>12</sup>. Abbot, P. D., and Goldsmith, L. P., 'History and Functions of the Commonwealth Health Department 1921-52', *Public Administration*, Vol. 2, No. 9, Sept. 1952, p. 119-126.



*The Northern Territory Aerial Medical Service was established in 1946, but a similar service was provided by Dr Clyde Fenton in pre-war days. Dr Fenton flew his own aircraft, and his operating costs were subsidised by the Commonwealth Government. After he crashed at Darwin in 1936, a public appeal raised sufficient money for a new aircraft. The photograph shows Dr Fenton christening the new plane with champagne.*

A leprosy hospital is maintained at East Arm, near Darwin, where advanced methods of treatment and rehabilitation are used. Disabled and infectious patients are treated in the hospital while others are treated as out-patients.

Hospital facilities in the Northern Territory have been continually improved over the years and at the beginning of 1971 a total of 674 hospital beds was available. Major hospitals are situated in Darwin and Alice Springs, with others at Katherine, Tennant Creek and Batchelor. A new hospital, to be completed in 1971, is being built at the township of Nhulunbuy on the Gove Peninsula to serve the growing population attracted by the bauxite development taking place in the area.

### **A.C.T. Health Services**

The provision of health services by the Commonwealth in the Australian Capital Territory pre-dated the formation of the Health Department. In September 1914, the position of Director-General of Public Health for the A.C.T. was created and was initially held by the same man who, as mentioned earlier, eventually became first Director General of the Commonwealth Department of Health, Dr J. H. L. Cumpston.

In 1924 the Territory Health Services were transferred to the Department but were taken over by the Federal Capital Commission in 1925. With the end of the Commission in 1930, the Department resumed the administration of health services in the Territory.

In 1926, the first Canberra abattoir was established and a veterinary officer and meat inspector employed. In the following year the Acton Health Laboratory was built.

Other services developed in the A.C.T. include general public health duties, quarantine, school medical services, immunisation campaigns, children's dental services and guidance clinics, a hospital planning service and ambulance, veterinary, laboratory, district nursing and infant welfare services.

All these services were administered as part of the Department's Central Office functions until July 1966 when the A.C.T. Health Services Branch was formed to co-ordinate and integrate them.

In 1942, a new three-storey hospital was opened on the site of the first hospital (constructed in 1914) but was not released for general use until after the war in 1945. Later, in the 1960s, a new six-storey hospital block was built while a new one of six hundred beds is now under construction in the Woden Valley district. Another two hospitals are being planned for the Belconnen District.

Psychiatric services have also been established. In November 1969, Government approval was announced for a three-stage plan for a comprehensive mental health service for the Australian Capital Territory. In the same year, A.C.T. Health Services began a more comprehensive infant welfare service when it took over the administration of the baby health centres being run by the Canberra Mothercraft Society.

### *Drug standards and controls*

Prior to World War Two, the Commonwealth Government had assigned to the Department the supervision of standards for imported drugs used in human and veterinary medicine. Parliament passed the Therapeutic Substances Act in 1937 but it was not proclaimed, due to the disruption of the war years. Interest was renewed after the war and the Therapeutic Substances Act (1953) was passed, being implemented in 1957. It was confined however, to human therapeutic goods.

Initially the Department's interest was centred on the quality control and quarantine aspects of imported drugs and biological preparations. The question of efficacy and safety of drugs was handled at first by the Pharmaceutical Benefits Advisory Committee, but only for drugs available under the Pharmaceutical Benefits Scheme. Three committees were established to advise the Minister on subjects covered by the Act—the Therapeutic Substances Standards Committee, the Therapeutic Substances Advisory Committee and the Biological Products Standards Committee. To enable the work of checking the drugs and preparations to be handled more efficiently, the National Biological Standards Laboratory was established in Canberra, beginning operations in 1959.

In 1963 the Australian Drug Evaluation Committee was formed to advise the Minister on drugs distributed in Australia, and a secretariat was established within the Therapeutic Substances Branch of the Department to assist the committee in its work. New drugs subject to legislative control are now referred to the committee for evaluation of toxicological, pharmacological and clinical data before their release for general marketing or clinical trial. The Government is not only concerned with the quality and purity of drugs, but also with their safety and effectiveness.

Previous legislation was superseded by the Therapeutic Goods Act (1966) which was proclaimed in November 1970. This provides controls and standards not only for human and veterinary drugs but also for products such as surgical gloves, sutures, dressings, containers and other items such as syringes and hypodermic needles.

To assist in achieving a high level of quality control in the manufacture of drugs within Australia, the Code of Good Manufacturing Practice was devised following consultation between Commonwealth and State health authorities and the pharmaceutical industry. Procedures for the recall of substandard dangerous drugs have also been formulated and accepted.

## *Drugs of dependence*

Following a meeting of Commonwealth and State Ministers in February 1969, a National Standing Control Committee on Drugs of Dependence was established. Its brief was to advise on all aspects of drug abuse including dependence, education, trafficking and treatment.

A Drugs of Dependence Section was formed in the Department in 1969 to provide a secretariat for the Health Working Party and Drug Education Committee of the National Standing Control Committee and other associated expert committees. The Section is also involved in the production of drug education material for use by the States in their efforts to prevent the spread of drug abuse. An Australia-wide system to monitor licit transactions in narcotic drugs and other drugs of dependence was also set up during 1969-70, to analyse by computer the weekly reports of importers, manufacturers and wholesalers of all transactions in narcotic and other dependence-inducing drugs like amphetamine, and similar central nervous system stimulants.

## *Dental research*

Although the provision of dental care does not figure in the National Health Scheme as a Commonwealth responsibility, the Department has long been involved in dental research and standards. In the 1930s, grants from the N.H. & M.R.C. supported work at the Materials Research Laboratory of the Faculty of Dental Science, University of Melbourne. In 1946 the Commonwealth took over this work and the next year formed the Commonwealth Bureau of Dental Standards.

Through the Standards Association of Australia, the Bureau assists in the preparation of Australian standards for dental products and, in co-operation with the Australian Dental Association, participates in accrediting dental materials available on the Australian market. It also carries out research on dental and allied products and techniques, assists in the screening of imported dental goods and acts as a consultant to the public instrumentalities and the dental profession generally. The Bureau actively participates in the preparation of international standards for dental materials, and carries out testing on a fee basis for dental manufacturers and importers.

## *Nursing education*

In the early post-war years the high rate of wastage of student nurses before graduation was of great concern. In 1960 the Federal Council of the British Medical Association in Australia suggested there was a need to improve nursing education. A Nursing Advisory Service was formed in the Department that year, initially to collect background information regarding nursing in Australia. Commonwealth and State nursing authorities met the next year to examine the conditions of nursing and to make recommendations on uniform practices.

The Nursing Service has continued its work towards improving standards, and has supervised under-graduate and post-graduate training for nurses visiting Australia under Government-sponsored scholarships and fellowships. It also advises other Government departments in all aspects of nursing.

## *Tuberculosis and poliomyelitis*

The two major public health campaigns conducted in Australia since the war have been against tuberculosis and poliomyelitis. The Tuberculosis Division, revived following the passing of the Tuberculosis Act in 1948, had created by 1950 a national campaign to eradicate the disease. In the campaign the States had the field role while the Commonwealth was concerned with advice, co-ordination and finances. The Commonwealth re-imbursed the States' capital

expenditure on hospitals, clinics, X-ray equipment, etc. plus the major proportion of their annual running costs.

The campaign succeeded in reducing the death rate from tuberculosis from twenty-five per 100,000 in 1949 to eleven per 100,000 in 1953. While there are some differences between the States in the incidence of the disease today, overall the anti-tuberculosis campaign has been most successful. In 1969, for the first time, fewer than 2,000 new and re-activated cases were notified, while the death-rate was fewer than two per 100,000 of population. This pattern was repeated in 1970.

The fight against poliomyelitis has also been successful. The peak year for the disease in Australia was 1951 when more than 4,700 cases were notified. The incidence fell rapidly with the introduction of mass vaccination campaigns in 1956 when Salk vaccine was ready for issue from the Commonwealth Serum Laboratories. Sabin oral vaccine has been available since 1966. The incidence of the disease has remained low apart from a brief flare-up in 1961-2 and only one case was notified in 1970.

Statistics on communicable diseases are collated by the Department's Public Health Branch. Other responsibilities of the branch include surveys and studies of the health of Aborigines; the supervision of advertisements for medicines on television or radio broadcasts and talks on medical subjects; the distribution of vaccines against communicable diseases such as influenza; the co-ordination of food standards between the States; and the collation of a National Poisons Register.

### *Quarantine developments*

The Quarantine Division, on which the Department was originally based (now the Laboratory Services and Quarantine Division) has continued to keep pace with increasing demands on its services, and to maintain its position of prime importance in health administration. The expansion of travel, particularly by air, together with developments in freight transport such as container-loading, has brought new challenges and the need to refine and improve procedures. Thanks to forward planning, quarantine facilities are capable of handling the large numbers of passengers which new 'giant' aircraft are now bringing to Australia. In 1970-71 quarantine officers cleared a total of 6,233 ships and 8,127 aircraft, a heavy workload.

The Animal and Plant Quarantine Branches, in co-operation with State Departments of Agriculture, maintain a watch to protect Australia's primary industries from overseas diseases. But the work of the Quarantine Division does not stop at the mere physical checking of people, freight and animals. Research on associated problems is conducted at the Department's plant quarantine laboratory in Canberra. Investigations are made of methods of combating seed-borne diseases, fumigation techniques and of the virus screening of fruit varieties. Co-operation with overseas agencies is a most necessary part of arranging effective quarantine measures and Department representatives regularly take part in international conferences dealing with human, animal and plant diseases.

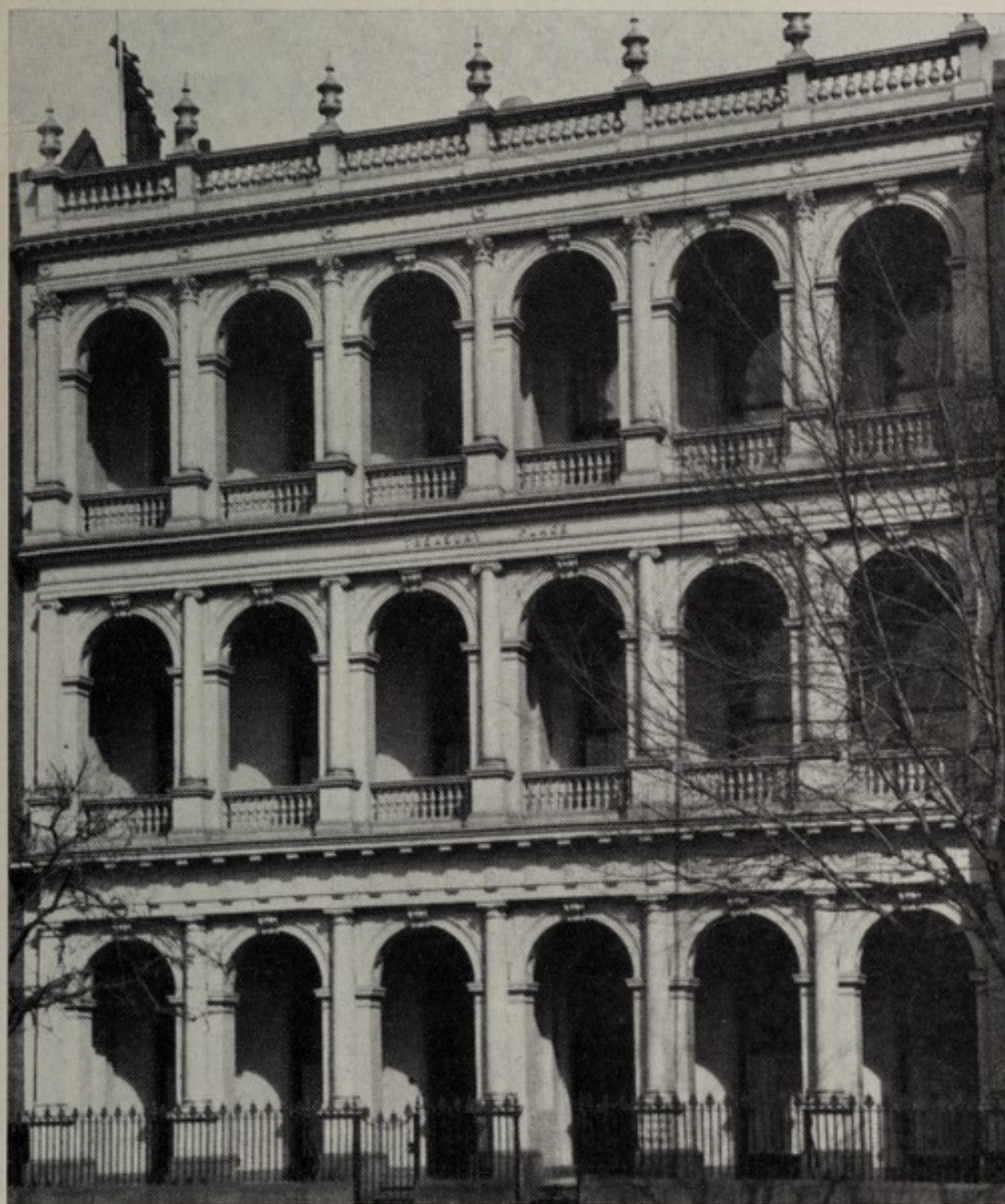
Out of the quarantine establishments created in the capital cities in the early period of federal quarantine activities have grown the present Divisional Offices of the Department in each State. The offices oversee the Department's responsibilities in their own areas for the various health schemes and quarantine work. Commonwealth Medical Officers appointed to the Divisional Offices carry out multiple duties on behalf of the Commonwealth Government including industrial medical work, Commonwealth compensation case examinations and vaccination of international travellers, the inspection of hospitals and nursing homes as well as quarantine work.

## *Subsidies and grants*

In helping safeguard the health of the Australian people, the Department works in co-operation with many voluntary groups. These organisations include the Red Cross Blood Transfusion Services, the Royal Flying Doctor Service and home nursing service bodies.

The Commonwealth has subsidised the Red Cross services through annual grants to State Governments since 1952. In that year, \$100,000 was provided. Since 1954 the States have paid sixty per cent of the operating costs of the Service, the Commonwealth thirty per cent and the Red Cross Society ten per cent. In the Northern Territory and the Australian Capital Territory the Commonwealth meets ninety per cent of the cost.

Commonwealth support for the Royal Flying Doctor Service dates back to 1936. Before then the Government had made grants to the Australian Inland Mission Aerial Medical Service, which began operating in 1929.



*The first headquarters of the Commonwealth Department of Health, in Melbourne. The building was the home of the Federal Quarantine Service, then became the Department's headquarters until the transfer to Canberra in 1928.*

In 1970-71 subsidies totalling \$1.45 million dollars were paid to the 95 organisations providing home nursing services in Australia. The Home Nursing Subsidy Scheme came into operation in January 1957 following research by the Nursing Service of the Department into the requirements in each State. The scheme is designed to assist in the extension of existing organisations and the formation of new ones. To be eligible for Commonwealth assistance, the organisation must be non-profit making, employ registered nurses and receive assistance from a State Government. The Lady Gowrie Child Centres mentioned earlier still receive Commonwealth support, although responsibility for them was transferred in 1969 to the Department of Education and Science. This followed a changing emphasis in their function from health to educational activities.

The latest additions to the range of subsidised health activities came with the *States Grants (Nursing Home) Act*, 1969, and the *States Grants (Paramedical Services) Act*, 1969. Five million dollars over a five year period was offered to the States on a matching basis, to be spent on the construction of public nursing homes. In addition \$250,000 is available each year to the States on a matching basis for the provision of paramedical services including occupational therapy, physiotherapy, chiropody, speech therapy and other related services.

A long-standing grant, first made in 1950, covers the cost of milk supplied to school children throughout Australia. Free milk is provided at primary schools, kindergartens, creches and Aboriginal missions. The Commonwealth also contributes funds through the Department to the States for capital expenditure on mental health institutions. Of the \$131 million spent by the States from 1955-56 until 1970 the Commonwealth contributed one-third.

### *International health*

Australia has been a member of the World Health Organisation since its inception in September 1948, and has participated wholeheartedly in its work. Much of the work of the World Health Organisation has been directed at combatting disease such as malaria and smallpox. The organisation also fosters research and more than 33,000 scholarships have been offered to medical practitioners and students. Those awarded to Australians have included grants to study occupational health, venereal disease control, child health and the use of computers in hospital management.

In 1971, the Director General of the Commonwealth Department of Health, Sir William Refshauge, was elected president of the 24th Assembly of the delegates, the legislative body of the World Health Organisation.

To assist in Australia's immigration programme the Health Department has provided medical officers at fifteen overseas posts. These officers check on the health of potential migrants.

### *Fifty years of growth*

And that, in brief, is the story of the first half-century of the Commonwealth Department of Health—a story of growth that reflects the growth of Australia as a nation. Due largely to a social concern expressed in legislation and high standards of health administration in Commonwealth, State and local government spheres, Australians generally enjoy a high level of personal and community health. The functions allotted to the Commonwealth Health Department reflect the community's concern with health and the intention that individual citizens should have access to the best available medical care.

# Health Insurance and Benefits

The year 1970-71 was in many respects the most eventful year for the medical and hospital benefits insurance schemes since their inception in the early 1950s. Fundamental changes were introduced which were designed to make the schemes more effective and to provide adequate benefits cover to the community against the costs of medical and hospital treatment. The changes followed the Government's consideration of recommendations made by the Committee of Inquiry into Health Insurance (the Nimmo Committee), which were given legal effect by the *National Health Act 1970*.

The most notable changes were the introduction of the new Medical Benefits Plan, which linked increased levels of Commonwealth and fund benefits to a schedule of common fees charged by doctors; the renewal of registrations of all medical and hospital benefits organisations; and the initiation of steps to re-structure the hospital benefits tables with the object of providing comprehensive cover for the various levels of hospital charges.

Development of the Health Benefits Plan led to a substantial increase in the Department's workload. In recognition of this a Health Insurance Division was established in Central Office comprising two branches—Hospital Insurance and Benefits and Medical Insurance and Benefits. The activities of the Medical Insurance and Benefits Branch are dealt with later in this chapter.

## *Registration of benefits organisations*

Under the *National Health Act 1970* the existing registrations of all registered medical and hospital benefits organisations were terminated and each organisation had to apply for registration under the provisions of the Act before 1 October 1970. Detailed instructions were prepared by the Department setting out the action required by the organisations to comply with the new provisions. The organisations were also required to introduce uniform provisions in their rules in accordance with recommendations of the Nimmo Committee which had been endorsed by the Government. These were:

- (a) 'That registered organisations be not permitted to refuse payment of benefit for claims resulting from alcoholism, social diseases, drug addiction or self-inflicted wounds;' and
- (b) 'That organisations be obliged to have uniform rules and follow uniform practices in relation to matters such as claims subject to third party or workers' compensation provisions, waiting periods for benefits in maternity cases, benefits for newly-born children, eligibility for benefits of student dependents and allowance of membership credits to members transferring from one organisation to another.'

At 1 July 1970 there were seventy-seven medical benefits organisations and 103 hospital benefits organisations. All but one of the medical benefits organisations sought re-registration. One organisation was refused registration but an appeal has been lodged and until the appeal is finalised the organisation remains registered under the provisions of the Act. During the year three new organisations applied for registration and were approved and one former benefits organisation was registered to operate benefits funds in three States. This made a total of eighty-one registered medical benefits organisations at 30 June 1971.

Of the 103 registered hospital benefits organisations at 1 July 1970, eighty-eight sought re-registration. Three of these were not approved, but one organisation has lodged an appeal. Until this is heard the organisation remains registered. Two existing medical organisations were granted approval to operate hospital benefits funds, three new organisations were registered, and one former organisation was given approval to operate benefits funds in three States. This made a total of ninety-three registered hospital benefits organisations at 30 June 1971.

### *Registration Committee*

All applications for registration were considered by the Registration Committee, which is constituted under Section 70 of the *National Health Act*. The Committee's functions are to examine, report on and make recommendations to the Minister on applications for registration, on suspension or cancellation of medical and hospital benefits organisations and on changes to contributions, benefits and conditions of payment of benefits made by registered organisations.

The committee met twenty-two times during the year to consider applications for registrations. It also dealt with 331 changes to organisation rules under the provisions of Section 78 of the *National Health Act*.

## **HOSPITAL BENEFITS**

During the year, Commonwealth expenditure towards meeting the cost of hospital treatment totalled \$73.37 million. This included payments on behalf of:

	\$ million
Insured patients (excluding Subsidised Health Services Scheme and Special Account Deficits) .. .. .	21.44
Uninsured patients .. .. .	1.11
Hospitalisation free of charge .. .. .	2.90
Subsidised Health Services Scheme .. .. .	4.76
Special Account Deficits .. .. .	19.60
Pensioner patients .. .. .	23.55
<b>Total .. .. .</b>	<b>73.37</b>

From 1 July 1970, hospital benefits at the rate of \$2 a day has been payable to approved hospitals for patients treated free of charge, in accordance with Section 55A of the *National Health Act*. This does not affect the hospital benefit of \$5 a day payable to hospitals in respect of the free public ward treatment of pensioners. It is mainly intended to meet the situation in Queensland, where public hospitals provide free public ward treatment to patients other than pensioners.

Queensland hospitals now generally receive this \$2 a day benefit for non-pensioner public ward patients instead of the 80c a day uninsured benefit. Expenditure on this new form of benefit during 1970-71 totalled \$2,896,563, including \$2,381,101 in respect of Queensland. This was partly offset by a reduction in Commonwealth expenditure on the 80c a day uninsured hospital benefit.

### *Re-structuring of benefit tables*

The Nimmo Committee recommendations on hospital benefits were directed towards the establishment of a closer relationship between public hospital fees and hospital benefits. The recommendations included the following:

- (a) 'That the hospital insurance scheme be rationalised by confining benefit tables to three benefits, each equal to one of the three levels of hospital fees in force in each of the States—standard, intermediate and private wards;'
- (b) 'That under the Commonwealth-State agreement, the States be asked to undertake that hospitals will charge a single comprehensive fee covering the cost of accommodation and treatment and all ancillary items including theatre fees, drugs and dressings, medical and paramedical services provided by the hospital, and the provision of standard prosthetic and other appliances such as wheelchairs;' and
- (c) 'That it be made a condition of hospital insurance that benefits will not be paid in excess of hospital accounts.'

During the year action was begun to implement these recommendations when charges in public hospitals were increased. The first State to re-structure tables was South Australia, where the State Government increased public hospital fees from 1 March 1971 and adopted comprehensive, or all-inclusive, charges (excluding charges for radiological and pathological services which are covered under the Medical Benefits scheme).

South Australian organisations introduced three tables providing standard, intermediate and private ward cover from 1 March to coincide with the new charges. At the same time, after being informed by the majority of private hospitals in the State that an all-inclusive fee-charging system would be adopted, the organisations introduced a fourth table providing benefits of \$26 a day to cover private hospital accommodation. Contributors to South Australian hospital benefits organisations were automatically upgraded to tables providing a corresponding level of cover to that at which they had been insured. A period of grace was also allowed during which a contributor could opt to transfer to another level of insurance. Benefits are not paid in excess of the hospital accounts under any of the tables.

Public hospital fee increases have been announced in Tasmania to operate from 1 July 1971, in New South Wales and Victoria from 1 August 1971 and in Western Australia from 1 September 1971. All the States except New South Wales have agreed to introduce single comprehensive fees. The organisations in Tasmania, Victoria and Western Australia have co-operated in re-structuring their benefit tables along similar lines to those followed by the South Australian organisations.

In New South Wales new charges other than for public wards have not been fixed on an all-inclusive basis. As the aim of providing certainty of adequate cover to contributors against all hospital costs in all States is of paramount importance, and in view of the New South Wales Government's decision on charges, N.S.W. organisations have agreed to provide benefits to cover patients not only for the inpatients' ward charges but also for the extra charges made separately for services provided by the hospitals.

### *Special account arrangements*

Expenditure under the special account arrangements has continued to increase. The arrangements provide full insured benefits (up to the hospital charge) to persons whose claim could have been reduced or disallowed under a maximum benefit, chronic illness or pre-existing ailment rule. The amount reimbursed to the organisations in 1970-71 was \$19,604,794, compared with \$16,062,877 in 1969-70. This represents an increase of 22.1 per cent.

It is expected that the special account expenditure will again increase substantially in 1971-72 due to increases in public hospital charges with the consequent introduction of benefit tables matching the new fees. The importance of this assistance to insured persons can be gauged by the fact that in 1970-71 the Commonwealth payment was equivalent to 14.8 per cent of total fund benefits paid by organisations.

## *Subsidised Health Insurance*

The Subsidised Health Insurance scheme was introduced on 1 January 1970 to provide free hospital and medical insurance to people who would otherwise suffer hardship in the payment of their contributions. These people include those on unemployment, sickness or special benefits under the *Social Services Act* 1947-69 and migrants during their first two months in Australia. Eligible persons under the scheme are entitled to full Commonwealth and fund medical benefits and hospital benefits cover up to standard or public hospital ward charges. The beneficiary may insure for hospital benefits to cover the difference in charges between the public and the intermediate or private wards.

A graduated scale of assistance for low income families, in accordance with a recommendation of the Nimmo Committee, was introduced on 1 July 1970. Beneficiaries eligible as a result of the graduated scale need pay only one third or two thirds of the contribution rates normally applying for medical and hospital benefits. Under the 1970 amending Act, the eligibility limits for assistance were amended as follows:

- (a) Weekly income not exceeding \$46.50—no contributions payable.
- (b) Weekly income exceeding \$46.50 but not exceeding \$49.50—one third of normal contributions.
- (c) Weekly income exceeding \$49.50 but not exceeding \$52.50—two thirds of normal contributions.

For applicants of pensionable age, the eligibility limits are expressed on a 'means as assessed' basis, which is equivalent to the weekly amounts set out above.

Expenditure during the year on the operation of this scheme totalled \$7,031,999, comprising \$4,759,058 for hospital benefits and \$2,272,941 for medical benefits. This compares with a total of \$774,856 for the first six months of operation of the scheme from 1 January 1970.

## *Nursing home benefits*

Since 1 January 1969 a supplementary nursing home benefit of \$3 a day has been paid in respect of patients classified as needing and receiving intensive nursing home care. This is additional to the \$2 a day ordinary benefit paid in respect of all nursing home patients. During 1969-70—the first full financial year for which the supplementary benefit was payable—the additional \$3 a day was paid for 43.4 per cent of all days on which eligible patients were accommodated in approved nursing homes. This figure rose to 44.2 per cent in 1970-71.

All applications for the supplementary benefit are individually considered by Departmental medical officers and may involve visiting the nursing home concerned. Departmental officers also make periodic visits to approved homes to review patient classifications and to inspect the premises, equipment and staffing arrangements. In addition, visits or inspections are undertaken on an *ad hoc* basis in connection with such matters as approval of new premises under the *National Health Act*, changes of ownership, and increases in the bed capacities of premises already approved as nursing homes.

These visits and inspections, which are essential to ensure that the appropriate rate of nursing home benefit is paid and that patients for whom benefits are paid receive a satisfactory standard of care, involve the Department in considerable administrative effort. During 1970-71, some 4,000 visits to and inspections of approved nursing homes were made by Department officers.

## *Handicapped Children's Benefit*

The *National Health Act* provides for handicapped persons' homes which are conducted by religious or charitable organisations to be approved for the purposes of the Act. A Commonwealth benefit of \$1.50 a day is payable in respect of each handicapped child, under the age of sixteen years, accommodated in such approved

homes. During 1970-71 the number of approved handicapped persons' homes rose by eight to a total of forty-four. The number of handicapped children receiving assistance increased from 1,155 to 1,262 during the year.

## MEDICAL BENEFITS

Under the new Health Benefits Plan which came into operation on 1 July 1970, medical benefits are closely related to the most common fees charged by doctors. The amount of the most common fee to be met personally by a patient ranges from eighty cents for a general practitioner surgery consultation to \$5 for services with common fees of \$40 or more. The maximum of \$5 also applies to the most common fees for an operation and services directly associated with it.

### *Observance of common fees*

The success of the new scheme depends on the substantial observance of most common fees by the medical profession, and a continuing survey is being made of the level of observance. The survey covers a large proportion of contributors' claims handled by the principal medical benefits organisations in each State except Victoria. It began with claims handled in the December quarter of 1970. The results show overall that the level of observance ranges from 70 per cent in Tasmania to 87 per cent in South Australia and Western Australia. The principal results for the half year ended 31 March 1971 were:

<i>Part or Item in Schedule</i>	<i>N.S.W.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>
	%	%	%	%	%
General Practitioner—					
Surgery . . . . .	76	74	89	89	66
Home visits . . . . .	70	72	80	76	50
Specialist—					
Initial consultation . . . . .	73	91	85	71	57
Subsequent consultation . . . . .	54	79	79	78	60
Consultant Physician—					
Initial consultation . . . . .	97	91	85	86	92
Subsequent consultation . . . . .	77	87	69	84	75
Obstetrics . . . . .	72	66	81	82	78
Anaesthetics . . . . .	83	85	90	80	85
Pathology . . . . .	94	96	97	88	98
Radiology . . . . .	79	57	85	92	87
Operations . . . . .	81	78	81	83	78
Whole of Schedule . . . . .	77	76	87	87	70

Note: Victorian figures not available.

The new scheme provides a substantially improved coverage against the expenses of medical treatment, both through the generally increased combined Commonwealth and Fund benefits, and by the introduction of most common fees and related benefits for those services for which specialists have traditionally charged a higher fee. The items with differing most common fees and benefits for services performed by general practitioners and specialists were determined principally on the basis of data obtained by the Australian Medical Association

from surveys of fees. Some 340 items were added to the Schedule of Medical Benefits, mostly for the services of consultant physicians and specialist anaesthetists and surgeons.

For a patient to be eligible for the higher benefits provided by the additional items, the service must have been performed by a recognised specialist or consultant physician and the patient must have been referred by another practitioner.

### *Recognition of specialists*

The *National Health Act* 1970 provided for the specific recognition of specialists and consultant physicians. In accordance with the Act, specialist Recognition Advisory Committees were established in each State and Territory to consider applications for recognition. The committees began work during August 1970 and since then all applications have been referred to them. In addition to the Advisory Committees, a Specialist Recognition Appeal Committee was established to consider appeals lodged by medical practitioners whose initial applications were rejected.

The Committees are comprised of medical practitioners appointed by the Minister from panels nominated by the A.M.A., the Royal Australasian College of Surgeons, the Royal Australasian College of Physicians, the Australian Council of the Royal College of Obstetricians and Gynaecologists and the Royal Australian College of General Practitioners. The Act empowers the committees to consider an application from a medical practitioner 'having regard to his qualifications, experience and standing in the medical profession and the nature of his practice.' A medical practitioner registered as a specialist under State law is automatically recognised as such under the National Health Act.

The number of recognised specialists at 30 June 1971 was 4,593 and the number of recognised consultant physicians was 1,138.

### *Referrals to specialists*

With the introduction of differential benefits for a large number of medical services, the need arose to formalise the system of referrals. The new system, introduced on 1 November 1970, was based on the recommendations of a special working party which included senior representatives of the medical profession. It was agreed that the new system would be reviewed after a reasonable period of operation and it is planned to begin this review later in 1971.

Under the new Health Benefits Plan, benefits are payable at the referred rates where a referral is made by a dentist to a specialist for a service arising out of a dental service and also for referrals by optometrists and opticians to ophthalmologists. The basis of the new referral system is a formal, printed, and serially-numbered Notice of Referral. These notices are supplied by the Department to registered medical practitioners, dentists, optometrists and opticians and must be submitted with accounts when contributors to medical benefit organisations are claiming medical benefits at the referred rates.

The new system has provision for three types of referral. A patient may be referred by medical practitioners for:

- (a) an opinion, in which case the notice is valid for three months from the date of the initial consultation with a specialist;
- (b) immediate treatment, where again the notice is valid for three months; or
- (c) continuing management of present condition. In the third category, the referral is valid for up to twelve months. Referrals by dentists, optometrists and opticians are valid for twelve months.

When the system was introduced, a transitional period of three months was applied to referrals made before that date. For these referrals, a notice was not required for specialist services rendered between 1 November 1970 and 31 January 1971. Special arrangements were also made to extend the transitional period in respect of obstetric cases to 31 July 1971.

## *Anomalies and new services*

A reconstructed Medical Benefits Schedule Advisory Committee began operations in July 1970 to advise the Minister on anomalies in the most common fees and on new or changed medical services. The committee consists of three members nominated by the A.M.A., one from a panel of names nominated by the Commonwealth Health Insurance Council and two members from the Department of Health.

The committee met eight times during the year and a number of its recommendations were adopted by the Government and introduced by the National Health (Variation of Benefits No. 1) Regulations which came into effect from 1 April 1971. Consideration is being given to other recommendations which have been made by the committee since then.

## *Changes in fees and benefits*

In February 1971 the A.M.A. announced recommended increases in fees, to apply for a two-year period from 1 July 1971. These covered all medical services and would have represented a general increase of approximately fifteen per cent. The Government did not accept that these increases were justified and discussions with the A.M.A. resulted in the A.M.A. limiting the increases to fees for general practitioner surgery consultations and home visits.

The Government decided to increase medical benefits for general practitioner surgery consultations and home visits so that patients would still receive benefit returns covering all but eighty cents of the most common fees for surgery consultations and all but \$1.20 of the most common fee for home visits.

## *Pensioner Medical Service*

The number of pensioners and dependants enrolled in the Pensioner Medical Service at 30 June 1971 was 1,216,000, which represents 9.5 per cent of the population. At 30 June 1970, the number of doctors participating in the Service was 6,451. At 30 June 1971, the number of enrolled doctors was 6,617.

The total payment by the Commonwealth to participating doctors was \$19.9 million, an increase of \$669,000 over the figure for 1969-70. This increase was attributable to the normal growth in the number of pensioners and their dependants eligible for the benefits of the Pensioner Medical Service. The average annual payment to each participating doctor during the year was \$3,045.

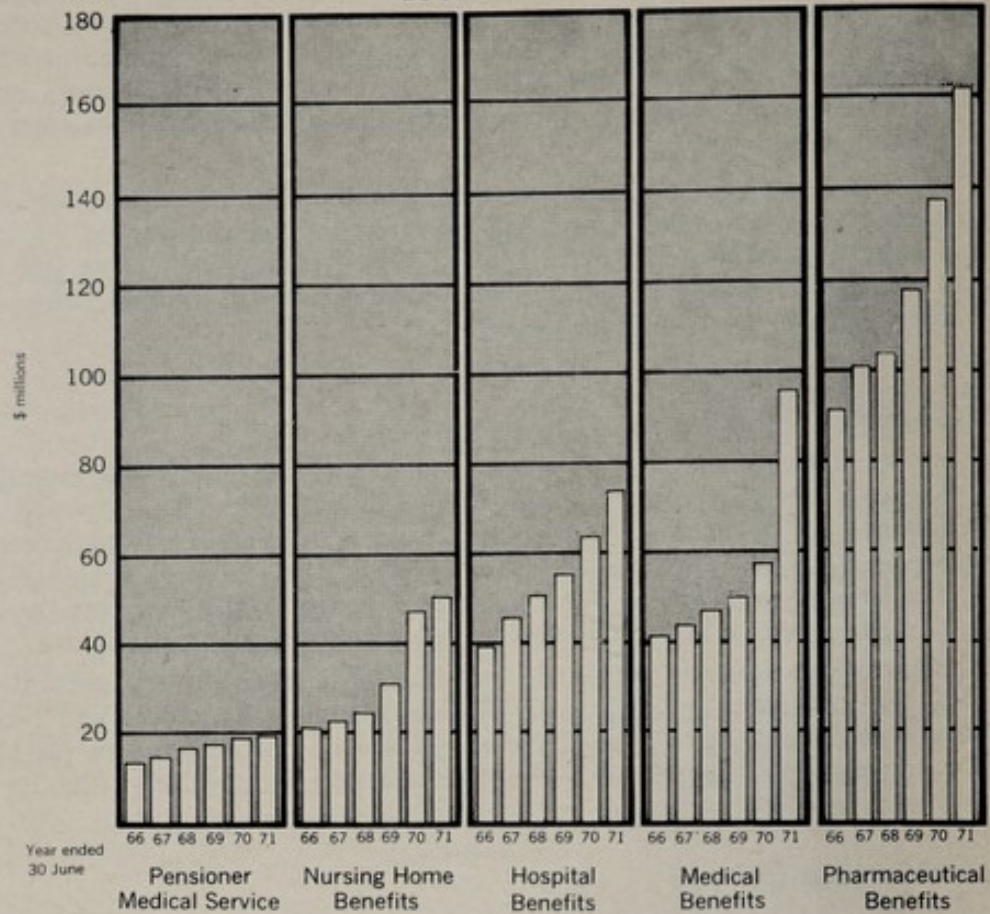
The two-yearly review of fees payable under the service was undertaken during the year and the Government decided to increase the fees from \$1.85 to \$2.50 for surgery consultations and from \$2.35 to \$3.60 for home visits. The increased fees will operate from 1 July 1971 and apply until 30 June 1973. The estimated cost of the increases is \$8.3 million for a full year.

## *Committees of Inquiry*

Medical Services Committees of Inquiry have been established in each State under the provision of Section 110 of the *National Health Act*. The committees comprise the Commonwealth Director of Health in each State and four medical practitioners appointed by the Minister for Health from among medical practitioners nominated by the Council of the State Branch of the A.M.A.

These committees inquire into the provision of the services rendered by medical practitioners participating in the Pensioner Medical Service. During 1970-71 seventeen references to the committees were finalised. In ten cases the explanations offered by the doctors concerned were accepted by the committees, but in seven cases deductions amounting to \$4,451.80 were made from doctors' claims. As a result of the inquiries, one reprimand was issued.

# **GROWTH OF COMMONWEALTH SPENDING ON NATIONAL HEALTH BENEFITS 1965-66 TO 1970-71**



*Commonwealth expenditure on National Health Benefits again rose significantly during 1970-71. This graph shows the annual increases in the costs of Hospital, Medical, Nursing Home and Pharmaceutical Benefits and the Pensioner Medical Service since 1965-66.*

# Pharmaceutical Benefits

The year 1970-71 saw another marked increase in the cost of the Pharmaceutical Benefits Scheme. Recent changes in the list of benefits, involving the relaxation of restrictions to allow a broader usage of certain drugs, and the addition of new items to maintain a service incorporating the most important developments in modern medicine, were largely responsible for the increase. The relaxation in restrictions is estimated to have added an additional \$13.6 million to the cost of the scheme during the year. Some of the main drug groups included in this category are shown below with the estimated effect of recent changes.

<i>Drug Group</i>	<i>Variation</i>	<i>Additional Cost 1970-71 \$000's</i>
Oral Corticosteroids	Restrictions removed	670
Tetracyclines	Restrictions removed	1,500
Ampicillins	Broadened usage	2,400
Anti-depressants	Restrictions removed	2,918
Anti-rheumatics	Restrictions removed	1,000
Tranquillisers	Diazepam available to pensioners without restrictions	300

Additional costs resulting from the easing of restrictions of the use of drugs were, to a degree, offset by the introduction of further restrictions, mainly on certain antibiotics, diuretics and urinary antiseptics. Collectively these added restrictions reduced costs by an estimated \$2.9 million.

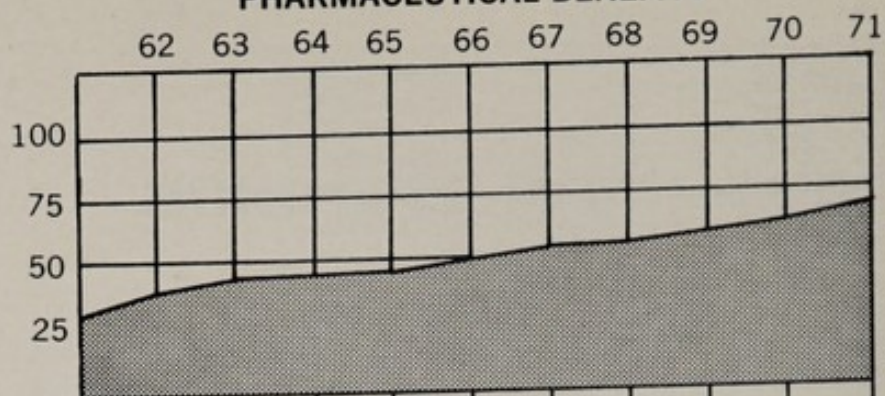
Items recently added to the list of benefits resulted in an estimated increase of \$5.9 million. A further factor which contributed significantly to costs was the compounding increase in the rate of prescribing in the winter months. In the quarter ended 30 September 1970, costs increased by 21 per cent over the same period in 1969. This increase represented 34 per cent of the additional cost for prescription benefits recorded for the whole year.

The total cost of providing pharmaceutical benefits in 1970-71, including the patients' contribution on general benefit prescriptions, was \$184.7 million. This represented an increase of \$26 million, or 16.4 per cent, on the 1969-70 figure compared with an increase of \$20.2 million, or 14.6 per cent, in 1969-70 over the previous year.

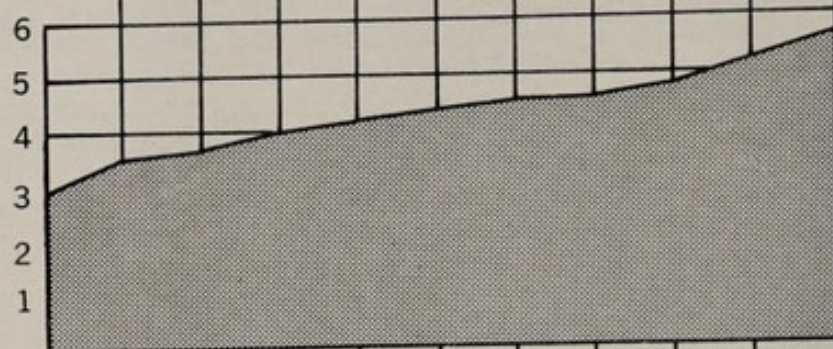
Increased costs were distributed as follows:

	<i>\$000</i>
Commonwealth expenditure on prescription benefits available to the general public .. .. .	14,948
Benefits provided in public hospitals and through miscellaneous services .. .. .	4,496
Pensioner Pharmaceutical Service .. .. .	4,112
Total increased Commonwealth expenditure .. .. .	23,556
Increased patient contribution on prescriptions available to the general public .. .. .	2,442
Total increased cost .. .. .	25,998

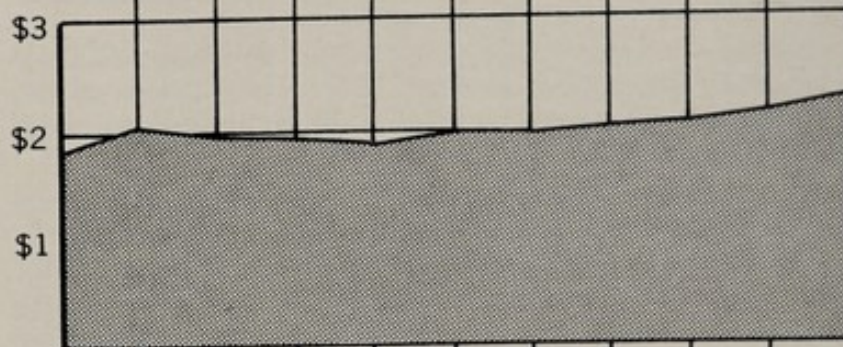
# PHARMACEUTICAL BENEFITS



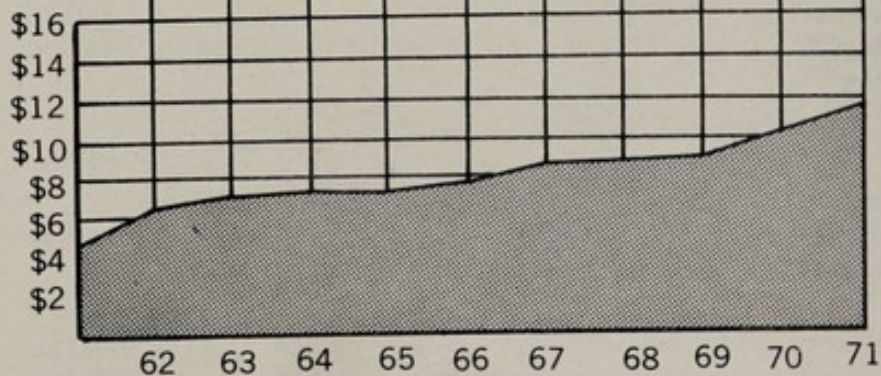
Number of prescriptions (millions)  
1960-61—1970-71



Number of prescriptions per head of population  
1960-61—1970-71



Average cost per prescription  
1960-61—1970-71



Cost per head of population  
1960-61—1970-71

For prescription benefits supplied to the general public and to pensioner patients, the average cost per prescription rose from \$2.08 to \$2.21. This increase combined with a rise of 6.8 per cent in the number of benefit prescriptions prescribed per head of population to produce an average cost per head of population of \$12.43 as compared with \$10.95 in 1969-70.

The introduction of new and expensive items, together with an overall increase in drug usage, resulted in higher costs for drugs provided in public hospitals and in miscellaneous services. Costs under this heading rose by \$4.5 million, or 20.1 per cent, to \$26.9 million. Details of related pharmaceutical benefit statistics are shown in tables 37 to 48 on pages 145 to 151.

### *Price negotiations*

Although pharmaceutical manufacturers have been faced with rising costs and a number of price increases have been accepted, negotiations are still conducted with manufacturers to obtain reduced prices where such action is considered warranted. In this manner substantial savings in the cost of the scheme are achieved.

Negotiations are conducted in respect of products prior to their listing or on variation of listing as pharmaceutical benefits. Such negotiations during 1970-71 resulted in an estimated saving of \$1,768,000 in the first year of listing or change of listing. In addition negotiations were conducted in respect of products currently listed as benefits and not subject to any variation of listing. These negotiations will result in a saving of \$721,000 per annum if the volume of prescribing of the particular preparations remains constant.

### *Changes in listings*

During the year, as a result of recommendations by the Pharmaceutical Benefits Advisory Committee, sixty-nine new items were added to the Schedule of Benefits. Of these twenty-five were new forms or strengths of existing benefits. Ninety-six ready-prepared items and twelve ingredient items for use in the preparation of extemporaneous benefits were de-listed.

The relaxation of restrictions on the prescribing of certain widely-used benefits continued. Restrictions were removed entirely from thirty-four drugs including aspirin and other anti-rheumatic drugs, the antibiotic erythromycin and the tricyclic anti-depressant drugs amitriptyline, imipramine, nortriptyline and protriptyline.

In August 1970, following a review of those drugs restricted to use in approved hospitals, eighteen hospital-only items were transferred to the restricted benefits list and two became unrestricted benefits. On 1 April 1971 a further two hospital-only items were changed to restricted benefits. As a result, only twelve drugs are currently restricted to use in approved hospitals.

One of the most noteworthy additions to the list of benefits was that of levodopa (Larodopa) on 1 April. This drug represents a significant advance in the treatment of Parkinson's disease and is available on the authority of Commonwealth Directors of Health for the treatment of this condition. The addition of this drug alone is expected to cost in the region of \$1 million in a full year.

### *Dispensing fees*

In April 1970 the Joint Committee on Pharmaceutical Benefits Pricing Arrangements reported on the application by the Pharmacy Guild of Australia for an increase in National Health dispensing fees. Consideration was given to this report and in August 1970 the Government granted an increase of two cents in the dispensing fees for National Health pharmaceutical benefits. In

announcing the increase, the Minister for Health said that no further increase would be granted until a new survey of pharmacy earnings, costs and profits had been conducted.

The Joint Committee met in March 1971 to consider several matters relating to the pricing arrangements for pharmaceutical benefits. A sub-committee was appointed at that meeting to report on the type of survey required to provide information which would allow the Joint Committee to report a basis for reviewing chemists' remuneration. The work of the sub-committee is not yet complete. However, the Joint Committee has examined its first report.

### *Committees of Inquiry*

The Pharmaceutical Services State Committees of Inquiry considered seventy-seven references during 1970-71 concerning the services or conduct of pharmacists approved to supply pharmaceutical benefits. These references related mainly to the alleged supply of pharmaceutical benefits which failed to meet the required standards of dispensing, but also covered such alleged offences as brand substitution, additions and alterations to prescriptions and dispensing of a drug other than that prescribed.

As a result of the Committees' recommendations (including twenty references unresolved in 1969-70), twenty-six chemists were warned to exercise more care in dispensing and seventeen were given Ministerial reprimands. Eight of the reprimands were published in the Commonwealth Gazette. Two chemists were suspended for one month. No further action was taken in nine cases. All cases from 1969-70 were finalised during the year and the forty-three remaining cases were unresolved as at 30 June 1970.

Court action was begun in connection with three chemists during the year. Two chemists pleaded guilty to having made false statements to a Commonwealth Director of Health and were fined. The proceedings against the third chemist were not finalised at 30 June 1971.

The Medical Services State Committees of Inquiry considered twelve references during the year, mainly concerning alleged irregular prescribing of pharmaceutical benefits by doctors. Twelve cases were unresolved in 1969-70. Following the Committees' recommendations \$6,267.68 was recovered. Ten doctors received Ministerial reprimands and two of these reprimands were published in the Commonwealth Gazette. Other Departmental action was taken in eight cases while no further action was taken in two cases. Four cases remained unfinalised at 30 June 1971.

### *Select Committee on Pharmaceutical Benefits*

In September 1970 the House of Representatives established a Select Committee to review all aspects of the Pharmaceutical Benefits Scheme. The Committee held its first meeting in December 1970 at which a submission prepared by the Department was considered. Several senior officers of the Department gave evidence about the many complex issues in the administration of the Scheme. The detailed submission covered the Department's role in providing a comprehensive range of drugs and medicinal preparations to the population.

At its inaugural meeting, the Committee indicated that it intended to conduct an exhaustive inquiry ranging over the whole sphere of interest, from the production of drugs to the scope of the Pharmaceutical Benefits Scheme and the prescribing and supply of benefits under the Scheme. The Committee gave notice that it would not be restricted to the limits of the current Scheme, and invited submissions from all interested parties. A keen interest has been shown in the activities of the Committee, which has met on many occasions to accept evidence and hear personal submissions.

# Policy Secretariat and Legislation

The year 1970-71 saw a major reconstruction of the previous Planning and Legislation Branch. Two distinct branches were formed—Policy Secretariat and Legislation and Planning and Research. The Policy Secretariat and Legislation Branch administers the policy, legislation, public information and ministerial and parliamentary liaison functions of the Department. The functions of the Planning and Research Branch are set out in a separate chapter.

## *Commonwealth Legislation Section*

A significant achievement during the year in the Commonwealth legislation field was the proclamation of the *Therapeutic Goods Act* 1966 and the Regulations made under that Act. Although the legislation had been passed in 1966, its proclamation was delayed until the Regulations were made. The Act repealed the *Therapeutic Substances Act* which had been in existence since 1953.

The new Act—the prime purpose of which is to provide standards for goods for therapeutic use—is wider in scope than the previous Act. The definition of 'goods', for example, covers containers and certain medical equipment as well as substances such as drugs, medicines and vaccines covered by the previous Act. In addition the new Act has more flexibility to cater for the advance of science and technology.

The *States Grants (Mental Health Institutions) Act*, which provides capital assistance grants to the States for mental health institutions, was amended to provide assistance for a further three years to 30 June 1973. The amending Act received Royal Assent on 26 October 1970.

Several quarantine proclamations were made during the year declaring, for the purposes of the *Quarantine Act*, a number of countries in which cholera had occurred. This was to ensure that travellers from, or passing through, the countries concerned were vaccinated against cholera before their arrival in Australia.

## *Policy and Ministerial Section*

The Ministerial Liaison Section had an extremely busy year, dealing with a record volume of correspondence. This was due, in part, to the stimulus given to public debate on health matters by the introduction of the new Health Benefits Plan, which came into operation on 1 July 1970. Parliamentary debates also reflected this public interest. The new Plan and all its ramifications became the subject of a record number of Parliamentary questions in any one session.

The Policy Section continued investigations of policy and prepared information for the Minister and Director-General for a number of top-level conferences, including the Australian Health Ministers' Conference held in June 1971 and Commonwealth-A.M.A. meetings held on a number of occasions throughout the year. The section provided secretarial services for two meetings of the Advisory Medical Council of Australia, held in Canberra in October 1970 and March 1971.

## *Territories Legislation Section*

With the recruitment of staff to new positions in the Territories Legislation Section, it was possible to undertake major review programmes in addition to taking care of current needs for *ad hoc* amendments. During the year twelve amending ordinances and regulations were made for the Australian Capital Territory and Northern Territory and instructions on fourteen other subjects were referred for the making of amending legislation. Major matters under investigation include new legislation for public health and hospitals control in the A.C.T., the milk industry, narcotics, and an experimental nurses' training course.

## *Information and Public Relations Section*

The variety and magnitude of public information work and of publishing and distribution increased considerably during the past year. The continuing public interest in health insurance caused a particular demand for information and publicity projects in this area. In addition to editorial work on a large volume of published material, the section also planned and managed widespread television, radio and newspaper advertising campaigns.

A printing and distribution project carried out by the section during the year was the largest of its kind ever undertaken by the Department. Four and a half million copies each of two publications explaining the new Health Benefits Plan were printed and distributed throughout Australia. The project involved several printing and packaging contractors, and a nation-wide household distribution programme was carried out by the Australian Post Office on behalf of the Department.

The increased information services required as a consequence of educational campaigns on social health issues have also placed greater pressure on the section. A national drug information campaign, conducted by the National Standing Control Committee on Drugs of Dependence, has drawn on the resources of the section, which has arranged for the printing of more than a dozen drug information pamphlets and booklets for nation-wide distribution. A drug information newsletter is being produced regularly to assist people interested in drug education.

In addition to these special projects, the section prepared more than 60 publications, ranging from information brochures, leaflets and booklets to monographs and annual reports and periodicals. To coincide with the 50th anniversary of the Department the section prepared a history of the Department for this special issue of the Director-General's Annual Report.

Another annual report which received special attention by the section was the report of work done under the Medical Research Endowment Fund. This report contains accounts of work being done in a variety of medical and dental research projects and special efforts are being made towards an ultimate objective that all of the material may be read and understood by laymen as well as by people with a scientific background.

A continuing responsibility of the section is to provide a Press information service. This service ensures that official and informed communication channels between the Department and the Press are kept open at all times.

# Planning and Research

There has been intense and growing public interest in recent years in health care programmes, and with it a corresponding increase in the need for planning and research connected with health care. A Planning and Research Branch was created during the year within the Management Services Division. The new branch comprises three sections—Research, which was transferred from the previous Planning and Legislation Branch, a Central Statistical Unit, which had been in the process of creation, and a new Planning Section.

## *Research Section*

During the year, the Research Section continued its investigations into the financing of institutional health care. Because of other activities within the Department, the survey of financial and other details of public hospitals covering the year 1968-69 was deferred, but is being collated at present. As soon as it is completed, a similar survey covering the years 1969-70 will be undertaken.

The section has also undertaken an examination of the levels of fees charged in nursing homes. As part of an investigation into domiciliary care, a survey of incomes and expenditures of home nursing organisations has been extended to cover the four-year period ending 30 June 1970.

The section has continued to provide an information service to the Department on current developments in the health economics field, both within Australia and overseas. In response to the growing interest being shown in the physically and mentally handicapped, much time has been devoted to an examination of various aspects of the problems and needs of these people.

Total current account expenditure on health services throughout Australia was estimated to be \$1,118 million in 1966-67. Considerable interest has been shown in this estimate, but because of the large resources needed for its production it has been decided to make the estimate once every three years. The next estimate therefore will be produced for the financial year 1969-70. Preliminary steps are now being taken to collate information as it becomes available.

## *Planning Section*

The Planning Section's organisation is still to be settled, but it will include the Secretariat for the National Medical War Planning Committee. This committee and its sub-committees are continuing their review and assessment of medical and ancillary manpower, equipment and supplies for the treatment of mass casualties and the provision of a medical service in a national emergency.

A register of medical practitioners, prepared from information supplied by doctors on a voluntary basis, has been completed. The information, which will be updated from time to time, will enable the committee to assess more accurately the resources and their location. It is planned in the near future to have similar registers compiled of ancillary manpower.

At present the committee is drawing up a defined pattern which will enable a common basis to be determined for budgeting and future planning. This will assist the sub-committees responsible for the listing of equipment, surgical dressings and drugs to have a uniform basis for ascertaining their requirements to undertake treatment for casualties arising out of a national emergency. A

review of all hospital accommodation and emergency hospital accommodation is to be undertaken by the State Medical Planning Committees. This information, last obtained in 1963, is now to be updated through surveys to be undertaken in each State.

### *Statistics Section*

Following a detailed investigation into the Department's statistical operations and needs, a Statistics Section was established in Central Office during the year. It is intended that the section will co-ordinate statistical activities within the Department and also facilitate greater co-operation with other agencies interested in health and allied statistics. Senior officers in the section have been provided on secondment from the Commonwealth Bureau of Census and Statistics, an arrangement which will ensure a close liaison with the Bureau.

As with any new organisation, it has been necessary to spend some time in becoming familiar with current departmental practice and requirements. Nevertheless the section has, in the latter half of the year, become involved in a variety of statistical applications. Much time has been devoted to reviewing the procedures involved in the compilation and publication of statistics of the Medical and Hospital Benefit Schemes. Although certain changes have been made, it is not proposed to consider any major revisions until it is possible to use automatic data processing for routine maintenance and information services.

As part of its advisory functions, the section has provided mathematical statistical support to certain areas. This has included work on sample designs, quality control and the analysis of various statistical results.

# Establishments and Finance

The general growth of activities in the Department as a whole was reflected during the year in the Establishments and Finance Branch, which is responsible for the provision of management services and for control of the Department's financial activities.

## *Organisation and Classification*

The Department's establishment increased by 495 positions during the year to a total of 5,227, which includes 354 industrial staff. A number of major establishment reviews were undertaken during the year. The most significant of these included the reorganisation of Health Laboratories in all States, the establishment of a Health Insurance and Benefits Division in place of the central office Medical and Hospital Branch, and the division of the Planning and Legislation Branch in Central Office into two branches—Planning and Research, and Policy Secretariat and Legislation.

Reviews of the Engineering Section of the central Acoustic Laboratory and the New South Wales Acoustic Laboratory were undertaken during the year. Public Service Board approval has been given to proposals made as a result of these reviews.

A comprehensive review of Northern Territory medical services was also undertaken, and was completed in December 1970. Approvals have been obtained for some ninety additional positions. A Departmental-Public Service Board working party has been established to determine staffing requirements within the Northern Territory.

## *Methods*

During the year the Methods Section carried out reviews in the Personnel and International Health sections of Central Office and in the Commonwealth X-Ray and Radium Laboratory, Melbourne. Review and implementation of new and revised systems and procedures in Health Laboratories throughout the Commonwealth has been carried out in thirteen of the fifteen laboratories. Assistance has been given to the Automatic Data Processing Branch in the design of a manual to detail procedures associated with the operation of the 'on-line' computing system.

A large range of office machines was purchased during the year for various sections within the Department. Major advances included the installation of a total copy system at Central Office which will reduce copying costs.

## *Training*

A programme of job rotation was continued in Central Office for graduate clerks in their first year with the Department. A similar programme was also implemented for school-leaver clerks. Other courses covering selection interviewing techniques, dictation techniques and A.D.P. familiarisation were conducted in Central Office. Induction, procedural and supervisory training courses were also programmed within State offices.

## *Finance Section*

The volume of work handled by the Accounts, Funds and Estimates group of the Finance Section increased significantly during the year, due to the rapid expansion of the Australian Capital Territory and Northern Territory Health Services and to normal expansion in other areas. However, towards the end of the year an Accounts Section was set up in the A.C.T. Health Services Branch and assumed responsibility for payment of accounts for that Branch.

The establishment of the Senate Estimates Committee required preparation of additional explanatory information on the Department's estimates and a new approach in the preparation of the necessary information was adopted.

The Revenue Review Section continued the examination of fees and charges for health services in the Territories and undertook several investigations involving financial analysis of departmental service agencies. The section also continued to develop improved collection procedures at Plant Quarantine establishments and drafted preliminary proposals for hospital accounting in the Northern Territory to meet uniform cost accounting standards being developed as a result of Health Ministers' conferences.

# Automatic Data Processing

The Department's two I.B.M. 360/65 computing systems were installed in the Central Office in Canberra during the year and are now fully operational. The first was installed in August 1970 and after thorough testing was accepted on schedule in September. The second was installed and accepted for departmental operation in February 1971.

The past year has been one of substantial achievement and development across a number of areas of A.D.P. activity in each of the three sections of the branch. However, because of the requirements of systems in operation, the emergence of substantial and urgent new requirements and continued delays in obtaining the required numbers of qualified staff, it has been necessary to confine developmental work to major systems of high priority. Outstanding work commitments for the present establishment extend into 1975. I.B.M. systems support staff continued to provide valuable expert assistance throughout the year.

## *Applications Section*

The Applications Section comprises a number of systems design and programming teams. Their efforts during the year were concentrated mainly in the following areas:

- (a) transference of substantial segments of the Pharmaceutical Benefits A.D.P. system to operation on the Department's computing facilities. Substantial progress was also made with development of the new communications-based Pharmaceutical Benefits processing system which will ultimately replace the system now in operation;
- (b) implementation of a system of nationwide monitoring of licit transactions in narcotics and certain other drugs;
- (c) introduction of systems designed to meet the information requirements which emerged with the 1970 changes in the Medical Benefits Scheme; and
- (d) implementation of a full MEDLARS system.

The Pharmaceutical Benefits claims payments system and most of the associated management information systems were implemented on the computers in December 1970. These systems had been formerly maintained, since their inception in 1965, on computing facilities administered by the Bureau of Census and Statistics at the Computer Service Centre. The Bureau is continuing to undertake substantial and regular media conversion in each State capital and to meet the processing requirements of certain management systems. Media conversion will continue to be undertaken by the Bureau until the Department's on-line system is in operation. A timetable for transfer of the residual processing to the Department's computer has been determined. Systems transfers to date have released up to 2,000 hours per year for alternate use at the Computer Service Centre.

Development of the new Pharmaceutical Benefits system is a task of major proportions but it is now well advanced. Initial implementation has been tentatively planned for Queensland in December 1971. It is intended that implementation in other States will be staggered over the following fifteen to eighteen months.



*At work in the Automatic Data Processing Branch of the Department's Central Office in Canberra.*

During the year, a system encompassing all licit transactions in narcotics, amphetamines, phenmetrazene and methylphenidate was established on a fully operational basis. The scheme monitors the movements of these drugs from point of importation or manufacture to their sale at retail or institutional level. The system is based on stockholding information gathered yearly and on weekly returns from each of 230 drug importers, manufacturers, wholesalers and formulators throughout the country which detail the 400,000 transactions taking place in the drugs concerned. It enables the appropriate activities of the Commonwealth Department of Health, the Department of Customs and the State Departments of Health to be co-ordinated and conducted on a more informed basis than was formerly possible. Work on extensions to the system is continuing.

In the area of medical benefits, systems have been implemented which oversight, on a continuing basis, the degree to which fees charged by doctors throughout the country accord with the list of most common fees. The processing scheme is based on arrangements made with major medical benefits organisations in each State, each of which submits information on a regular and routine basis. The system covers approximately half of the 38 million medical services processed through medical benefits organisations annually. Development and enhancements of these systems are continuing.

Previous reports mentioned MEDLARS, a medical literature information retrieval system sponsored on an international basis by the National Library of Medicine in the United States. In January 1971, the Department purchased a working system from the Karolinska Institute in Stockholm, and from March 1971 was able to offer full MEDLARS computing facilities to the National Library of Australia.

### *Operations Section*

The responsibilities of the Operations, Software and Communications Section include the scheduling and running of the computing facilities, the maintenance of control programmes supplied by the manufacturer, and the development of general purpose programmes to promote efficiency in computer use and operation and to meet the Department's requirements in the communications area. The section also provides programmes and systems testing facilities to the Departments of Social Services and Repatriation.

At the moment, the computers are operated on a two-shift basis. The equipment has been housed in highly suitable accommodation on the ground floor of the Central Office. The accommodation has been carefully designed and constructed to provide a high level of environmental integrity. Acceptance testing for each computing system was undertaken over 20 shifts of operation. Equipment performance since acceptance has been at a consistently high level.

Development of special communications software to support the new Pharmaceutical Benefits system is continuing and is at an advanced stage. Arrangements with the P.M.G. for the ultimate hookup with the Common User Data Network are proceeding satisfactorily.

### *Services Section*

The Services Section is responsible for the development of standards and control systems aimed at optimum use of computing facilities, for the provision of training courses, and for the provision of clerical and logistic support to the branch. Standards covering major areas of branch activity have been developed and appropriate manuals are being printed. Investigations have been undertaken on the provision of automatic project management and systems monitoring facilities, and appropriate programming work has been initiated.

Techniques for translation of programme specifications in the form of decision tables into programmes directly usable by the computer are under development. Initial studies indicate that the use of such techniques in the applications programming area may result in significant increases in programmer throughput.

During the final half of the year the branch established its own training programme and most of the training facilities formerly provided by the equipment manufacturers are now available internally. Eighty full days of instruction have been given, together with a number of half-day seminar sessions. Some thirty officers from other departments also made use of the training facilities offered.

During the year, six programmers-in-training graduated from their course and are now working productively within the branch. At the moment, fifteen programmers-in-training are under instruction—five at the New South Wales Institute of Technology and ten at the Canberra College of Advanced Education. Programmers-in-training from the Departments of Immigration and Customs are also undergoing the in-service sections of their course under the supervision of this Department. Activity in the clerical support area continues to increase as additional systems attain full operational status.

## Divisional Offices

The Department's Divisional Offices in the State capital cities faced an increased work-load during the year, both in their administration of routine functions and in the task of assisting with the compilation of lists of specialist doctors and consultant physicians for the purposes of the *National Health Act*.

### *Specialist recognition*

Each office gave valuable help to the Specialist Recognition Advisory Committees, established during the year to make recommendations on the eligibility of medical practitioners in connection with the payment of specialist rates of medical benefits. Prior to the committees' first meetings, each divisional office was required to compile a preliminary list of specialists and consultant physicians. In those States where no State registers were available, this proved to be an exacting and time-consuming task. Each divisional office also provided secretarial and other assistance to the committees throughout the year.

### *Health benefits*

The implementation of the new Health Benefits Plan on 1 July 1970 called for additional staff and new working procedures. Although there were some areas of criticism, the divisional offices generally found that the implementation worked smoothly, largely because of the successful publicity campaign undertaken by the Department. The Brisbane office, for instance, reported that the household distribution of publicity material was well received, and that following the campaign, Queensland health fund organisations showed considerable growth in membership. More than fifty-one per cent of the Queensland population is now covered by health insurance, an increase of nearly two and a half per cent for the year.

The year saw changes in the system of hospital charges and the payment of hospital benefits in South Australia, and at the year's end New South Wales, Victoria, Western Australia and Tasmania were about to introduce changes. So far the new system in South Australia appeared to be working smoothly.

The growth in the number of nursing home beds approved for Commonwealth benefits has continued in the States. Queensland, for instance, is recording an annual growth of approximately fifteen per cent in the number of beds, with accommodation generally being of high standard. In South Australia, departmental officers are involved in discussions with the State Public Health Department and the Private Hospitals Association on a code of standards for nursing homes.

### *Liaison activities*

The continued growth in the number of prescriptions dispensed under the Pharmaceutical Benefits Scheme has led to an expansion of divisional office responsibilities, both in the checking of claims and in liaison and inspection activities. All claims are checked for validity and accuracy in the divisional offices before being sent to Canberra for computer processing.

Departmental pharmacists continued their visits to doctors and chemists for routine testing of drug samples and for discussions on prescribing practices and the operation of the Pharmaceutical Benefits Scheme.

### *Quarantine services*

One of the busiest areas of activity for the divisional offices is the quarantine service, and the rapid expansion of international travel in recent years has added greatly to the work-load. New procedures were introduced in some areas for incoming passengers during the year, while 24-hour-a-day clearance services were extended to a number of new ports.

Melbourne's new international airport, at Tullamarine, was opened on 1 July 1970 and the Melbourne office introduced a continuous quarantine service for aircraft from overseas for the first time. While most aircraft arrive during daylight hours, the airport is open on a 24-hour basis and a number of quarantine services have been provided during the hours of darkness.

Quarantine procedures at Sydney's international airport are now working smoothly, and in most instances passengers are cleared quickly, frequently arriving in the Customs Hall ahead of their baggage. At the present time, there are up to ninety aircraft, including Boeing 747 jets, arriving in Sydney each week as their first Australian port of call.

Increased shipping activity has been recorded at most ports. During the year it was necessary to introduce a 24-hour-a-day service for quarantine services at



*A quarantine officer inspecting a bag of imported tropical fish at Sydney Airport.*

Port Kembla, in New South Wales, and arrangements were completed for ships transporting wood chips to Japan to first-port at Eden, on Twofold Bay. In Hobart, unscheduled visits by Japanese fishing vessels continued to increase the work-load for quarantine officers. A new port at Spring Bay, 55 miles north of Hobart, began operations in April 1971 for the shipment of wood chips and a quarantine clearance service is being provided. In South Australia, the Port Adelaide quarantine inspector has made regular visits to Port Lincoln, on Eyre Peninsula, where Danish and German ships are now calling monthly to transport live sheep to Kuwait.

Incinerators for the disposal of garbage have now been installed at many ports around the Australian coastline, as well as at international airports. In Tasmania, some difficulties have been encountered in the disposal of bottles in the incinerators but this problem is now being overcome. The incinerator for Melbourne Airport, provided by the Department of Civil Aviation at a cost of \$250,000, was completed in April 1971.

### *Vaccinations*

Another increase was recorded in all States in the number of vaccinations provided by Commonwealth medical officers for people about to travel overseas. An influenza immunisation campaign was again carried out for all Commonwealth Government departments prior to the 1971 winter.

### *Medical examinations*

An increase has also been recorded in the number of clinical examinations carried out by Commonwealth medical officers in the divisional offices. These examinations include medical assessments of prospective Commonwealth public servants and applicants for positions with statutory bodies, and of seamen under the *Navigation Act* and applicants for invalid pensions.

### *Automatic Data Processing*

The Automatic Data Processing sections in the divisional offices have continued to maintain a high standard of work in the processing of claims under the Pharmaceutical Benefits Scheme. Here again, the volume of work has increased substantially.

# Northern Territory Health

The continued major expansion of population and industry made 1970-71 the most difficult year in recent times for the Northern Territory Medical Service. The problems of providing services to a rapidly expanding population, in themselves a major task, were rendered more difficult by accommodation problems. Hospital services, which were already heavily taxed, faced further stresses, and even the provision of additional demountable accommodation at Alice Springs failed to keep pace with the steadily growing need for hospital beds. Vigorous efforts will be needed during the next few years if standards of medical service are not to fall below their present levels.

## *Aboriginal health*

As forecast in last year's report, problems in this area have grown in magnitude. There has been a sharp rise in infant mortality in Central Australia and a general rise throughout the Territory. The participation of Aborigines in health services, however, is encouraging. A third annual course of special training for them started at the beginning of 1971. Graduates from the first two courses are performing valuable service in their own communities.

A Health Education Specialist was appointed during the year, a move which should prove of significant benefit in encouraging Aborigines toward a more positive attitude concerning individual and community hygiene, and the desirability of good health for themselves and their children.

## *Communicable diseases*

During the year, venereal disease continued its slight downward trend, the malaria-free condition of the Territory was successfully maintained and there were no cases of typhoid fever. The year was nevertheless marked by a high prevalence of communicable disease, in particular infectious hepatitis. All classes in the community, including a large number of nurses, were affected by the disease.

Tuberculosis notification rates remained high. The national rate for tuberculosis, all forms, is 13.5 per 100,000, while for the Northern Territory the rate is 58.0 per 100,000. For pulmonary tuberculosis, the national rate is 11.4 and for the Northern Territory 48.6 per 100,000. The value of supervised intermittent chemotherapy is becoming more apparent as our experience with this method of case management increases.

## *Urban public health*

It is fortunate that urban planning has been carried out with such vigour by the responsible authorities as, without such planning, the rapidly increasing population would have created many more problems than exist at present. However, a greater degree of co-operation by individual members of the public would assist in alleviating the problems caused by the indiscriminate dumping of garbage and litter.

Standards of food handling showed a slight improvement. The discovery of an open case of tuberculosis in one restaurant led to a special X-ray survey of people engaged in such occupations. Fortunately no other cases were revealed.

The demand for housing, which far exceeds the supply, caused particular problems and the growing use of caravans as permanent dwellings added to the difficulties of garbage disposal and the maintenance of sanitation. The sanitary arrangements for small collections of fringe dwellers have been kept under constant surveillance by health inspectors.

### *Rural public health*

The growth in numbers of Aboriginal communities, with a high percentage of children, continued and the resulting overcrowding and pollution of the environment likewise continued and contributed to problems, particularly in child health.

Some encouraging signs are emerging as Aboriginal progress associations establish their own stores and start housing projects and commercial ventures, but much more progress in these areas is required. The encouragement of



*A weight check for a young Aboriginal boy at a rural health baby clinic on Humpty Doo cattle station.*



*Rough going for nursing sisters of the Public Health Section, on their way to an isolated area in the Northern Territory outback.*

positive attitudes towards health and the dissemination of knowledge and appreciation of personal and community hygiene remains a top priority. Positive advances in sanitation have been achieved with the start of sewerage schemes in several Aboriginal communities. Co-operation from mining and construction authorities in rural areas remained at a high level. On the Gove Peninsula, development reached such a stage that it can no longer be classed as a rural area. It now exceeds the township of Katherine in size.

### ***Mental health***

The recruitment of an additional psychiatrist was a welcome addition to the staff. However, such is the acceptance of the psychiatric service by all members of the community that further staff increases will shortly be necessary. A comprehensive programme of visits to all Territory centres has now been established.

### ***Schools health service***

The return from overseas study of the senior medical officer, who has qualified as a developmental paediatrician, gave a marked boost to this section. The start of regular surgical visits by ear, nose and throat specialists was of great value and it is hoped to extend this service. Immunisation levels continued to be satisfactory although constant reminders were necessary. The oral poliomyelitis and live measles vaccination programmes are now formally incorporated into the urban clinics, and a special rubella vaccination campaign was begun.

### ***Infant health***

The demand on the urban services continued to increase, reflecting the growing number of babies being born in the Territory. One new centre was opened and the hours were extended at some others, enabling some clinics at inconvenient locations to be discontinued. The total result was the achievement of a better coverage of the population.

Immunisations were given to children in outlying areas who were unable to attend town clinics. A mobile infant health clinic has arrived and should go into full service during the next financial year, increasing the flexibility of this service. The infant health clinics conducted by the public health nurses at Tennant Creek were expanded, and additional staff at Alice Springs allowed more follow-up of problem children.

### *Home nursing service*

Without the activities of this section, the demands for hospital beds would have been even greater. The section materially assisted in the early discharge of patients and in preventing the admission of others who, without the care rendered by these sisters, would need to be hospitalised.

Fringe dwellers continued to absorb a significant part of the section's time not only in Alice Springs and Katherine, which are still major problem areas, but also in Darwin where the number of such people appears to be on the increase. Plans are in hand to increase this section and to improve still further the liaison with hospitals. Private practitioners continued to make ready use of the home nursing sisters.

### *Public health nursing*

Unfortunately it was not possible to expand this section as had been hoped. Demands on these sisters have increased and they are now providing the entire nursing staff for one mission. The maintenance of routine screening immunisation programmes was alone sufficient to absorb most of the available time, but efforts are being made to increase the mother-training and child-care activities which are so vital to attempts to reduce the infant mortality rates in Aboriginal communities.

During the year, nursing sisters from the section were called upon to assist resident staff in remote areas in handling an epidemic of gastro-enteritis which, although widespread, fortunately did not result in significant mortality.

### *Health laboratories*

A senior specialist was appointed to the Darwin Health Laboratory during the year, but increasing pressure, particularly of Coroner's cases, highlighted the need for a further increase in medical staff. Existing laboratories are now being used to their maximum and the development of a central laboratory in Darwin and the establishment of proper laboratory premises in Alice Springs has become increasingly urgent. The newly appointed Medical Superintendent at Tennant Creek, who has a special interest in this field, is establishing an expanded range of tests for his hospital but, as this is the smallest of the clinical institutions, it will not appreciably ease the load on the main laboratories.

### *Research*

A study of Aboriginal infant and toddler morbidity and mortality in Central Australia by the Senior Registrar in rural health at Alice Springs, Dr D. K. Kirke, was completed during the year and a thesis on the outcome resulted in the award of an M.D. to Dr Kirke from the University of Adelaide.

The epidemiological study into leprosy in the Territory is nearing completion and the results are at present being processed by computer. The longitudinal study of nutritional patterns in Aborigines is now more than half-way through its planned programme. A joint study into nerve transplants in leprosy sufferers, carried out by the University of Sydney and the East Arm Leprosy Hospital, although in its early stages shows promising indications and represents a major break-through in the treatment of this disabling condition.

## Quarantine

Quarantine activities continued to increase. The phasing out of rest and recreation flights from Vietnam will be more than offset by the introduction of Boeing 747 jets later in 1971. An increasing number of small craft are using the port of Darwin for such purposes as prawning activities and this has again increased the load in this area.

Shipping to the major mining ventures on Groote Eylandt and Gove Peninsula continued to provide a steady quarantine load and it is expected that this will increase as production begins at Gove and expands at Alyangula. Another small party of Indonesians was forced on to the North Australian coast during the monsoon. They were brought to Darwin and accommodated in the quarantine station pending their repatriation.

## Aerial Medical Service

This was the Silver Jubilee year for the Aerial Medical Service. Another Dove aircraft was purchased during the year, bringing the total number in the fleet to six. The completion of the hangar at Darwin at last gave the service a



*A patient being loaded aboard a Dove aircraft of the Northern Territory Aerial Medical Service for transport to hospital. The Service this year celebrated its 25th anniversary.*

home for its Darwin-based machines, which have for so long coped with the difficulties of shared services and the problems caused by the effects of climate on unprotected aircraft. The new hangar also provides a waiting area for patients during evacuations and repatriation. A new hangar at Gove has almost been completed to house the most recent acquisition to the fleet.

### *Hospital services*

In the report for the previous year, the burden being borne by Northern Territory hospitals was mentioned. The number of in-patients increased still further in 1970-71. For example, on 7 February 1971 the Alice Springs Hospital recorded an all-time high of 229 in-patients, including a record paediatric figure of 136.

The situation which occurred in Alice Springs some years ago has now been reached in Darwin, where all available hospital beds are in use. Fortunately in Darwin the provision of demountable staff quarters is under way but extra ward space is badly needed. At Alice Springs, staff accommodation is a limiting factor. Both the major Territory hospitals are therefore operating under conditions of intense pressure.

In spite of the demands on the Darwin Hospital, 1970-71 was a year of great development. A new approach to staffing resulted in the provision of extra medical staff. The appointment of a Deputy Medical Superintendent, the establishment of a graduate training committee, and close liaison with the Royal Australian College of General Practitioners resulted in the introduction of intern and residency training along approved lines. This is a significant achievement and one which will not only result in raising the standard of patient care but which should also materially assist in recruitment and retention of medical staff. During the year, the hospital was approved for training for the Diploma of Child Health (England), and the Diploma of Anaesthetics (England). The Royal Australasian College of Physicians also approved the hospital for periods of up to six months secondment from an accredited hospital in Adelaide.

At the Alice Springs Hospital, the new demountable units provided last financial year were fully utilised, with the main problem again being the numbers of Aboriginal child patients. A shortage of accommodation for nurses is a limiting factor in the employment of staff, and this makes it difficult to cope with the demands made by the high number of patients. To assist in these problems, a hospital assistant's training course was begun during the year and has proved to be an outstanding success. Fifteen trained hospital assistants are now working in the wards of the hospital. During the Christmas vacation a number of high school girls gave valuable help in the care of convalescing children, after a brief course in hospital methods, basic hygiene and infant care requirements.

The decision of the Royal Australasian College of Physicians to recognise service at Alice Springs Hospital by doctors seconded from the Adelaide Children's Hospital made possible the system of a rotating registrar from Adelaide working in the paediatric section, thus providing much needed relief to the hospital's busiest department.

During the year, the Joint Standing Parliamentary Committee on Public Works heard evidence presented by the Department and by the townspeople on the need for a new hospital. The interim report of the Committee recognised Departmental proposals.

The work load at Tennant Creek Hospital rose also and the number of out-patients, in particular, greatly increased. A new X-ray department was completed and the range of pathology services available is being expanded.

At Katherine Hospital, lack of accommodation for nurses was a limiting factor in the expansion of services. However, the regular surgical visits by specialist staff from Darwin resulted in an increase in major operations performed at Katherine. The presence of a full-time pharmacist enabled a wider range of medicines to be dispensed.



*Above, the present medical centre at Nhulunbuy, on the Gove Peninsula in the Northern Territory, and below, the new ward block under construction at the Gove District Hospital.*



### ***Gove Medical Centre***

The rise in the work performed at the Gove Medical Centre reflects the rapid development of the area. The two doctors at this centre were kept particularly busy by the demands of the 4,000 population and were required also to service Groote Eylandt and the neighbouring mission at Yirrkala. Phase one of the new hospital on Mt Saunders is well advanced. An important activity carried out from the Gove Medical Centre is the maintenance of the malaria-free condition of the area. The work involved in following up people who have recently been in malarious areas and the supervision of eradication courses is vital to the success of the objective of keeping this area free from the disease.

### ***Groote Eylandt Medical Centre***

Expansion of mining activity on Groote Eylandt increased the demands on this centre, which now has two sisters. A small dental clinic was recently added. As malaria surveillance is of great importance in this area also, plans for the provision of extra staff are being proposed.

## A.C.T. Health

Major projects undertaken by the A.C.T. Health Services in 1970-71 included a health and welfare survey by the Psychiatric Services Branch, a mass rubella vaccination campaign, exploration of the 'drug culture' as part of a developing health education programme, a 24-hour-a-day crisis support service, and increased child health services.

The Llewelyn-Davies Report—a study of the health needs of Canberra up to a population of 500,000—was published early in 1971. The consultants, a British firm, were engaged on a joint basis by the Department of Health and the National Capital Development Commission. The report of the consultants is still under consideration. The Woden Valley Hospital, which will eventually provide 600 beds, grew to its full height of ten storeys. Work on the project is reported to be on schedule and the hospital is expected to admit its first patients in 1973.

### *Mental health services*

During the year, appointments were made to the majority of administrative and clinical positions approved for stage one of the three-stage plan for the development of a comprehensive and integrated mental health service for the A.C.T.

A 24-hour emergency psychiatric service was established in September 1970, available through the Canberra Hospital switchboard, to deal with crisis situations. The service provides a psychiatrist, a psychologist or social worker and a social health visitor who are on call at all times. A total of 154 after-hours visits were carried out in the first three months. Child and Family Guidance Clinics are functioning at Kingston and Civic Centre and providing services for adults and children. The branch treated 886 new patients in the past twelve months.

A psychiatrist attached to the Psychiatric Services Branch has been seconded to the Canberra Hospital where in-patient and out-patient services are being provided. Approximately fifteen in-patients are under the immediate clinical care of the hospital psychiatrist at any time. A registrar and senior medical officer have joined the team in the Psychiatric Unit, and plans are under way to increase the facilities in that area.

A psychologist with special experience in the field of intellectual handicap has been appointed to the branch. This officer is working closely with the Handicapped Children's Association and other agencies on the further development of services for the intellectually handicapped in the A.C.T. Community psychiatric services of a general consultative nature are operating with general practitioners and health and welfare organisations. In this work, the emphasis is on brief telephone discussions to assist the consulting agency in solving problems.

Continuous in-service training programmes conducted by the branch for its own staff have been extended to involve personnel from related health and welfare agencies. Officers of the branch gave 51 talks to interested community groups throughout the year. Six articles were published in professional journals. Planning is proceeding for the provision of three residential hostels to accommodate intellectually handicapped persons, chronic psychiatric patients and persons who are recovering from psychiatric disorders. It is hoped that these hostels will be completed in 1973-74.



*The Woden Valley Hospital in Canberra, which has now reached its full height of ten stories. The 600-bed hospital is expected to admit its first patients in 1973.*

To assist in planning future psychiatric services for the A.C.T., a health survey is now in progress. One-thousand-five-hundred residents of the A.C.T. are being interviewed, covering all age groups. The survey is also designed to provide sociological data which will facilitate the planning of community health and welfare services. The survey will be correlated with statistical and evaluative research to begin in July on patients treated by the service.

### *Hospital planning and development*

New staff have been engaged on the task of working towards the commissioning of the Woden Valley Hospital. A contract for stage two of construction was let in March 1971 for \$4.48 million. During April 1971, contracts were signed for alterations and additions to the Canberra Hospital laundry and sterilizing areas. This will provide an interim central linen and sterile supply service for both Canberra and Woden Valley Hospitals until the first stage of a major central hospital services complex is functioning. Planning for the central complex has proceeded to the stage where a feasibility study of the project has been undertaken and accepted. A site has been reserved in the Mt Crace industrial area of Canberra.

Among the major recommendations of the Llewelyn-Davies Health Care Study on the A.C.T. was the provision of community health centres. Action has been taken with the National Capital Development Commission to plan two pilot health centres, one to be located in the Phillip town centre and the other in Belconnen.

Other work during the year by the planning and development staff has included continued negotiations with the Little Company of Mary concerning the

proposed 300-bed Calvary Hospital to be constructed in the suburb of Bruce for completion by 1976. Briefs have been prepared for several projects, including a proposed Central Health Laboratory and a proposed A.C.T. Health Services building. Preliminary work has begun on the planning of a large general hospital for Belconnen, stage one of which is expected to be functional by 1979-80. Continued assistance has also been provided to a private organisation in the planning of a 150-bed nursing home in the suburb of Aranda.

### *Advisory Committee*

The A.C.T. Hospital Advisory Committee met on three occasions during the year. Among the items considered were the conceptual brief for the Belconnen Hospital, para-medical education in the A.C.T., the appointment of executive staff for the Woden Valley Hospital, hospital bed requirements in the A.C.T., allocation of specialties between A.C.T. hospitals, the classification of medical practitioners using A.C.T. hospitals, long term hospital planning in the A.C.T. and a central pathology laboratory for the A.C.T.

### *School Dental Service*

The number of children examined by the School Dental Service increased from 13,823 in 1969-70 to 17,655 in 1970-71. This increase was due largely to the use of dental therapists, nine of whom are currently employed. Four new clinics were opened in the A.C.T. during the year, bringing the total to thirty-one.

The long-term investigation to assess the value of the fluoridation of Canberra's water supply continued. During the 1970 calendar year, 6,769 children aged from six to twelve years who had lived continuously in Canberra since fluoridation began in 1964 were examined. These children had 35.3 per cent fewer defective permanent teeth and 47.8 per cent fewer decayed permanent teeth than children of the same age who were examined in 1964 prior to the start of fluoridation.

### *School Medical Service*

The School Medical Service has been reorganised following the appointment of additional nursing sisters. Medical officers are now not so involved in the routine screening of eyesight and hearing of mainly normal children, and are able to concentrate more on health education and on medical examinations of newly-arrived children and those with specific problems.

Analysis of the 1970 calendar year figures shows that the proportion of children found to have defects of a notifiable standard has continued to decline—7.7 per cent in 1970 compared with 10 per cent in 1969 and 12.5 per cent in 1968—probably due to the more regular coverage of the child population. In primary schools, where medical examinations are performed on all new arrivals into A.C.T. schools, 90 per cent of the defects found were of a nature that would be recognised by nurses undertaking their current screening routine. The proportion would be higher in secondary schools.

### *Child Health*

The sections of A.C.T. Health Services concerned with the provision of preventive health services for children (with the exception of those provided by the Psychiatric and Dental sections) have been reorganised into a new Branch of Child Health. Included in its functions are the school medical, immunisation, baby health centre and infant health services. During the 1970 calendar year, the Child Health staff gave over 140,000 individual personal services to the public in the A.C.T.—an average of one per head of population.

## *Immunisation*

A total of 15,710 injections of either triple antigen or combined diphtheria and tetanus vaccine was administered during the year, compared with 13,836 in 1969-70. Immunisation against poliomyelitis using Sabin vaccine was also continued. Two new clinics were started and a total of 17,283 doses was administered of which 19 per cent was given to adults. Measles immunisation continued on a regular monthly basis. A total of 1,492 doses was administered to children aged one to nine years. Although this was apparently unpopular at first, attendances have recently been increasing steadily.

A rubella immunisation campaign using Cendehill strain was started in August 1970. Fifty-eight schools, including Jervis Bay, were visited and a total of 3,164 doses administered, representing 82 per cent of the girls in the twelve to fourteen year age group. Routine rubella immunisation clinics continued during school holidays. The total number of rubella injections given to twelve to fourteen year old girls since the campaign started is 3,543.

The annual influenza vaccination of Commonwealth employees was undertaken during April and May and 8,412 doses were administered. Three hundred and seventy-one Heaf tests and 92 BCG vaccinations were carried out at Jervis Bay and Wreck Bay in 1970 at the request of the chest clinic. These numbers included 82 cadets of the Royal Naval College and 111 sailors.



*A.C.T. Health Services recently expanded its child health programme to provide free medical examinations for children of pre-school age.*

## *Baby health centres*

New centres were opened in the suburbs of Waramanga, Higgins and Weston in 1970-71. Regular clinics are now held in 40 centres. During the year there were 70,621 attendances at clinics and 18,337 home visits.

An infant welfare sister from Canberra began visiting Wreck Bay and Jervis Bay on a fortnightly basis in April 1971. In addition to her baby health centre duties, the sister is responsible for all nursing duties undertaken by A.C.T. Health Services in the areas, assisting with school medical examinations, medical examinations of young children, immunisations and home visits.

A preliminary survey has been made and another survey is planned to evaluate the needs for mothercraft education and facilities for post-natal care and support in Canberra.

## *Infant health*

In November 1970, routine medical examinations were begun on nine-month and three-year-old children in the A.C.T. These examinations are carried out by three specially-trained teams, each consisting of a medical officer and a sister. They work on an appointment basis and examinations are carried out in baby health centres. A total of 2,043 children have been examined to date, and 440 defects of notifiable standard were found. Family practitioners have been given a brief summary of the results of all the children examined. The public response has been enthusiastic.

Medical examination of infants was also conducted at Wreck Bay and Jervis Bay and it is anticipated that this service will be offered twice a year.

## *Blood collection*

A blood collection centre for outpatients has been established at the Infant Welfare Clinic in Civic Centre. This operates from 8 a.m. to 10 a.m. and about 70 per cent of laboratory outpatients attend there. The development of extensive private pathology services with blood collection in doctors' surgeries has resulted in a fall in total outpatient attendances by about 20 per cent.

## *Ambulance Service*

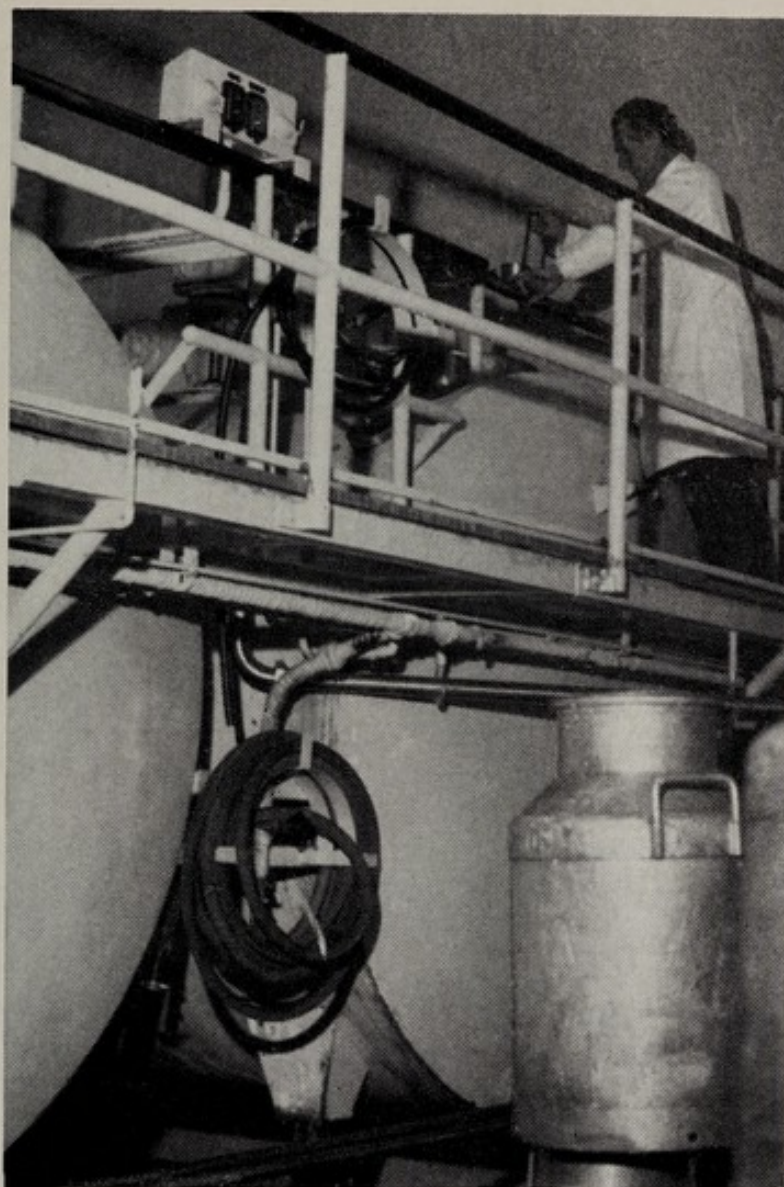
The A.C.T. Ambulance Service carried 41 per cent more patients in 1970-71 than in the previous year. The increasing number of day-hospital rehabilitation patients was mainly responsible for the rise. In August the service replaced its eight-passenger day-hospital vehicle with a larger bus with wheel-chair loading facilities. This vehicle can carry sixteen walking patients and four wheel-chair patients. In the nine months of operation the bus has travelled 10,010 miles and carried 5,223 patients.

Canberra's third ambulance station, in the Woden Valley, was commissioned in December 1970. Requirements for a station at Belconnen have been finalised and it is expected that a contract for this building will be let early in 1972.

## *Nursing services*

In February 1970 a pilot community nursing project was launched following discussion with the A.C.T. branch of the Australian Medical Association. One district nurse, working full time, and one infant welfare sister, working part time, were assigned to a medical group practice of three general practitioners. This project will be assessed later in 1971. During the year members of the District Nursing Service visited 1,450 patients and made 33,145 visits.

*An A.C.T. public health inspector checking the quality of milk at one of Canberra's two dairy factories. Inspectors make regular visits to the factories.*



### **Public health**

General supervision was maintained over the manufacture, storage and sale of all foods and milk processing and vending methods were regularly checked. Throughout the year, quarantine inspections were made of international aircraft arriving at Canberra as a first port of entry. Daily quarantine checks were made of overseas parcels received at the Canberra mail exchange under bond.

The number of cases of gonorrhoea in the A.C.T. showed another decrease, with 40 notifications for the year compared with a total of 52 in 1969-70, and 58 the previous year. Seven cases of syphilis were notified.

### **Health education**

A separate health education section was established during the year. Co-operation with schools and the Department of Education and Science continued and the provision of resource materials for use in the school and community was stepped up. Staff seminars in health education were introduced for A.C.T. Health Services staff in contact with the public.

The section has taken part in the activities of the National Drug Information Service. Educational programmes aimed at changing attitudes among opinion leaders have been introduced and community leaders have been involved in special seminars. Discussion methods have been used in efforts to explore the forces in our society which contribute to the present 'drug culture'.

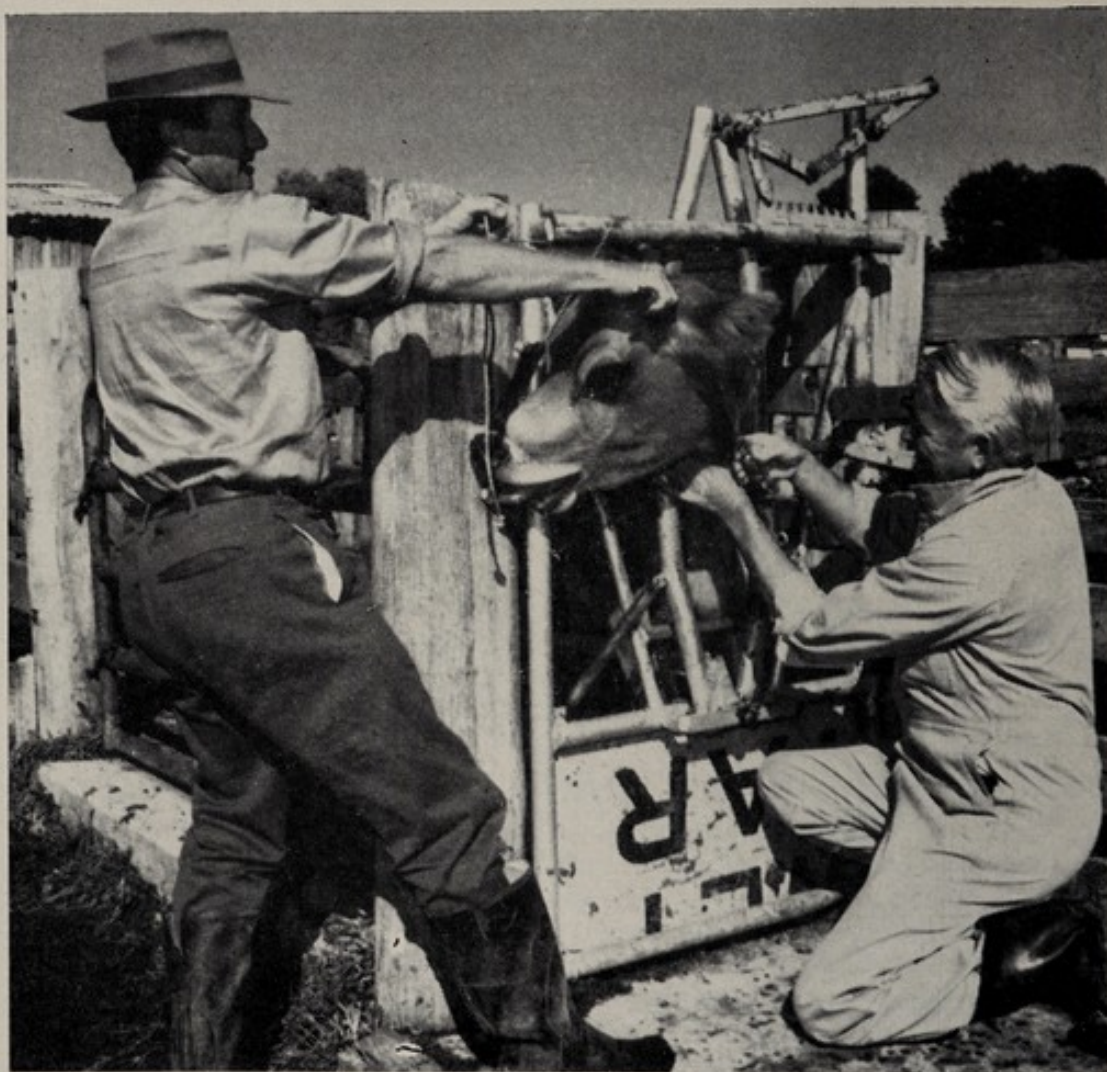
A master plan for the development of health education in the A.C.T. for the next five years has been prepared for implementation from 1971-72.

### *National Fitness*

The A.C.T. National Fitness Advisory Committee recommended grants totalling \$5,288 and received applications from a growing number of community groups. Close liaison continued with recreational, sporting and youth bodies and with the physical education staff in the local schools. Information on camps within the A.C.T. and surrounding areas was published in a booklet and distributed widely. A total of 4,658 children enrolled in the 1970-71 vacation learn-to-swim campaign, for which 114 instructors were recruited. The demand for vacation activities increases and additional ones are planned for the 1971-72 holiday period.

### *Veterinary services*

Increased cattle production in the A.C.T. brought herd-breeding performance under closer examination. To improve conception rate remedial measures were applied where vibriosis was diagnosed in one herd. In spite of the reappearance of three-day sickness among New South Wales cattle at the beginning of 1971, the disease showed low incidence in the A.C.T. As part of the national campaign to eradicate bovine brucellosis, twenty-eight A.C.T. beef herds, representing some 6,000 head of cattle, were sampled. The results indicated a low incidence of the disease in local cattle. Tuberculin testing of dairy herds produced negative results.



*A Health Services veterinary officer takes a blood sample during the current A.C.T. project to control brucellosis in cattle.*

A survey was conducted over a six-month period to determine the incidence of *E. granulosus* infestation (hydatid disease) in dogs held at the dog pound. In 202 dogs examined, the disease was demonstrated in two animals. On rural properties, seventy-eight dogs were examined, and the infection found in two dogs on one property. Occasional surveys were made at the abattoir of the incidence of hydatid cysts in sheep and lambs. The overall incidence of cysts was low. An additional meat inspector was appointed during the year to cope with the increased numbers of livestock slaughtered at the abattoir.

### *Institute of Anatomy*

During 1970 the administration of the two sections of the Institute was reorganised. The museums and museum staff, collections and the building became a part of the A.C.T. Health Services Branch while the Nutrition Section remained under the control of the Central Office.

Planning of a new exhibit showing the function of the endocrine system has reached an advanced stage. Renovations to some of the older displays are also progressing satisfactorily. The classification and cataloguing of the national ethnographic collections continued. Some additional material was received during the year and the curator (anthropology) and her assistant were asked by the Prime Minister's Department to supervise the cataloguing of native artefacts.

### *Public Health Laboratory*

During the year the laboratory, located at the Institute of Anatomy, tested a total of 10,481 samples, an increase of 10.8 per cent over the number for the previous twelve months.

### *Professional boards*

The Dental Board of the A.C.T. held six meetings and registered thirteen applicants. There were seventeen complaints received about fees, an increase of seven over the 1969-70 figure. The Board's opinion that such complaints would be less frequent if a better idea of the costs involved were given to patients prior to treatment was circulated to all dental practitioners.

The Nurses Board met seven times and registered 265 nurses and enrolled forty-five nursing aides. The Board agreed that some qualifications, including the Infant Welfare Certificate, Thoracic Nursing Certificate and Orthopaedic Nursing Certificate, would not appear as additional qualifications in the A.C.T. Nurses' Register. The only qualifications that are now registrable are those for a general nurse, midwifery nurse, mental nurse, infants' nurse and nursing aide.

The Medical Registration Board held seven meetings and registered seventy-one medical practitioners. The Board made recommendations concerning proposed amendments to the A.C.T. Medical Practitioners' Registration Ordinance. The Pharmacy Board held seven meetings and registered twenty-three pharmacists. It considered amendments to the Poisons and Dangerous Drugs Ordinance. The Veterinary Surgeons Board met on one occasion and registered one veterinary surgeon.

### *Commonwealth Medical Officers*

A total of 10,907 clinical examinations was carried out during the year for entry to the Commonwealth Public Service, re-examination of officers following illness, Workers' Compensation Act examinations, fitness to hold driving licences, eligibility for sickness benefit or pensions, and examinations of families prior to overseas postings.

The Forensic Sub-section experienced a rapid growth in activity. It now provides a service to the A.C.T. Police on a 24-hour-a-day, seven-day-a-week basis.

# Quarantine

The year 1970-71 saw the start of the giant jetliner era in Australia, an era which means an increased work load for the Department's quarantine service. However, detailed pre-planning enabled staff to provide an efficient clearance service for the large numbers of passengers arriving on the huge aircraft, the Boeing 747s.

Cholera was reported in a number of countries during the year, but Australia remained totally free of the disease. All infected countries were proclaimed under the Quarantine Act as countries from, or through which, cholera might be brought or carried. This meant that all travellers arriving by air from the countries concerned were required to possess a valid cholera vaccination certificate, and staff at all first ports of entry were alerted to watch for any signs of the disease.

The quarantine service also continued its successful task of preventing the introduction of exotic animal disease into the country. It was necessary during the year to maintain the prohibition on the import of dogs and cats from the United Kingdom and Ireland. This prohibition was imposed following a case of rabies in England in October 1969 with a second case in February 1970. However as the new financial year began, it was announced that the ban would be lifted on 12 July. Plant quarantine activity increased during the year, due mainly to the further growth in container transportation and to the greater volume of work in post-entry quarantine operations.

## HUMAN QUARANTINE

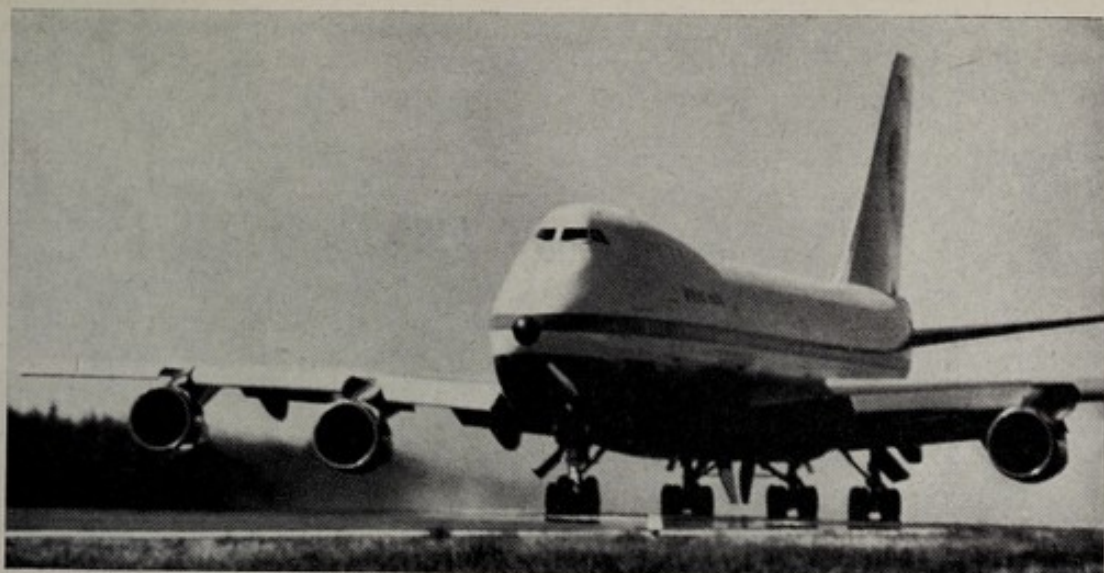
The year was an active one, with substantial increases in the number of ships and aircraft arriving from overseas. No case of quarantinable disease—smallpox, cholera, yellow fever, plague, typhus fever or leprosy—was introduced into the country. A further extension was made to the number of sea ports in which a 24-hour clearance service is available on request, seven days a week, for incoming shipping.

### *Boeing 747 service*

Following the introduction of the regular Boeing 747 service between the United States and Australia, a study began of new methods of disinsecting aircraft to cope with the size of the 747, and to ensure that no delay is caused to airline schedules. In order to facilitate the clearance of aircraft, airline operators are no longer required to prepare lists of passengers and their intended addresses in Australia for quarantine purposes. By arrangement with the Department of Immigration, this information is now obtainable from incoming passenger cards, which each new arrival has to complete for immigration purposes.

### *Transit passengers*

Special arrangements were made with New Zealand health authorities to allow air passengers in direct transit through Australia to New Zealand to continue their journey even if they do not possess an International Certificate of



*A Pan-American Boeing 747, one of the giant aircraft which began a regular trans-Pacific service to Sydney in 1970-71.*



*At left, the huge fuselage dwarfs a quarantine officer disinfecting the hold. A study is under way of new methods of disinfecting aircraft, to cope with the size of the Boeing 747 and to ensure that airline schedules are not delayed.*

Vaccination—provided they are not suffering from an infectious disease. However, while in transit through Australia, such passengers are kept under strict quarantine surveillance and are not allowed to establish contact with the public.

### *Statistics*

The number of ships cleared through quarantine in 1970-71 was 6,233, and the number of aircraft cleared was 8,127. The corresponding number of ships cleared in 1969-70 was 5,297, and of aircraft 6,887. The total number of persons cleared through quarantine was 1,206,472, compared with 1,113,576 the previous year.

The number of persons arriving in Australia by air from overseas without a valid smallpox vaccination certificate continues to cause concern. During the year, 6,745 persons were vaccinated against smallpox on arrival at their first port of entry because they did not have the required certificate, while 195 persons were detained in a quarantine station because they were unable to be vaccinated against this disease.

### *Conferences*

The quarantine service was again represented at a number of meetings held during the year to consider additional methods of facilitating the movements of overseas ships and aircraft. Two officers of the Department represented Australia at the first course on epidemiological surveillance and international quarantine held at Suva, Fiji, in July 1970. The course was conducted under the auspices of the World Health Organisation.

## **ANIMAL QUARANTINE**

The movement of cattle, pigs, dogs, cats and horses came under the scrutiny of the Animal Quarantine Branch during the year. Representations continued to be made to overseas countries about the relative disease-free status of Australian live-stock, and some success was achieved in negotiating for exports.

### *Exports and imports*

In November 1970, New Zealand agreed to allow the importation of cattle from certain areas of Australia, subject to specified conditions of health certification—the first time this had been permitted in ninety years. The ban had been imposed in 1880 because of the presence of contagious bovine pleuropneumonia among Australian herds, and the lifting of the ban recognised the great progress made towards eradication of the disease. However, at the end of 1970, another disease—ephemeral fever or three-day sickness—reappeared among Australian mainland cattle, and New Zealand reimposed its ban. It is still in operation because of the continued presence of ephemeral fever in an active form.

Also in November 1970, the ban on the importation of New Zealand pigs into Australia—imposed because of the existence in that country of a parasite, *Trichinella spiralis*, which affects both pigs and man—was partially relaxed. Male pigs are now allowed into the country under strict conditions of control and surveillance, a move welcomed by the Australian pig industry as it allows the introduction of new blood into Australian herds without the risk of introducing disease.

New Zealand has placed a ban on the trans-shipment of horses to Australia following a suspected case of glanders among a consignment of horses intended for importation into Australia from the United Kingdom via New Zealand.

Consideration is now being given to amending Australian quarantine legislation to overcome this. In the meantime, horses, asses and mules from the United Kingdom can only come to Australia on ships travelling direct, or on ships which simply call at New Zealand ports en route.

As mentioned previously, the ban on the import of dogs and cats from the United Kingdom and Ireland was maintained throughout the year, but it was to be removed on 12 July 1971.

### *Overseas training*

During the year the Canadian Department of Agriculture conducted a course in foreign livestock disease on Grosse Ile, in the St Lawrence River, where there are secure isolation facilities. Following an invitation from the Veterinary Director-General for Canada, a veterinary officer of the New South Wales Department of Agriculture attended the course and also visited the maximum security laboratory of the United States Department of Agriculture at Plum Island. The cost of the return air fare was met by the Commonwealth.

### *Meetings and conferences*

Senior officers of the Department attended meetings of the Standing Committee on Agriculture, the Australian Agricultural Council, the Cattle Tick Control Commission, the Commonwealth and States Veterinary Committee and the Australia-New Zealand Technical Committee on Animal and Plant Quarantine. Other meetings attended by representatives of the Branch included conferences of the Chief Quarantine Officers (Animals), the National Committee for the Eradication of Tuberculosis and Brucellosis, the Veterinary Public Health Committee of the National Health and Medical Research Council and the Australian Veterinary Association.

## **PLANT QUARANTINE**

Among the highlights of the year's activities in the Plant Quarantine Branch was the granting of approval for the introduction of a parasitic fungus as a control agent for skeleton weed. The decision to introduce the fungus, *Puccinia Chondrillina*, was made after careful consideration and consultation with appropriate authorities. This was the first time a parasitic fungus had been introduced as a biological control agent against a destructive plant species. Skeleton weed is a serious pest in some wheat areas of Australia.

### *Legislation*

New proclamations relating to plant quarantine came into operation during the year. Proclamation 64P, gazetted in October 1970, prohibits the importation of seed of *Centrosema* (Centro) without the permission of the Director of Quarantine. Proclamation 65P prohibits the importation of onions without a permit and 66P prohibits the importation of lettuce seed without a permit.

### *Staff*

The staff available in the State Departments of Agriculture to undertake plant quarantine duties on behalf of the Commonwealth increased during the year to keep pace with the increased work load involved in servicing container operations and timber importations. In Sydney, a plant pathologist has been stationed at the plant quarantine facility at Rydalmere and a virologist has been appointed

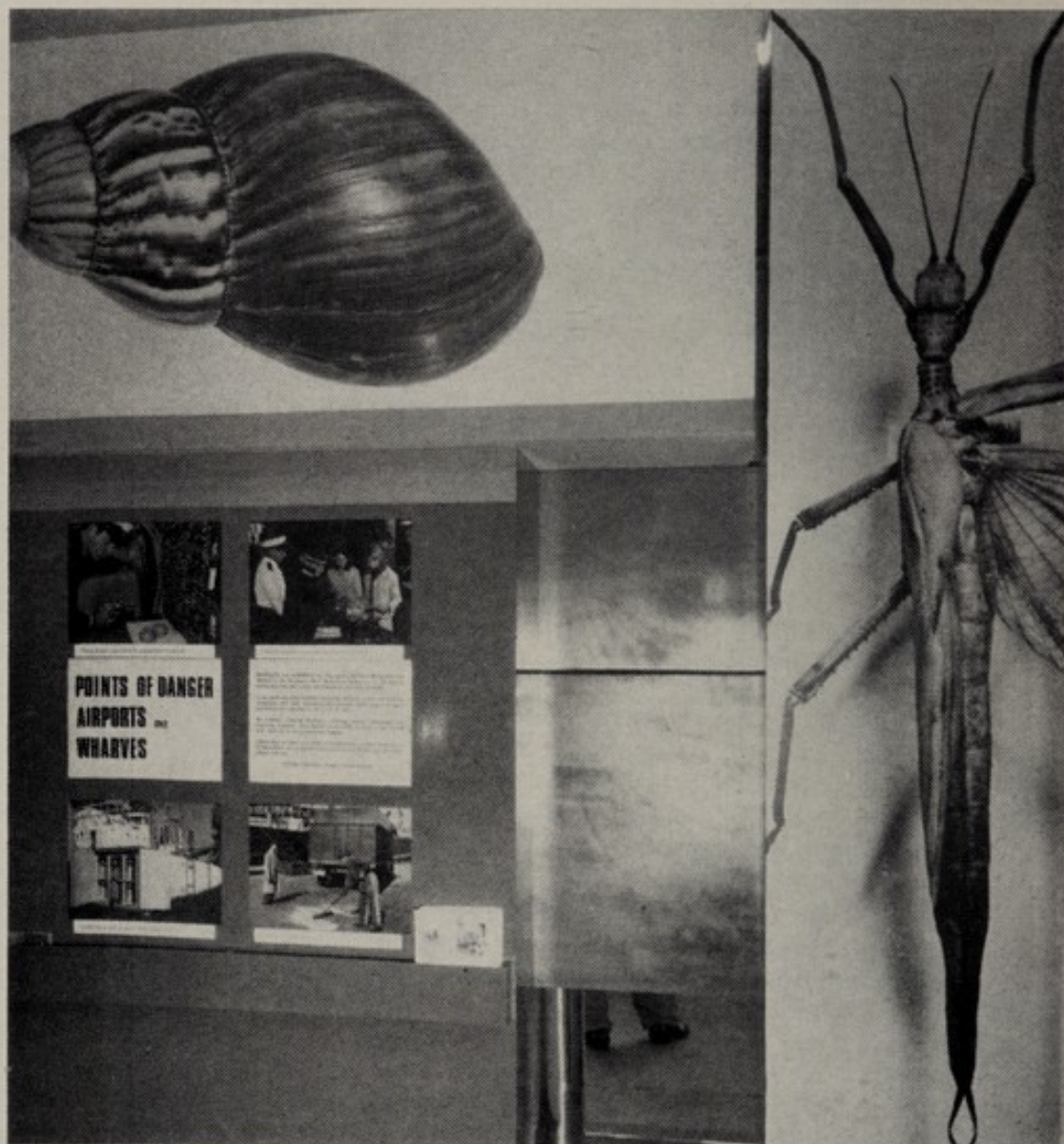
to the Plant Quarantine Laboratory in Canberra. New quarantine facilities were completed during the year at Fremantle and Adelaide. These will give better service to the public with imported items which have to be inspected and treated, if necessary, before release.

### *Container operations*

To help container operators keep up to date on quarantine procedures, a revised edition of the booklet 'Cargo Containers and Unit Loads—Quarantine Aspects and Procedures' was published in January 1971.

### *Plant Quarantine Laboratory*

Projects studied at the Laboratory during the year included fumigation of plants and seeds of certain species to check out effects of methyl bromide; seed treatment to determine their effect on seed-borne pathogens; devitalisation of seed; virus screening of fruit tree varieties; further work on glasshouse and screen house procedures; testing of anti-rust compounds in fumigation chambers; sub-irrigation of plant-growing beds in glasshouse operations; and the development of a thermistor hygrometer to control humidity in glass houses.



*A typical display on plant quarantine, one of a series conducted at Royal Shows throughout Australia to emphasise the need for thorough plant quarantine measures.*

## *Sirex in Victoria*

The most striking development with *Sirex* has been in the field of biological control. The observed parasitism of *Sirex* by the various imported wasp parasites has been progressively increasing and now stands at approximately 60 per cent. Nematode parasites released at a location in north-east Tasmania have spread more than 1,000 yards from the point of release in just over twelve months.

## *Citrus fruit imports*

Because of a shortage of citrus fruit during the year, particularly grapefruit, imports were allowed under prescribed quarantine conditions and control from approved areas of the United States and Israel. Strict conditions were laid down to ensure that fruit fly was not introduced.

## *Overseas visits*

The Assistant Director-General (Plant Quarantine) attended a meeting of the Technical Sub-Committee to the Plant Protection Committee for the South-East Asia and Pacific Region in December 1970. In July 1970 the Assistant Director of Plant Quarantine and the Deputy Senior Inspector, Department of Agriculture, New South Wales, visited South Vietnam at the suggestion of the Department of the Army. They discussed with Army officers quarantine problems relating to the cleaning of vehicles and equipment before their return to Australia. The two officers also had discussions with R.A.A.F. officers about the cleaning of aircraft and other Air Force equipment. It is most important that such equipment is freed of all soil and vegetable matter because Vietnam is an area where serious animal and plant diseases are endemic. In May-June 1971 the Assistant Director-General (Plant Quarantine) visited Indonesia at the invitation of the Food and Agriculture Organisation to advise on plant quarantine in that country.

## *Publicity*

The plant quarantine publicity campaign, administered by the Department of Health for the Australian Agricultural Council, maintained a flow of literature and other information material on Commonwealth and State plant quarantine requirements throughout Australia. Information, mainly in the form of a new brochure, was also distributed through Australian agencies abroad. Poster displays have been continued on the major public transport systems of the States and transport and touring organisations have been provided with literature for distribution to the travelling public. Production has started on a film which will be directed at migrants. Displays on plant quarantine, conducted at the Royal Shows throughout Australia, have attracted much interest and are a major direct contact with the general public.

# Tuberculosis

In 1970 Australian tuberculosis control continued to show further progress. New notifications and reactivations totalled 1,911, a drop of sixty-nine on the previous year. The rate for notifications and reactivations—which in view of population increases is a more meaningful figure—fell from 15.9 per 100,000 in 1969 to 15.0 in 1970.

The fall of sixty-nine does not compare favourably with the fall of 451 in the previous year. The drop between 1968 and 1969 in terms of rate was from 19.7 to 15.9 per 100,000. It was almost entirely accounted for by very sharp declines in New South Wales and Queensland.

Declines in new notifications for 1970 were registered in Victoria (76), New South Wales (26), Queensland (23), Tasmania (5), and Western Australia (1). South Australia again registered a rise with 147 new notifications compared with 134 in 1969 and 110 in 1968. The 1970 rise was at least partly accounted for by a special survey and review of patients known to have pulmonary abnormalities.

A more disquieting picture was an increase in the total number of reactivated cases from 157 in 1969 to 199 in 1970. Reactivated cases have shown in the past a fairly constant relationship to the number of total notifications for the year (see following table). An analysis in all States shows that nearly all those who do reactivate are patients from the pre- or early chemotherapeutic era or those who had a history of inadequate treatment. Nevertheless, this group will need special watching. The importance of co-operation by the patient in completing the full course of chemotherapy is again stressed. It is a small price to pay for protection against reactivation at some future time.

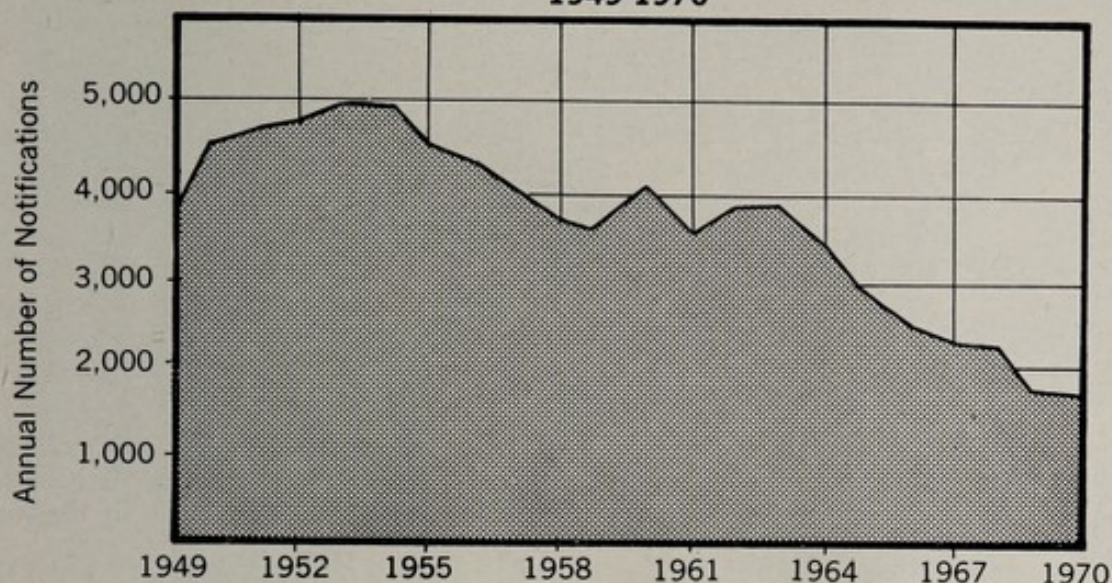
TUBERCULOSIS REACTIVATIONS 1965-1970

	<i>Total notifications (including reactivations)</i>	<i>Reactivations</i>	<i>Reactivations as a percentage of total notification</i>
1965 . . . . .	3,145	242	7.69
1966 . . . . .	2,761	212	7.68
1967 . . . . .	2,532	239	9.44
1968 . . . . .	2,431	198	8.14
1969 . . . . .	1,980	157	7.93
1970 . . . . .	1,911	199	10.41

Control measures have not been altered greatly but there is a continuing concentration on the chest clinic as the centre of tuberculosis control activities. Intermittent fully-supervised chemotherapy in patients' homes has been used on a wider scale with benefit to both tuberculosis control and the patients' family life. The graph on page 73 indicates the present position and past trends of notifications in tuberculosis. Statistical details on notifications and other matters connected with tuberculosis are set out in the Tables 49 to 53 on pages 152 to 154.

## TUBERCULOSIS

Notifications—All Forms (Excluding Reactivations)  
1949-1970



### *Compulsory mass X-ray surveys*

Policy regarding compulsory mass X-ray surveys was reviewed by the 1970 meeting of the National Tuberculosis Advisory Council in the light of falling yields of active cases discovered by these means. Originally annual checks were often the aim but, with the increasing success of compulsory campaigns making this unnecessary, it has been possible to increase the interval between surveys to as much as five years. In addition, as the yield in younger age groups dropped, the minimum age has been raised by stages from fourteen to twenty-one years, or even twenty-five in some States.

The Advisory Council resolved that it was advisable to continue the surveys. It recommended at least one more full round in each State at an increased interval between surveys of four to five years. It also recommended that present surveys should have as their second priority the accumulation of records of special groups who require further observation.



*A new Chest Unit at the Gippsland Base Hospital, Sale, Victoria, which opened in August 1970. The \$225,300 unit has ten beds for tuberculosis patients, and a chest clinic.*

As a forecast it would seem that some States will be in a position to suspend or further modify this activity in the near future. Any such changes should be made with caution, however, and the machinery to reintroduce surveys should remain while further observation of results is carried out.

### *Release of beds*

During 1970 the release of beds previously used for tuberculosis continued. The major release was of 164 beds at Gresswell Sanatorium, Melbourne, which will be used in future for alcoholics. Long-term tuberculosis cases in Melbourne are now treated in Heatherton Hospital. Other beds released included 147 in Queensland—thirteen in the Toowoomba Thoracic Annexe and 134 at the Brisbane Chest Hospital. In New South Wales, seventy beds were released at the North Ryde Psychiatric Centre and twenty at Rankin Park Hospital, Newcastle. Twenty beds were also released at Mont Park Mental Hospital in Melbourne while the Morrision Home, in Perth, with twelve beds, was closed.

The total number of beds released or closed during the year was 421. In addition, the occupation of the new fifty-five bed unit in the Sir Charles Gairdner Hospital, Perth, resulted in a release of seventy-five beds in the main hospital block.

### *Projects*

In August 1970 a new combined chest clinic and ten-bed ward was opened at Sale, Victoria. This was built at a cost to the Commonwealth of more than \$200,000. The modernisation project at Kalyra Hospital, Adelaide, has progressed further and should be completed in the financial year 1971-72. Costs reimbursed by the Commonwealth to date amount to \$182,738. Approval has been given in principle for the construction of a new tuberculosis divisional headquarters and chest clinic in Adelaide but building has not yet begun. Other approvals given include \$90,000 for improvements at the Perth chest clinic.

### *Tuberculosis conference*

The Fifth Annual Tuberculosis Conference was held in Perth from 19 to 23 April 1971. Delegates from all States attended and fifteen papers were presented during twenty-one working sessions. Six papers, including two prepared by Health Department officers, have been accepted for publication by the Medical Journal of Australia and other journals.

Once again, a seminar was conducted which enabled critical discussion of two topics—the future of mass X-ray surveys and BCG vaccination. A working party which discussed BCG vaccination was of the opinion that routine vaccination of school children did not prevent a sufficient number of cases to justify the cost. Vaccination was considered to be safe, inexpensive and effective. Its primary use was indicated in special groups at risk. The full conference did not completely support the working party's recommendations. It is obvious that there is still no firm agreement on the use of BCG under Australian conditions in the only age group which can be effectively covered.

### *Eastern regional conference*

The Eastern Region of the International Union against Tuberculosis held a conference in Taiwan in November 1970. Problems of world-wide tuberculosis control were discussed and clinical and scientific sessions were held. Australia was represented by Drs Harvey and McManis of Sydney, Dr Marshman of Victoria, Dr Edwards of Western Australia and the Commonwealth Director of Tuberculosis, Dr Howells.



*At the Fifth Annual Tuberculosis Clinical Conference, held in Perth in April 1971, Dr F. G. B. Edwards, Director of Tuberculosis, Western Australia (left) and Dr R. M. Porter, Physician, Tuberculosis Control Branch, Western Australia, study chest X-rays used in an interpretation contest.*

## ***Publications***

During the year, a sub-committee of the National Tuberculosis Advisory Council produced a pamphlet entitled 'Tuberculosis—From A to Z for Patients'. The three publications on tuberculin testing, mycobacteriology and the treatment of tuberculosis continued to be in steady demand. The last, which is mainly on chemotherapy, was revised and enlarged in 1970 and the new edition is now printing. It is used for teaching purposes in most Australian medical schools.

## ***Co-operative tuberculin testing survey***

In 1970, a Commonwealth-wide tuberculin testing survey was begun on patients suffering from proven tuberculosis. The survey, in which major hospitals from each State are co-operating, is designed to ascertain the tuberculin state of newly-diagnosed patients and to estimate the effect of chemotherapy on that state.

## ***Medical check of applicants to enter Australia***

The Tuberculosis Division is responsible for reading X-Rays and checking medical documents of people who want to enter Australia from those overseas countries where there is no resident Australian medical officer. With broadened immigration opportunities and increasing numbers of students and business visitors, the volume of this work has greatly expanded. The number of X-Rays handled rose to over 15,000 in 1970, compared with some 3,000 in 1967. The service is almost a daily one and the results are usually in the hands of the overseas posts concerned about a week from dispatch of documents.

# Public Health

The Public Health Branch continued to assume increasing responsibilities in the past year, particularly in the fields of Aboriginal health, environmental health and nutrition.

## *Aboriginal health*

The health of the Aboriginal population has continued to be a matter of increasing concern to governments at both Commonwealth and State level. The aspects which have received most attention have been infant mortality levels, leprosy, upper respiratory disease, recurrent infection and diarrhoea in infants and children, vitamin deficiency and the effects of alcoholism.

The Department considers that the primary need is for prevention programmes in Aboriginal communities, and these have concentrated on nutrition, sanitation and other aspects of environmental health and family welfare. The Department advises the Office of Aboriginal Affairs on the allocation of funds for Aboriginal health services in the various States and Territories. Through liaison with the National Health and Medical Research Council, advice is also given to the Office of Aboriginal Affairs on the value to the Aboriginal race of proposed medical research projects.

The success of the Workshop on the Health and Nutrition of the Aboriginal Child, held in Sydney in December 1969, has become apparent during the year. An increase was noted in proposed Commonwealth and State expenditure, particularly in the fields of community nursing services in remote areas, health and hygiene education, and surveys by medical, social and anthropological workers. In addition, a booklet has been published which is designed to give medical and social workers instruction in the recognition of the child at risk or with growth retardation, and how to prevent or treat such conditions.

The Aboriginal infant mortality rate is high when compared to the rest of the population and, although discoveries in recent decades have improved the health patterns of the overall Australian population, Aboriginal rates, although they have improved slightly, still lag behind. The main causes of death are prematurity, pneumonia, gastro-enteritis and bronchitis. It is apparent that the pre-disposing causes stem from poor nutrition and feeding habits and the sequence of recurrent infections, growth retardation and chronic disease.

Leprosy, on the other hand, is more a disease of adults and is relatively common among Aboriginals in the north of Australia. With modern treatment the disease can be arrested and converted to a non-infective state, deformity can be corrected and, in the main, patients can again become employable. Most sufferers are now treated in their home unless an operation is required, when the stay in hospital is as short as possible.

## *Advertising of medicines*

Another re-examination of the Australian Broadcasting Control Board's guidelines for the advertising of medicines on radio and television was completed in May of this year and a new 'Guide to Advertising of Proprietary Medicines and Therapeutic Appliances' has been drafted. The N.H. & M.R.C., at its

seventy-second session, recommended that this guide replace the 1961 guide. While the total number of scripts submitted has declined from 1,043 in 1968-69 to 872 in 1970-71, the total rejection rate remains very small. Details of approvals for the years 1968-69, 1969-70 and 1970-71 are given in Table 56 on page 156.

### *Cigarette advertising*

During the past 25 years, it has become increasingly apparent that cigarette smoking is a major cause of ill health. In Australia the television advertising of cigarettes is restricted by a voluntary code which was introduced in 1966 and aims 'to prevent cigarette advertising being directed towards young people'. Recently, discussions have been held to revise this code and extend it to include radio as well as television. The revised code will be introduced on 1 October 1971.

### *Communicable diseases*

The greater ease and speed of travel in recent years has increased the risk of importation of diseases from other countries. This is reflected in the rising number of cases of malaria notified to health authorities each year. The figure has increased from ninety-three in 1966 to 234 in 1970. These infections were all acquired from overseas and no indigenous cases were discovered.

Although malaria is not now endemic in Australia, special measures are taken continuously in northern areas to keep down the numbers of mosquitoes and to prevent the spread of the disease by people infected elsewhere. In 1970 the N.H. & M.R.C. brought to the notice of companies engaged in various activities in the northern part of Australia that a considerable proportion of their employees had been living in malarious areas. They were advised that the employees should receive a course of radical treatment before starting work in the area so as to diminish the risk of re-establishing endemic malaria.

The N.H. & M.R.C. has also considered the problem of haemorrhagic fever, a South-East Asian disease carried by the *Aedes aegypti* mosquito. Efforts are being made to eliminate this mosquito, which breeds in the northern and eastern ports of the continent, and the Council has recommended surveys to establish the exact distribution and numbers of the mosquitoes, together with reinforcement of control measures to eliminate them.

New cases of leprosy notified in 1970 rose from 61 the previous year to 67. The number of cases notified in the Northern Territory was twelve. Following the introduction of vaccination campaigns with Salk and later Sabin vaccines throughout Australian States and Territories, there has been a dramatic drop in notifications of poliomyelitis, which has now ceased to be a major public health problem. One case only was notified in the calendar year 1970. This occurred in an unvaccinated subject. Infective hepatitis remains a matter of concern. The number of notifications rose slightly from 7,450 cases in 1969 to 7,571 in 1970. Attempts are still being made to isolate and culture the virus responsible for the infection, and it is hoped that if isolation can be achieved a suitable vaccine may be prepared for passive protection against the disease.

Influenza made little impact on the health scene in Australia during 1970. Several outbreaks were reported during the winter, mostly of mild severity and caused by a virus similar to the influenza virus type A2/Hong Kong/68. Over one million doses of influenza vaccine were distributed during the year but it would be difficult to estimate the success of the use of the vaccine in modifying outbreaks because the specific data required for assessment is not easily obtained.

Although the notification of new cases of gonorrhoea fell slightly from 9,648 in 1969 to 9,562 in 1970, this disease still remains one of Australia's most common notifiable infectious diseases, posing a major public health problem. Syphilis showed a decline to 947 cases in 1970 from 1,072 in 1969.

## *Environmental health*

In recent years health authorities have become increasingly concerned about the quality of the environment and the threat it can present to human health and welfare. In Australia during 1970 a Conference of Permanent Heads of Commonwealth Departments was convened by the Director-General of Health to formulate a national policy aimed at maintaining and enhancing the quality of the Australian environment.

Following this, the Commonwealth Government established an Office of the Environment. Initial steps concerning the establishment of a Commonwealth-State body to advise on national policy have also been taken, while the N.H. & M.R.C. has established an Environmental Health Standing Committee. The function of this committee, which includes in its membership the State Directors-General of Health, will be to advise Council on the effects of all environmental factors on human health and well-being. A sub-committee on air pollution control has more recently been established by Council. Council, assisted by such committees, will make recommendations to Commonwealth and State Governments on those forms of environmental disturbances and their causes which affect the health and well-being of Australians.

## *Food Standards*

During the year senior officers of the Public Health Branch attended five international meetings of the Joint FAO/WHO Food Standards Programme as members of the Australian delegation. These meetings included the eighth session of the Codex Alimentarius Commission and sessions of the subsidiary committees on food additives, pesticide residues, foods for special dietary uses and food labelling.

Forty-eight international food standards recommended by the Commission have been received and are now being considered by the Food Standards Committee of the N.H. & M.R.C. Over the past year Council approved the committee's recommendations for five new standards and forty-eight amendments to existing standards.

## *National Poisons Service*

During the year 138 monographs were prepared for distribution to holders of the National Poisons Register Manual and some 4,700 items on toxic components of various preparations were prepared for inclusion in the manual. The National Poisons Service received reports of 8,300 poison cases during 1970 for inclusion in the Poisons Information Bulletin. This compared with 8,491 reports in 1969. Some 600 copies of the Poisons Information Bulletin are distributed throughout Australia and overseas.

## *Pesticides*

Publication of the Pesticides Review was resumed during the year. This deals with items on pesticides relating to legislation, analytical techniques, new products, surveys of pesticide residues, poisonings due to pesticides, toxicological aspects, and current activities of the Codex Alimentarius Committee on Pesticide Residues. It is intended that this publication will be issued twice a year.

Officers of the Public Health Branch attended a number of meetings concerned with pesticides during the year, including the seventh national convention of the Agricultural and Veterinary Chemicals Association of Australia. Two officers of the Branch lectured on the toxicological aspects of pesticides at the 1971 International Training Course in Crop Protection, sponsored by the Australian Government under the Colombo Plan, the Special Commonwealth African Assistance Plan, and the South Pacific Aid Programme.

## *Nursing*

There was a further increase in the number of requests for training of foreign government-sponsored nursing fellows during the year and for *ad hoc* programmes for qualified Papua and New Guinea nurses. Research projects, such as the updating of the list of post-basic nursing courses in Australia, were implemented.

An *ad hoc* sub-committee of the N.H. & M.R.C. Nursing Committee is studying the present and future role of the nurse in Australia, in relation to the needs of the Australian community, as a basis for planning nursing education. In liaison with the Office of Aboriginal Affairs, progress has been maintained in a scheme for preparing young Aboriginal women for the nursing profession.

## *'Market Basket' Survey*

The analyses concerned with the 'Market Basket' Pesticides Survey were completed by April 1971. A full examination of the results and compilation of the report is now under way. The survey, which sampled food in each capital city, covered organo-chlorine pesticides (such as DDT), organo-phosphorus pesticides, the metals lead and mercury, and arsenic. The full report is to be presented to the seventy-third session of the N.H. & M.R.C. in October 1971.

## *Nutrition*

During the year, the Nutrition Section of the Australian Institute of Anatomy was transferred to the Nutrition Section of the Public Health Branch. The section continued its work of nutritional research and publication of the bi-monthly booklet, 'Food and Nutrition Notes and Reviews', and other educational material.

Briefs and papers were prepared for a number of international, national and regional meetings dealing with nutrition and food science, while secretariat services were provided for the Nutrition Committee and the Anthropometric Committee of the N.H. & M.R.C. Information and advisory services were provided for other departments and territories, research workers, and for industry.

# Therapeutic Substances

The year saw the proclamation of a new Act which has enabled Commonwealth powers for drug control to be enforced more efficiently and effectively. In November 1970, the *Therapeutic Substances Act* and Regulations were repealed and replaced by the *Therapeutic Goods Act* and Regulations.

The Therapeutic Substances Branch co-ordinates Commonwealth activities in the control of therapeutic goods. It is responsible for the examination of selected goods imported into Australia or available on the Australian market to ensure conformity with the required standards of purity, potency, and safety, and for detailed supervision and evaluation of imported products. The branch also incorporates the Registry of Adverse Reactions to Drugs and provides the secretariat of the Australian Drug Evaluation Committee and several other committees. In addition a Drugs of Dependence Section monitors licit transactions in narcotics and other drugs of dependence and develops drug education projects.

## *Drug Evaluation Committee*

During the last twelve months, 133 applications for general marketing were received, an increase of forty-five over the previous year. In addition, sixty-nine applications for clinical trials were submitted.

Early in 1970, amendments to the Customs (Prohibited Imports) Regulations were gazetted to provide for control on importation of new drugs. They were implemented on 1 August 1970. Previously a voluntary scheme had been in operation under which pharmaceutical manufacturers and importers seeking to import new drugs for general marketing or clinical investigational use submitted data on the drugs to the Drug Evaluation Committee. This arrangement, however, was not satisfactory and some drugs were being marketed without the submission of relevant data for evaluation.

A larger staff establishment was approved in anticipation of an increased number of applications when the submission of data become compulsory. However, difficulties were experienced in recruiting suitably qualified staff and, as a result, the evaluation of some submissions was not completed within the six-month period following their receipt in acceptable form, as had been proposed by representatives of the pharmaceutical industry and agreed to by the Department. The position has recently improved considerably, and the evaluation of new drugs is now proceeding smoothly.

Since the introduction of the legislation it has become apparent that a number of importers have not completely understood the detail required and many applications have had to be supplemented with additional data.

Systemic contraceptives were again kept under constant review by the Evaluation Committee during the year, particularly because of further reports that mammary nodules had appeared in dogs dosed with certain oral contraceptives in long-term toxicity studies. As a result, two combination-type products were withdrawn from the Australian market because of their progestogen content of medroxyprogesterone and chlormadinone respectively. The Committee also recommended that more stringent requirements for animal toxicity studies be undertaken before pharmacological studies and clinical trials in humans with systemic contraceptive preparations begin and that further animal studies be conducted in conjunction with clinical trials in humans before the products are marketed.

The Committee has continued its study of suspected adverse reactions following administration by intravenous infusion of Xylitol solutions (used for the treatment of diabetes), some of which were fatal. This review has not yet been finalised, but more stringent requirements for animal toxicity studies have been recommended as an interim measure.

### *Adverse Drug Reactions Advisory Committee*

The activities of the Adverse Drug Reactions Advisory Committee, which was established in May 1970, have had a significant impact on the level of reporting of adverse drug reactions. The level has risen from 932 reports in 1969-70 to 1,259 in 1970-71, an increase of 35.1 per cent.

The percentage of reports contributed by hospitals has gradually risen throughout the year to the current level of 50 to 60 per cent as a hospital discharge summary scheme has become operational. Other factors considered to have had some influence on this increase include the provision of reply-paid envelopes to participating hospitals and private practitioners, and increased communication with medical colleges and societies, hospitals and practitioners. To further facilitate reporting by busy practitioners, a simplified report form, in the format of a reply-paid air letter, has been designed and will be distributed in the near future. The following table illustrates the month-by-month level of reporting from May 1970 to April 1971.

SOURCE OF ADVERSE DRUG REACTION REPORTS, MAY 1970—  
APRIL 1971

				<i>Doctors</i>		<i>Other (including pharma- ceutical com- panies)</i>	<i>Total</i>	<i>Per- centage from hospit- als</i>
		<i>Hospi- tals</i>	<i>Spec- ialist</i>	<i>G.P.</i>	<i>Total</i>			
May . . . . .		21	13	27	40	5	66	31.8
June . . . . .		29	10	29	39	3	71	40.8
July . . . . .		15	11	23	34	12	61	24.6
August . . . . .		38	24	45	69	5	112	33.9
September . . . . .		38	24	32	56	7	101	37.6
October . . . . .		65	25	30	55	5	125	52.0
November . . . . .		60	14	30	44	1	105	57.0
December . . . . .		72	19	35	54	3	129	55.8
January . . . . .		66	17	49	66	8	140	47.1
February . . . . .		88	17	28	45	3	136	64.7
March . . . . .		57	16	34	50	6	113	50.4
April . . . . .		62	13	24	37	1	100	62.0
Total . . . . .		611	203	386	589	59	1,259	48.5

Six warning statements were prepared during the year. They concerned hypersensitivity reactions to phenindione, serious blood dyscrasias following chloramphenicol, the safety and efficacy of the erythromycins, jaundice associated with laxative preparations, oral hypoglycaemic agents and the University Group Diabetes Programme, and the adverse effects of drugs used in the treatment of urinary tract infection. In addition, the Registry of Adverse Reactions has been involved with reviews of the safety of antidepressants and tranquillisers during pregnancy, the monitoring of congenital abnormalities from computerised obstetric records and research undertaken in Australia on the adverse effects of oral contraceptives. In all these activities comment and/or active participation has been sought from the relevant hospitals and colleges.

On the international scene, the World Health Organisation drug monitoring programme has entered the primary operational phase with twelve countries, including Australia, now participating. More than 20,000 case histories of adverse drug reactions are now stored on magnetic tape. Data stored in WHO files is available to all participating countries and specific searches are conducted on request.

### *Drugs of Dependence*

Since its establishment in February 1969, the National Standing Control Committee on Drugs of Dependence has met on seven occasions. At these meetings, the committee has continued to develop its role as co-ordinator and initiator in the field of drug abuse prevention. Measures concerning control over licit and illicit transactions, education, research, treatment and rehabilitation have been considered.

A major area of concern during the past year has been the complex problem of effective drug education. To ensure that an expert body would have a continuing responsibility in this area, the committee recommended in April 1970 that a Drug Education Sub-Committee be established to integrate, co-ordinate, encourage and advise on education activities concerning drug abuse. The Commonwealth Government provided \$500,000 for 1970-71 so that educational measures recommended by the sub-committee could be implemented.

The sub-committee, comprising prominent laymen, Commonwealth and State experts in the fields of education and health education and representatives from the Media Council of Australia first met on 28 September 1970 and has met on five subsequent occasions. The Drugs of Dependence Section provides the secretariat for the sub-committee and is responsible for the implementation of its recommendations. The sub-committee has been primarily concerned with the planning and co-ordination of a national drug education programme based on the problems of living in a modern society. The programme places emphasis on the inability of drugs to enable the individual to solve his problems. To support the programme, the sub-committee has examined the most appropriate and economic approach to the provision of material and facilities at both national and State levels.



*A scene from the drug education film 'Where Are We Heading?', produced by the Commonwealth Film Unit for the Department. The film was part of a major education campaign launched during 1970-71.*

The provision of Commonwealth funds to individual States has enabled existing drug education programmes to be extended and new programmes to be introduced. The Commonwealth's share of the grant has made possible the preparation of projects for Australia-wide application, thereby avoiding unnecessary duplication of particular projects by each State. On the recommendation of the sub-committee, the Drugs of Dependence Section has organised seminars and training courses for State and Territory personnel undertaking leadership roles in the field of drug education. Another project being undertaken is the planning and co-ordination of a national programme involving short television films.

The first of the major drug education films, 'Where Are We Heading?', produced by the Commonwealth Film Unit, has been completed. The film is mainly for use with adult audiences, in particular parents, teachers and community leaders. A further film for schoolchildren has been produced and a film for young adults in the eighteen to twenty-five year age group is in the initial stages of production.

Items of educational literature have been prepared by the Department including discussion kits to accompany the films, a general discussion kit comprising six pamphlets about parents, children and drugs, a series of pamphlets for parent and adult education and a handbook on the use and abuse of drugs. This material is being used by both the Commonwealth and States as part of the National Drug Education Programme. Technical information bulletins, comprising current local and overseas material, are being published on a regular basis as an aid to educators and others concerned with the problems of drug abuse.

The Drugs of Dependence Section has also been actively involved in the development of the Australia-wide system to monitor licit transactions in narcotic drugs and other drugs of dependence. During January 1971 the system was extended to cover the movements of amphetamine, dexamphetamine, methylamphetamine, methylphenidate and phenmetrazine. The information derived from the monitoring system also provides the Department of Customs and Excise with accurate data on consumption for referral to the United Nations, as required under the terms of the Single Convention on Narcotic Drugs, 1961. The Drugs of Dependence Section has also been involved in the preparatory stages of examining the United Nations Convention on Psychotropic Substances, which has been designed to set up international control over certain psychotropic substances.

### *Standard of products*

A number of controlled therapeutic substances are examined for packaging, labelling and conformity to standard on importation into Australia. To avoid undue delays to importers, the analyses are conducted by Customs and Excise Department laboratories in the various States.

The following table shows the number of samples assayed by the Customs laboratories for the year ended 30 June 1971. Examination of the other categories of therapeutic substances is conducted by the National Biological Standards Laboratory.

<i>State</i>	<i>No. of Samples</i>	
	<i>Passed</i>	<i>Failed</i>
New South Wales . . . . .	93	1
Victoria . . . . .	76	9
Queensland . . . . .	2	Nil
South Australia . . . . .	35	1
Western Australia . . . . .	4	Nil
Tasmania . . . . .	Nil	Nil

# National Biological Standards Laboratory

The overall volume of testing of therapeutic goods by the National Biological Standards Laboratory in 1970-71 was substantially the same as in the previous year. During the first half of the year the Pharmaceutical Chemistry Laboratory, usually responsible for about thirty to forty per cent of such work, achieved a considerable increase in the volume of testing carried out, largely due to increased efficiency and the use of automated equipment. However, during the second half of the year a progressive loss of staff occurred and the work volume fell accordingly. Problems in staff recruitment and the loss of experienced personnel may also affect the forthcoming year's work.

The promulgation of the *Therapeutic Goods Act* now permits the development and publication of standards for goods. This will require the development of appropriate administrative machinery and procedures and a diversion of staff previously occupied in the testing of goods.

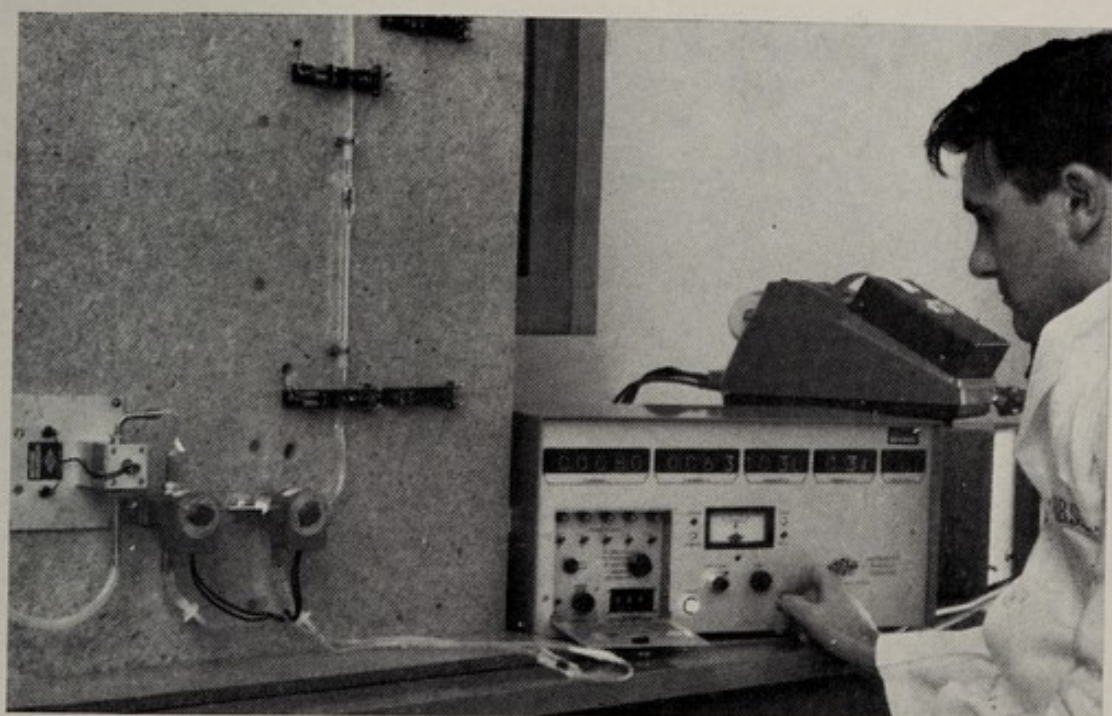
Co-operation between the State and Commonwealth Health Departments in developing a uniform national control system for therapeutic goods continued and expanded during the year, particularly in relation to joint inspections of pharmaceutical companies. These activities have provided a considerable body of information and allowed assessments to be made of standards of pharmaceutical manufacture in Australia. Unsatisfactory practices exist only in a small number of companies and most manufacturers are using the period prior to the introduction of State controls to review their operations and bring them within the requirements of the Code of Good Manufacturing Practice.

The start of the joint Commonwealth-State programme to eradicate brucellosis and tuberculosis in cattle led to a request for the laboratory to test the potency of the vaccines used in the campaign. This type of testing has not previously been carried out in Australia, largely because of the hazards associated with it. To overcome these problems, special laboratory facilities and buildings are required. A feasibility study has been completed and it is proposed, subject to final approval for the project, that the brucella vaccine testing laboratory will be erected on the site reserved for the main laboratory building in the Canberra suburb of Narrabundah.

The policy of liaison and co-operation with other national drug control authorities has continued. The Director again participated in a meeting of the WHO Expert Committee on Pharmaceutical Preparations in Geneva during May. Close ties with the United States Pharmacopoeia were established during the visit of Dr Thomas J. Macek to Australia. A seminar was held at which common problems relating to drug standards and recent advances in drug control policies and scientific techniques were discussed. Dr Willi Heine, Deputy Director of the Zentralinstitut für Versuchstierzucht in Hanover, Western Germany, visited Canberra, Melbourne and Adelaide. In Canberra, very productive and informative discussions were held with Dr Heine on the design of a suitable animal breeding establishment in the proposed new laboratory complex for the breeding of specific pathogen free animals.



*Modern automated instruments in the pharmaceutical chemistry section of the National Biological Standards Laboratory in Canberra. Above, a tablet weighing machine which is interfaced with a computer and print-out facility. It automatically determines the average weight of tablets, and compliance with official requirements. Below, a particulate matter counter which measures the number and size of foreign particles in injections.*



## *Inspection Unit*

In conjunction with officers of State Health Departments, inspections of pharmaceutical manufacturers' premises were carried out in all States. Seventy-seven inspections were made and discussions were held with fifteen companies on matters relating to the Code of Good Manufacturing Practice. A review of the inspection reports shows a close correlation between a company's non-compliance with the code and subsequent drug recall. Of fifteen recalls, ten were predictable either from previous inspection reports of the companies involved or non-compliance with the Code.

The Chief Inspector participated in a four-week training course sponsored by the United States Food and Drug Administration. The course was held at the University of Rhode Island. A further two weeks were spent with the Canadian Food and Drug Directorate, and discussions were also held with the Medicines Inspectorate of the United Kingdom. A comprehensive two-week training course for Commonwealth and State inspectors was held in Canberra in March. Among those who participated was a representative of the Department of Health, Thailand.

## *Animal breeding*

Investigations continued during the year into methods for the production of disease-free laboratory animals. Some success was achieved in the hand rearing of Caesarian-derived guinea pigs and comprehensive data is being accumulated for use in the design of a new animal house. A germ-free unit has been obtained for the production of rats and mice. The use of plastic isolators for the production of germ-free conditions for the rearing of Caesarian-derived small animals awaits the early completion of building alterations.

## *Bacterial products*

Vaccines against all clostridial diseases of veterinary importance in Australia are now tested in this section. Testing procedures have been worked up, laboratory standards established where required and official samples routinely tested. In the case of the *Erysipelothrix insidiosa*, *Salmonella pullorum* antigens and tuberculins for veterinary use, the work-up of test methods has now been completed and the testing of official samples will begin early next year. As a prelude to the testing of Swine Erysipelas vaccine, extensive investigations were made and techniques developed so that testing of this product should also begin in the forthcoming year.

*Vibrio fetus* is an important cause of infertility in cattle. A vaccine has recently been developed by the CSIRO and investigations are being carried out with the aim of developing a laboratory model for the disease and mechanisms of protection, so that a laboratory potency test can be developed. The microbial chemistry unit has continued its investigation into the structure of tetanus toxin and into the mechanism of toxoiding. Conflicting data in the literature has been resolved and a publication will be forthcoming.

## *Pharmacology*

A total of seventy-four new drug submissions was received for evaluation, comprising new drugs, new formulations and new uses. An increasing number of other categories also require review comprising submissions under Item 5 (A) of the Customs Prohibited Imports Regulations; periodic submissions required by the Australian Drug Evaluation Committee, in many cases following the marketing of a new drug; regular submissions on progress in the prolonged dog and monkey studies being conducted on most systemic contraceptives used in Australia; and the results of dysmorphogenic studies on tricyclic anti-depressants, phenothiazines, butyrophenones and sulphonamides requested from manufacturers by the Australian Drug Evaluation Committee.

Routine safety tests performed by the section have continued during the year. Two complaints regarding the potency of tubocurarine chloride injection were investigated. Both samples were within acceptable potency limits.

### *Endocrine products*

It has not been possible to recruit a chief endocrinologist to take charge of this laboratory and, following the promotion of the biochemist temporarily in charge to the Pharmacology Section, the routine duties of the section were transferred to the control of the chief pharmacologist.

### *Pharmaceutical Chemistry Laboratory*

Automation of analytical methods has continued. The automated ultra-violet spectrophotometer system developed last year is now being interfaced with a computer-calculator to yield printed records of the final results of analysis. One important application of this equipment is the determination of variation in dose amongst individual tablets. Studies made with the partially-completed equipment have revealed striking differences in uniformity of tablet content. In a series of samples of corticosteroid tablets obtained from different manufacturers, the best sample gave a range of 98 per cent to 101 per cent of nominal content while the worst contained tablets varying from 50 per cent to 124 per cent.

Other automated equipment purchased and developed includes an automatic tablet balance, interfaced with a computer-calculator, and an automatic sampling and photoelectric particle counter for determining the amount of particulate matter contaminating injections. These improvements in automated instruments make tests more effective and conserve manpower.

The application of infra-red spectroscopy to the identification of drugs has continued and a comprehensive library of spectra for 700 substances of pharmaceutical importance has been compiled. Studies on the methods of determining the purity of the important new drug L-dopa have been made and preparations of Xylitol are being examined for possible impurities. Following complaints, a survey of the content of metal and other foreign particles in metered aerosols is under way. A collaborative field study with the Department of the Army has been undertaken to obtain information on climatic and environmental effects upon selected pharmaceuticals and surgical dressings.

### *Antibiotic Products Laboratory*

The Antibiotic and Sterility Testing Section consolidated the expanded testing and surveillance systems which have been developed in previous years. These extra activities also increased the work of maintaining and regularly checking laboratory standard reference substances against master international reference standards issued in limited quantities by the World Health Organisation. The laboratory regularly collaborates in international assays to establish the master international standard. Some forty laboratory reference substances are now used and supplied on request to industry and other interested organisations. In addition to reference substances, cultures of special micro-organisms of importance in antibiotic bioassay are maintained and supplied to industry.

### *Viral products*

Laboratory testing procedures to assay the potency and safety of virus vaccines have been extended to include vaccines against infectious bronchitis of fowls and fowlpox. Developmental and research studies have been directed towards the improvement and extension of understanding of laboratory techniques used in vaccine control, towards the investigation of the mechanisms by which viral vaccines induce immunity against respiratory diseases, and towards the understanding of problems in viral genetics which are important to existing and potential attenuated virus vaccines.

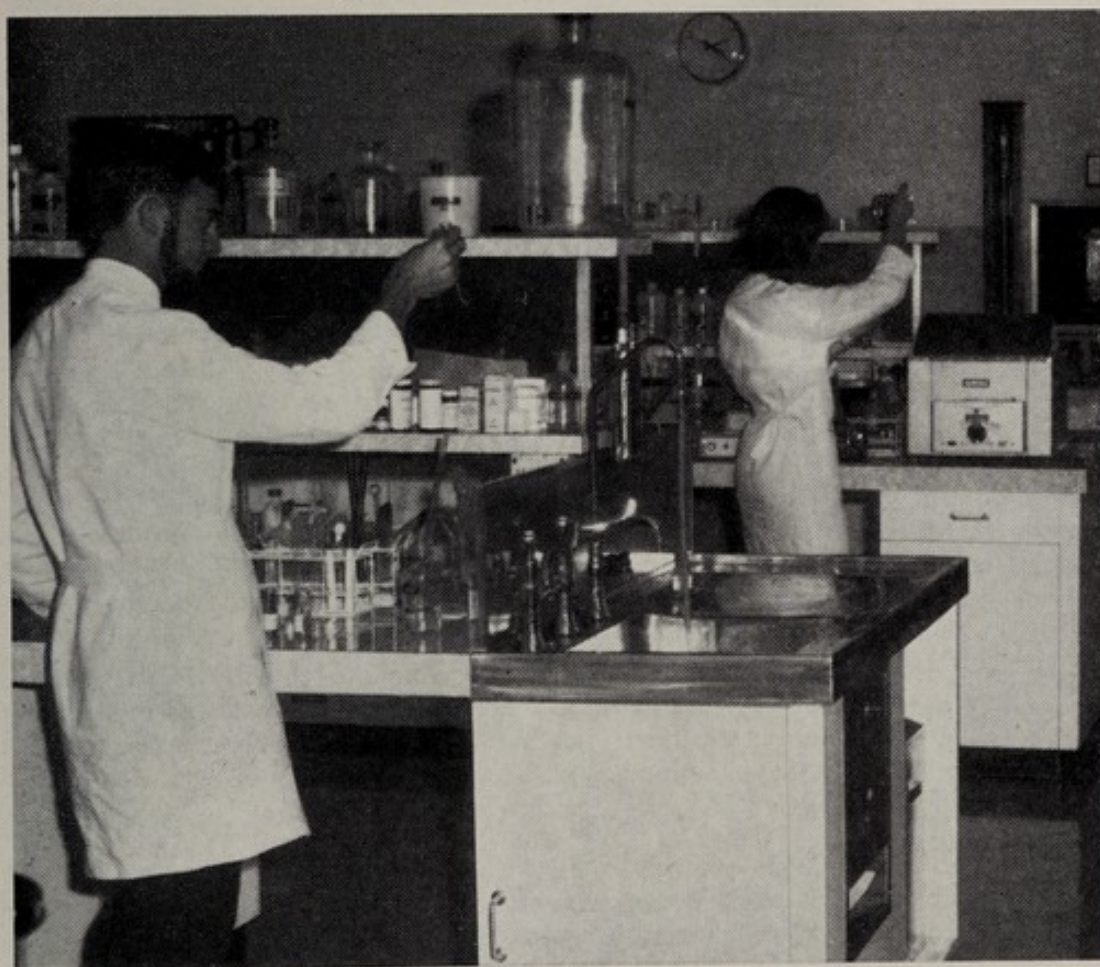
A collaborative study between manufacturers of infectious laryngotracheitis vaccines, the N.S.W. Department of Agriculture, the University of Sydney and N.B.S.L. to investigate the effectiveness of varying doses of vaccines administered in drinking water has begun. The potency of the vaccines was standardised at N.B.S.L. against the Australian Reference Standard ILT Virus, and the antibody response of fowls to immunisation will be determined at N.B.S.L. The results of this study will be used to draft dosage standards for the new ILT vaccines.

During the year, forty-nine batches involving 158 assays of vaccines were tested for potency and 154 safety tests were conducted. The vaccines were smallpox, yellow fever, infectious laryngotracheitis, influenza, rubella, poliomyelitis (Sabin), measles, canine distemper, infectious bronchitis and fowlpox. Twenty-two protocols involving thousands of pages of data were examined and evaluated.

# Commonwealth Health Laboratories

During 1970-71—the fiftieth year of operation of the Health Laboratory Service—the Department's fifteen laboratories continued their steady growth. Since the first laboratory was established in December 1921, remarkable changes have taken place in medical and laboratory practice. The growth in knowledge of physiology, chemistry and pathology, particularly in the last fifteen years, has been phenomenal and, together with great advances in technology and instrument design, has led to increased requirements for and demands upon clinical laboratory services. These services now have become an essential part of medical care facilities.

The increase in the number and range of tests and investigations as an aid to diagnosis or therapy has been matched by an increase in their sophistication. Modern laboratory practice requires a high degree of specialisation by medical, scientific and technological staff and the utilisation of an increasing variety of instrumentation. An average annual growth-rate of fifteen per cent has occurred in pathology laboratories in Australia and overseas. There is no indication of this rate of growth diminishing in the foreseeable future.



*An interior view of one of the Department's newest health laboratory buildings, at Lismore in New South Wales.*

During the past year, the Department's health laboratories carried out approximately 2.5 million pathology tests and investigations—an overall increase in work-load on previous years. It should be noted that a new and improved work assessment system was introduced during the year and consequently the 1970-71 statistics of work carried out (Table 71, page 163) are not comparable with those of previous years. Implementation of the new system has not yet been completed at Canberra, Tamworth and Lismore laboratories, but this is expected to be finalised soon. In future, statistics of tests and patient requests for all health laboratories will be presented in a form which allows comparison with the 1970-71 figures.

### *Organisation and methods review*

In 1970, a comprehensive survey of the Health Laboratory Service, which began in 1969, was completed. The idea of the survey was to make a detailed study of each laboratory, to identify and examine its problems and deficiencies, and relate these to the Health Laboratory Service as a whole so that a co-ordinated approach to future development could be made. The report is now complete and provides detailed information on the laboratories which has not previously been readily available to the Department.

Aspects covered in the survey included accommodation, establishment, equipment, clerical procedures, forms, filing systems, storekeeping, recruitment and training of staff, laboratory organisation and future development. The report contains recommendations concerning immediate needs and future development of the Health Laboratory Service. These are now under consideration. A number of recommendations, particularly those dealing with clerical procedures, storekeeping and establishment have already been implemented.

### *Establishment*

In September 1970, the Public Service Board approved in principle the creation of sixty-five new positions and seventeen reclassifications in professional, sub-professional and clerical categories in health laboratories. This action followed examination of an establishment proposal covering all fifteen laboratories which was completed in early 1970 by Central Office. The establishment proposal was based on the results of the review of health laboratories mentioned above and was intended to achieve a uniform establishment pattern appropriate for all laboratories. At the present time the total establishment of the laboratories is approximately 500 positions.

### *Staffing*

The staffing situation showed some improvement during the year, due mainly to the graduation of additional medical laboratory technologist and technical officer staff from the Department's training programmes which started in 1968. Nevertheless, most of the laboratories still have inadequate numbers of staff to cope efficiently with increasing work demands.

During the year nine tests were conducted by the Department to determine the eligibility of experienced, though formally-unqualified, applicants for appointment or promotion to technical officer (medical laboratory) positions. Eight of the nine applicants examined were successful.

### *Training programmes*

Formal training programmes are currently operating for trainee pathologists, cadet medical laboratory technologists and trainee technical officers (medical laboratory). In 1970 the first intake of medical officers began training under the trainee pathologist scheme. Three trainee pathologists have been appointed and have taken up duty at health laboratories in Canberra, Cairns and Toowoomba.



*Instruction for a trainee technical officer on the technique of cross-matching blood, at the Commonwealth Health Laboratory in Canberra.*

Twenty-eight trainee technical officers (medical laboratory) began duty in 1971. Approximately 100 trainee technical officers are currently in training at the Canberra, Townsville, Rockhampton, Toowoomba, Bendigo and Hobart laboratories. Nine trainees completed their training in 1970 and were promoted to the positions of technical officer (medical laboratory) early in 1971. An intake of twenty cadet medical laboratory technologists in 1971 brought the total of cadets currently in training to twenty-eight. Twenty-one cadets have so far graduated from the cadetship scheme.

### *New request-report form*

The combined request-report form which has been in use in the laboratories for about three years was revised during the year. The re-designed form incorporates several features which increase the efficiency of this method of reporting laboratory results. Addressing machines, specifically designed for use in medical laboratories, were introduced during the year at most laboratories to facilitate the preparation of report formats.

## *Publications*

A brochure containing information about the laboratories, and including details of conditions of service, the various staff categories, salaries, cadetship and traineeship schemes, etc., was prepared during the year. The brochure is currently being printed and is expected to be available for distribution shortly. Preparation of a safety booklet for use in the laboratories was also undertaken during the year.

## *Testing for Australia antigen*

The routine testing of blood donors to detect Australia antigen began recently at the Canberra, Hobart and Launceston laboratories. The laboratories at Lismore, Tamworth and Albury will start testing later this year. Use of the test offers some promise of controlling the transmission of serum hepatitis through blood transfusion. If the test indicates the presence of Australia antigen, the blood concerned is rejected as unsuitable for use for blood transfusion purposes.

## *Accommodation*

The increasing number and range of laboratory activities in recent years have created additional demands for bench-space, as well as space for ancillary services, staff and patient facilities. Plans are proceeding for new laboratory buildings or additions to existing facilities in several areas, and it is hoped that such provisions will be effective in establishing laboratories adequate in concept and detail for the needs of modern pathology practice.

## *Equipment committee*

The Departmental equipment committee, which determines the suitability of scientific instruments for the laboratories, held three meetings during the year. The work of the committee is important in obtaining a co-ordinated approach to the equipment needs of the Health Laboratory Service as a whole. There is a need to ensure that equipment acquired by each laboratory is adequate and appropriate to established needs, with attention given to the operational efficiency, reliability and accuracy of individual items.

## *Conferences*

The annual conference of health laboratory pathologists was held in October 1970 in Canberra. The first departmental conference of biochemists took place in Canberra in November 1970. As well as providing opportunity for open discussion on various matters relating to the laboratories, the conferences also provided for addresses by guest speakers and the presentation of technical papers and reports by pathologists and biochemists.

# Commonwealth Acoustic Laboratories

The facilities for the development and review of audiological services for children, pensioners, servicemen and ex-servicemen were expanded during the year. An important aspect of the new work is a Commonwealth-wide investigation of the benefits that infants and young children will obtain from binaural hearing aids.

Additional facilities were also provided for the investigation of the effects of noise. Increased assistance is being given to Government departments in the form of guidance in planning for noise control, advice on hearing conservation programmes, training of personnel to carry out such programmes, surveys of noise levels and advice on hearing protection and noise reduction.

Further progress was made in the various research sections. A study of some aspects of the loudness of transient sounds has been completed and investigations of hearing in normal and deaf ears are being continued. The recruitment of a physiologist enabled facilities to be set up to examine the effect of ultrasonics on the inner ear and modified techniques have led to further improvements in the resolution of ultrasonic echoscopes for medical applications.

## SERVICES AND DEVELOPMENT

### *Audiology and psychology*

A reorganisation of the Audiology and Psychology Services Section of Central Laboratory enabled a development sub-section to be formed to undertake preparation of new techniques and revision of old ones. This new group has started two projects. The first is an evaluation of the benefits obtained by children from the use of two hearing aids as opposed to the conventional single aid. About 2,500 children will be fitted with two aids over the next two years. The second project is a study of the effects of different types of earmould design in increasing the versatility of hearing aids and extending their range of applicability.

A programme is under way to introduce electric response audiometry into the Laboratories. This equipment, which has undergone initial trials in Brisbane, will assist in providing diagnostic information on babies and others who cannot, or will not, co-operate in conventional hearing tests. This will allow assessment of hearing problems at an earlier age and will provide a more accurate picture of the success of hearing aid therapy.

As usual, staff members from the branch laboratories visited a number of country centres throughout the Commonwealth to provide audiological services for people living far removed from main centres. A visit was also made to the Territory of Papua and New Guinea and to Darwin and Alice Springs.

### *Noise investigations and acoustical advice*

The Laboratories continued to provide a professional advisory and consultative service on acoustical problems to the Armed Services, Commonwealth Government departments, Commonwealth instrumentalities and other approved



*A Commonwealth Acoustic Laboratories engineer evaluating the acoustical performance of a helmet used by service helicopter crews. The test is carried out in a specially designed anechoic chamber.*

organisations. The main areas of interest were related to ships, aircraft and workshops. Advice was given mainly on noise reduction, speech communication and ear protection. The unique facilities and expertise of the Laboratories were also used to solve unusual problems ranging from explosive blast evaluation to identification of voices recorded on aircraft communication systems.

As part of the regular hearing conservation programme for the R.A.A.F., and to test the acoustical suitability of buildings in R.A.A.F. works proposals, staff members undertook noise investigations at R.A.A.F. Bases at Pearce, Darwin, Townsville and Amberley. These investigations have led to the development of a new noise prediction system which is more comprehensive than systems used overseas. A senior engineer was seconded as technical adviser to the Parliamentary Select Committee on Aircraft Noise and served in this capacity until the Committee completed its report.

## *Engineering*

Engineering activities during the year included the development of a new range of circuits with superior performance and lower running costs for use in existing body-worn hearing aids, and also for incorporation in a proposed new body-worn aid with greater flexibility and lower maintenance costs. Several private firms expressed interest in the commercial production of equipment designed by the Laboratories. This possibility is being pursued.

# RESEARCH

## *Audiology*

An investigation into the relationships between auditory threshold acuity, the perception of speech in quiet and in noise and hearing handicap is nearing completion. Approximately 300 subjects with various types and degrees of hearing loss have been tested and the data will provide basic information for determining degree of hearing handicap from audiometric measurements of loss of hearing.

Among other projects, an article discussing the principles and medical applications of measurements of the acoustic impedance of the human ear has recently been published, and diagnostic applications of impedance measurements are currently being investigated. It has been found that increases in cerebrospinal fluid pressure, produced by changes in body position, are transmitted into the cochlear fluids through the cochlear aqueduct and thus increase the acoustic impedance of the ear and reduce auditory threshold acuity. The possibility of monitoring cerebrospinal fluid pressure by means of its effect on impedance is being explored.

## *Psycho-acoustics*

Five methods of calculating the loudness of impulsive sounds were compared with the loudnesses judged by a panel of listeners. The results indicate that loudness calculation procedures are not as accurate as was hoped and a simpler mathematical method may be preferable for this type of sound heard in the free field. Investigations were also made of possible noxious effects of prolonged noise exposure and of the effectiveness of ear protection in various noise spectra.

The Laboratories have completed their contribution to an international experiment on the loudness of impulsive sounds. Ten subjects made 1,890 judgments on the loudness of twenty-one tape-recorded noise signals supplied by the International Organisation for Standardisation (ISO). The results will be pooled with similar data submitted by the other twenty-three participating laboratories and used by ISO to formulate recommended procedures for calculating the loudness of impulsive sounds from their physical characteristics.

## *Physiology*

Facilities have been set up for the preparation of human and animal temporal bone sections to allow investigations to be made of the histological effects of sound on the inner ear. Whole histological sections of the breast are also being prepared. After being scanned ultrasonically, specimens of breast tissue are being sectioned so that a direct comparison may be made between the echogram and the relevant part of the breast tissue. This should assist in the interpretation of the ultrasonic breast echogram, which requires a detailed knowledge of the nature of the echo-producing interfaces.

## *Ultrasonics*

Over one thousand examinations were carried out with the C.A.L. abdominal echoscope at the Royal Hospital for Women, Sydney, where an ultrasonic obstetrical and gynaecological clinic has been in operation for six years. Increased use is being made of the eye echoscope at the Royal Prince Alfred Hospital, where a clinic has been set up on a regular basis. Clinical trials with the breast echoscope at the Royal North Shore Hospital are continuing. Work is in progress to identify the origin of the various echo-producing interfaces and to establish the echo patterns associated with the various conditions.

Seven hundred patients were examined with the echo-encephaloscope at Royal Newcastle Hospital. The diagnosis of midline shift made with this ultrasonic

equipment proved correct in forty-seven cases. The heart motion echoscope has continued to be used at the Prince Henry Hospital, Sydney, mainly for the investigation of the movement of the anterior leaflet of the mitral valve and in the diagnosis of atrial tumours. The round window ultrasonic generator for the treatment of Meniere's disease is now available on loan for clinical application in capital and major cities in Australia. The instrument has been used in several States and encouraging results have been obtained.

### *Standards*

Staff members continued their active participation in work connected with Australian standards. Among the projects in which they were involved was a field evaluation of the draft standard on 'Method for Measurement of Noise Emitted by Motor Vehicles', which was carried out at Warwick Farm car race track near Liverpool, Sydney. Officers of the Laboratories assisted in the measurement of the noise from a large number of different types of models of motor vehicles available on the Australian market.

# Commonwealth X-Ray and Radium Laboratory

During 1970-71 the Commonwealth X-Ray and Radium Laboratory continued to provide advisory services in the physical aspects of medical radiology and radiotherapy. It also continued its responsibility for the procurement and distribution of all medical radioisotopes used in Australia, maintained a surveillance of levels of radioactivity in the Australian biosphere and developed and maintained national standards for the measurement of ionising radiations and radioactive substances. The extensive survey to determine the genetic and mean bone marrow doses to the Australian population arising from the medical, dental and chiropractic uses of X-Rays and radioactive substances was continued.

## *Radioisotopes*

The Laboratory is the central procurement authority for the purchase and distribution of all radioisotopes used in Australia for medical diagnosis or treatment. During the year 11,502 shipments of radioisotopes were procured by the Laboratory for medical use. Of these 1,548 were obtained from Belgium, France, Holland, India, Israel, Italy, Sweden, the United Kingdom, the United States of America and West Germany, while 9,954 were obtained from the Australian Atomic Energy Commission.

The shipments included 46 different radioisotopes in many forms. In general, the shipments procured from overseas suppliers are bulk supplies from which individual patient doses are dispensed at the Laboratory for distribution to Australian users while the shipments from the Australian Atomic Energy Commission are issues prepared for individual patients.

During 1970-71, the total number of issues of radioisotopes was 192,612. These issues are made available without charge, the cost being borne by the National Welfare Fund. Expenditure from this fund for radioisotopes supplied for medical purposes is shown in Table 78 on page 166.

The demand for radioisotopes of short life for use in special diagnostic techniques is increasing. Short-lived radioisotopes in various forms are available from the Australian Atomic Energy Commission and these are dispatched daily, on request from this Laboratory, to individual users throughout Australia. The use of special 'generators' for the supply of short-lived radioisotopes is still increasing. Quality control of the radiopharmaceuticals issued from the Laboratory was introduced and, during the year, clinical trials of several new products were arranged.

## *National Standards*

Under the *Weights and Measures (National Standards) Act* and Regulations, the Laboratory, as the agent of C.S.I.R.O., is required to establish and maintain standards for the measurement of X-Rays and of radioactive substances. These standards are compared from time to time with those held by other organisations in Australia and overseas. Standards of activity of radionuclides are made available free of charge to those Departments of Nuclear Medicine requesting them. During the year, a total of twenty-five standards of activity of six radionuclides was issued.

### *Radiation dosimetry*

The Laboratory maintained its routine services relating to the measurement of radiation output and associated characteristics of X-ray equipment used in hospitals and in private medical practices. Equipment for the measurement of high-energy X-Rays was developed and tested. Techniques of chemical dosimetry and of thermoluminescent dosimetry are being studied.

### *Radium and radon*

The care and maintenance of the Commonwealth-owned radium and its issue on loan to approved hospitals and research centres continued. The radon services to approved hospitals and private practitioners in Australia and New Zealand were also maintained. Two radon sources were supplied to the Radiochemical Centre at Amersham, in England.

### *Diagnostic radiology*

Technical advice and assistance given to government instrumentalities, hospitals and universities included the planning of X-ray departments, preparation of specifications for equipment and assistance with projects requiring special equipment or techniques.

### *Radio chemistry and low-level measurements*

The Laboratory continued its programme of monitoring the Australian biosphere for radioactive materials. The testing by France of nuclear weapons in the atmosphere above Polynesia made necessary a considerable increase in the sampling programme. The results of the analyses made are passed on to the Atomic Weapons Tests Safety Committee and, through it, to the National Radiation Advisory Committee. Assessments of the results are reported in the scientific literature. During the year 7,404 samples were processed.

Procedures for collecting, treating and measuring samples are kept under review and new procedures are investigated. The Laboratory has developed methods for analysis of the strontium-90 content of milk, flour, soil and human bone. This work was previously carried out at the Capenhurst Works of the United Kingdom Atomic Energy Authority but is now done at the Laboratory.

### *Whole-body monitor*

The whole-body monitor has been used for clinical studies on patients and for monitoring persons who may have ingested small amounts of radioactive materials in the course of their work. A survey of the caesium-137 content of individuals in a group of volunteers was completed during the year and measurements on this group will be repeated annually as a continuing check on the levels of caesium-137 in the general population.

### *Protection against radiations*

In Australia, the legislative control of the possession and use of radioactive substances and irradiating apparatuses is mainly the responsibility of the States. The Laboratory co-operates with State authorities in this work but maintains its own technical advisory service. Technical assistance given by the Laboratory ranges from the design of X-ray installations and of laboratories intended for the use of radioactive substances to the monitoring of radiation levels and the assessment of proposed safety procedures. This advisory service is available to all who work with ionising radiations.

During 1970-71 there has been particular interest in methods of testing packages designed for the safe transport of radioactive materials; air-sampling techniques for checking the radioactive impurities in air (for example, in the air of uranium mines); in the possible emission of X-Rays by television equipment; in the radiological safety of microwave ovens; and in the reduction of hazards associated with the use of lasers.

### *Film-badge service*

This service is available to all who work with ionising radiations. The film-badges issued are worn for a specified time by radiation workers and enable assessments to be made of the dose of radiation received under normal working conditions. During 1970-71, 71,365 films were assessed and reported on. The number of centres registered with the service is 1,527.

# Commonwealth Bureau of Dental Standards

The year 1970-71 marked the twenty-fifth anniversary of the Bureau of Dental Standards, and it proved to be another period of increased activity in all areas of the Bureau's work. This includes research into dental materials and techniques, surveys on the quality of products available to the dental profession and assistance in the preparation of national standards for dental items.

## *Australian standards*

The year saw a considerable increase in work involved in the preparation of official specifications through the Standards Association of Australia. Fourteen committees have now been established, the most recent being the Dental Equipment Committee. Its first consideration is dental operating lights, but it is also to be involved in standards for X-ray equipment. Another committee has almost completed a specification for toothbrushes, limiting their hardness in order to lessen damage to the teeth and gums. An attempt is being made to develop a practical laboratory test to assess the texture of the brush as a whole instead of relying on filament diameter and the other dimensional and numerical characteristics applied at present.

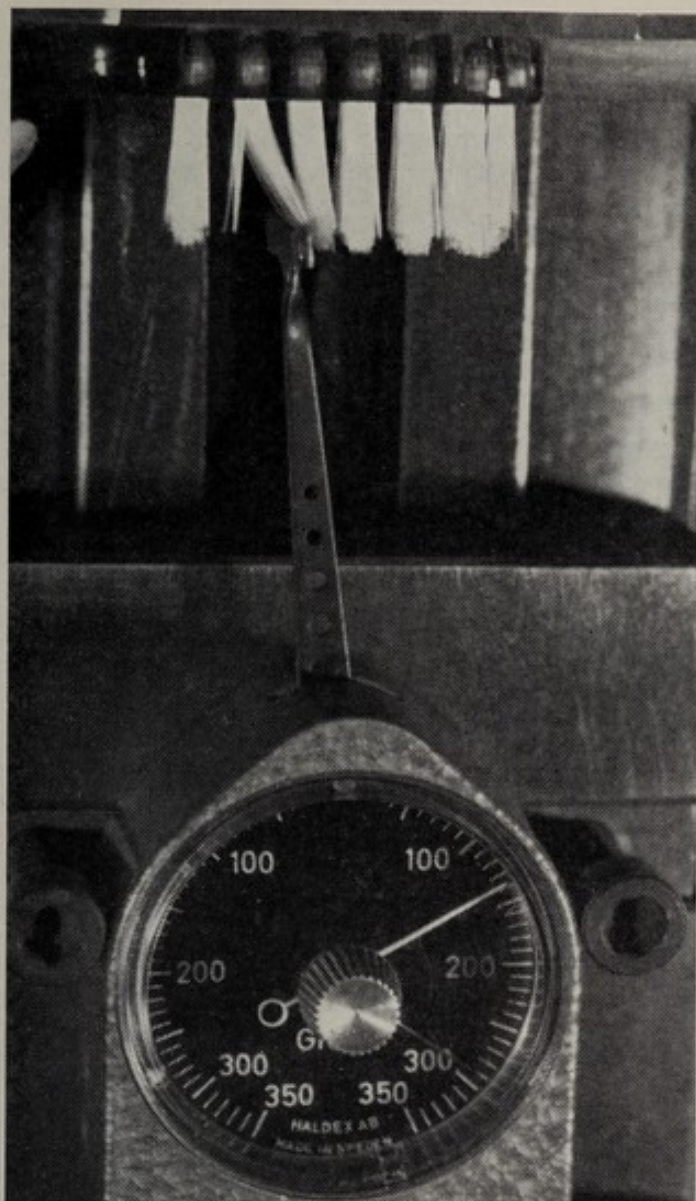
The Endodontic Materials and Instruments Committee has produced a specification for rubber dam and is completing a complicated standard for root-canal instruments. The Committee on Orthodontic Materials has been considering rubber and plastic elastic bands used in the specialty for moving teeth and has also given attention to orthodontic cements and bands. The Committee on Amalgam has partly revised the standard for alloy for dental amalgam while the Committee on Instruments has revised the standard for dental chisels, excavators, probes and scalers.

Work by other committees has involved the revision of standards for X-Ray film, anaesthetic solutions for dental injection, denture repair resins, waxes, cements and impression materials. In the medical and surgical fields, the Bureau has contributed to the preparation of Australian standards for single-use hypodermic syringes and needles for general medical use and for insulin injection, and of specifications for surgical materials.

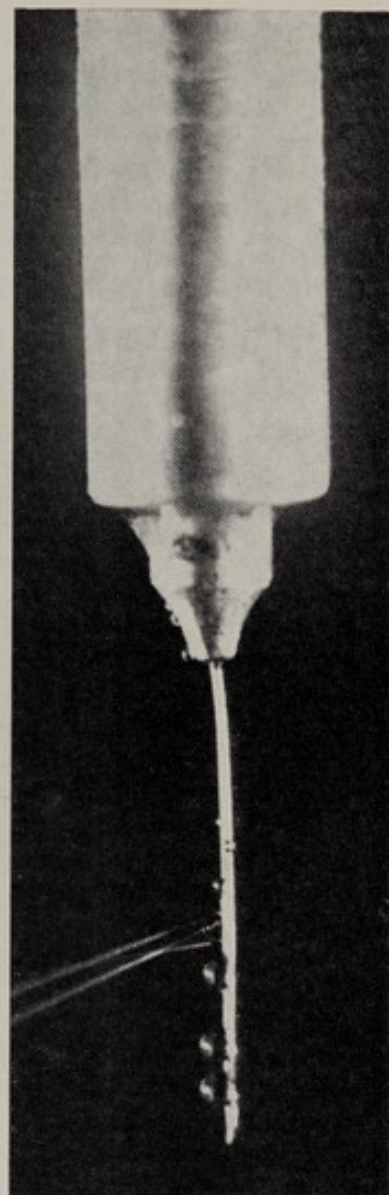
## *International standards*

The Bureau was again involved in the preparation of specifications through the Federation Dentaire Internationale (FDI) and the International Organisation for Standardisation (ISO). It collaborated in exchange testing programmes on synthetic resin teeth, elastomeric impression materials and zinc oxide eugenol cements. Assistance was given in the formulation and revision of ISO recommendations, ten of which are now current for dental items.

Bureau staff represent Australia on a number of international committees, working groups and 'task forces' engaged in the development of codes of practice, testing methods and standards of quality. Projects vary from filling materials to the working place of the dentist.



LEFT: A test at the Commonwealth Bureau of Dental Standards of the texture of toothbrush monofilaments, to check their classification as soft, medium or hard. The gauge indicates the force in grammes exerted by the tufts as they are carried past the end of the feeler. The Bureau is preparing an Australian standard for toothbrushes.



RIGHT: Testing of a hypodermic needle, following a complaint that anaesthesia was not being produced. The needle was found to be split, probably due to a fault in the ingot from which it was drawn. In the photograph, the end of the needle has been blocked to show fluid escaping under pressure from the split.

### **Testing programme**

The number of samples tested during the year was more than that of the previous year. Of the 574 samples which formed the basis of official laboratory reports, 317 were for the Armed Forces and other public instrumentalities. The tests involved the following materials (with the previous year's figures in brackets): cements and mineral products 102 (25), waxes and impression materials 118 (50), synthetic resins 62 (40), metals and alloys 69 (65), therapeutic materials 75 (30), and instruments 148 (40). Much of the testing of dental and medical instruments was on behalf of the Armed Forces and related to tenders for the purchase of stores.

### *Behaviour of materials in tropical storage*

The Bureau has collaborated actively in a programme to investigate the effect on dental products of storage under tropical conditions. This has involved the testing at regular intervals of a wide range of products stored under hot, humid conditions, and comparison with similar samples stored under controlled temperate conditions at the Bureau.

### *Consulting and advisory services*

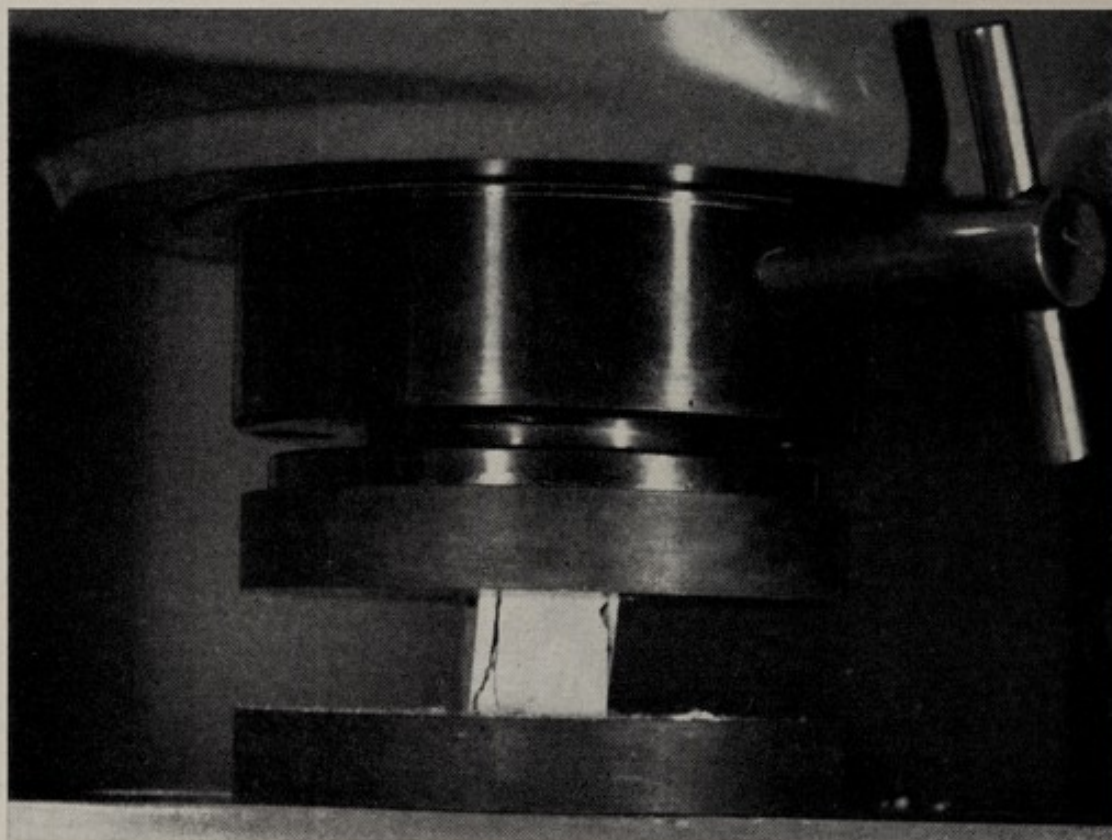
In addition to the assistance given by laboratory testing and investigations, the Bureau continued to be called upon frequently for advice and information, directly or through the medium of lectures and exhibits. Requests come from all sections of dentistry, and close liaison is maintained with the Australian Dental Association, the various specialist societies and study groups and dental schools throughout Australia.

### *Staff*

Steps are being taken to reorganise the Bureau and to provide for an increase in the number of staff in order to meet the additional demands on testing and research.

The Director of the Bureau has been honoured by admission to Fellowship of the American College of Dentists. During the year he was made an honorary member of the Australian Society of Endodontology and the Australian Society of Prosthodontists, and was appointed a member of the Research Advisory Committee of the Australian Research and Education Trust.

Dentists from India and Thailand spent time at the Bureau during the year to study testing methods and to observe demonstrations by the staff on the proper use of dental materials.



*A one-inch cube of set dental plaster being measured for strength in a compression testing machine. Cracks have appeared in the specimen, which is about to disintegrate.*

# School of Public Health and Tropical Medicine

The School of Public Health and Tropical Medicine, now in its forty-second year, continued its functions of teaching, research and consultation throughout 1970-71.

## TEACHING

A wide range of teaching was undertaken at a variety of levels of instruction both within and outside the University of Sydney. At the postgraduate level the most important activities were the two full-time courses leading to the Diploma in Public Health and the Diploma in Tropical Medicine of the University of Sydney. Contributions were also made to a number of other postgraduate diploma courses and to courses leading to the degree of Master of Building Science in the University of Sydney, Master of Technology in Public Health Science, Master of Technology, the Graduate Diploma in Engineering and the Diploma in Public Health Engineering in the University of New South Wales.

At the undergraduate level, substantial contributions were made to the teaching of students in medicine, architecture, education and engineering in the University of Sydney, and in medicine at the University of New South Wales. Instruction was also given in courses of study at the Australian School of Pacific Administration and the New South Wales College of Nursing.

## RESEARCH AND INVESTIGATION

### Entomology

Mrs M. L. Cook has undertaken a revision of the taxonomy of the *Ceratopogonidae*. For many years the School has provided an identification service for biting midges collected in Australia and New Guinea. This service has required in the past continuous revision of the twenty-odd genera involved, but Mrs Cook's present programme involves the systematic revision of the family (with descriptions of a considerable number of new species) on a genus-by-genus basis. The School's collections and those of other institutions such as C.S.I.R.O. together provide a collection of some 50,000 specimens as the basis for this work.

Mr R. C. Russell is investigating the effect of environmental factors on the larval development of anopheline mosquitoes. This work has been hindered by the need to maintain the laboratory colony of *Anopheles annulipes* by artificial mating. In recent months a considerable advance has been made by establishing a colony of *Anopheles amictus hilli* which mates freely in captivity. A strain of this species now in its third generation has shown a remarkable lack of dependence on blood meals not previously observed in anopheline mosquitoes.

A second investigation of the mosquito problems at Gove, Northern Territory, was undertaken in January-February 1971 by Mrs M. L. Cook, Mrs M. M. Hicks, Mr R. C. Russell and an attached worker. Both *Anopheles farauti* and *Anopheles amictus hilli* were found to be present in large numbers and their breeding habitats were identified. These two anophelines comprised over twenty per cent of the mosquitoes attacking man at night. It was concluded that the entomological situation is very favourable for malaria transmission.

Perhaps the most interesting investigation undertaken by the section was concerned with the sudden outbreak of vesicular dermatitis in the nurses and some patients in a section of one ward in a private hospital. It was eventually established that all cases occurred within twenty-four hours to forty-eight hours after the admission of a terminal patient with undiagnosed Norwegian scabies. This would appear to be the first occasion that a sufficient number of scabies mites have been transferred to contacts to give rise to a multiple infestation within a matter of hours in which time no breeding would have occurred. Investigation of material from another outbreak of vesicular dermatitis at Alice Springs considered to be due to scabies showed that, although scabies was present, some of the more persistent lesions were due to the penetration of the skin by spines of the seed pods of the daisy burr (*Calotis hispidula*).

### Biochemistry

The study of protein metabolism in New Guineans suffering from *Tinea imbricata*, undertaken by Dr D. C. Torpy in association with Dr R. W. Hornabrook and Mr A. Kelly of the Institute of Human Biology in New Guinea, has been completed. It has been shown that long standing cases with involvement of twenty-five per cent or more of the total skin area, when compared with controls



A truck trap, used by entomologists of the School of Public Health and Tropical Medicine to trap mosquitos and biting midges at Gove, in the Northern Territory.

free of the disease or with early or limited infection, have a disturbed plasma protein pattern with decreased albumins. It is considered that this is adequately explained by the protein loss resulting from desquamation of the skin.

Dr Torpy has also concluded his study of copper metabolism in leprosy. The results show that any disturbance is a late manifestation and characteristically associated with lepromatous cases. It is possibly dependent on late stage amyloid infiltration of the liver.

## *Environmental Health*

The greater part of the resources of the Environmental Health Section have been devoted to an ambitious programme designed to determine the effect of a variety of drugs on the amount and composition of sweat. The programme falls into several parts. The first was the devising, under the direction of Mr G. J. Lincoln of the Industrial Health Section of the School, of new methods for the analysis of sweat which take advantage of modern advances in the techniques of chemical analysis. The second stage, which is in progress, consists of the determination of the range of normal values for Australians of both sexes, and a considerable quantity of information of great interest has already been obtained.

As a by-product of this work, continuous monitoring of the electrocardiogram of subjects exercising in the heat has revealed cyclic changes in the heart rate and variations in the E.C.G. frontalplane axis and the further investigation of these phenomena is proceeding.

In cold exposure physiology the Section is continuing its training programme for research in climatic physiology for medical officers of the Australian National Antarctic Research Expeditions of the Department of Supply. At the request of the Department of Supply, Dr G. M. Budd was seconded to the Antarctic Division of that Department during the period January to April 1971 in order to accompany, together with four other Australians, a French expedition to Heard Island. His scientific programme involved an investigation of thermal discomfort in the wet-cold conditions prevailing on the island, and a comprehensive biological and glaciological survey. Despite a set-back caused by an accident to an expedition member, the party provided results of substantial scientific value.

Among other things, it was found that the island's populations of fur seals and king penguins are continuing to increase, and that while some glaciers are still continuing to retreat others are now re-advancing. The observations on thermal comfort are in process of analysis. In the course of the expedition Dr Budd succeeded in making the first landing ever recorded on the MacDonald Islands—precipitous and inaccessible rocky islets situated twenty-eight miles west of Heard Island. He was also able to make botanical collections and collections of marine and fresh water organisms on behalf of the University of Melbourne and the C.S.I.R.O. Division of Fisheries and Oceanography at Heard, MacDonald, Kerguelen, St Paul and Amsterdam Islands.

The work done by Dr Budd and Mr A. L. Hendrie on the thermal adaptation of New Guineans as part of the Human Adaptability Programme of the International Biological Programme is still undergoing computer analysis under the direction of Dr K. E. Hicks. The most striking finding which has emerged so far is that male New Guineans have a much smaller sweating response than the Europeans living in New Guinea, smaller even than that of Europeans living in a temperate climate.

## *Industrial Health*

The Industrial Health Section continued its survey of the asbestos industries with the examination of a further twenty-seven employees of the Naval Dockyard at Garden Island. The investigation included a general medical examination, chest X-Rays and tests of breathing capacity. The men examined were members of the 'boiler-squad'—boilermakers, iron workers' assistants, and bricklayers who are engaged in knocking down, cleaning and re-building ships' boilers and

furnaces. These workers were exposed to the health hazards of asbestos from insulating materials and of silica dust from the silica bricks used in furnace construction. No evidence of pneumoconiosis, either asbestosis or silicosis, was detected in any of the men examined. A similarly happy result has emerged from a survey of printers exposed to ink vapour and paper dust in the course of their employment. Again no adverse effects were demonstrated.

A wide variety of industrial matters is currently undergoing investigation—a survey of wheat farmers' asthma (which may require further investigating during the harvesting season), the ergonomics of mail sorting, the effect of physiotherapy on telegraphists' cramp, the illumination required for efficient mail sorting and visual standards for P.M.G. technicians. A survey of coronary heart disease in the Commonwealth Public Service is in the planning stage.

Considerable success has attended attempts to solve a number of technical problems associated with the identification of industrial hazards. A technique for the sampling of fumigant vapours and their subsequent analysis by gas chromatography has been developed and proven. Application of these methods has shown that the present fumigation techniques using one-pound cans of fumigants may fail to vapourise a large part of the lachrymatory warning agent, chloropicrin. This might have serious consequences if fumigators rely unduly on the warning agent to avoid exposure to methyl bromide.

*Ad hoc* investigations of a wide variety of industrial health hazards have been conducted during the course of the year. In the fire testing of building materials at the Commonwealth Experimental Building Station at North Ryde, New South Wales, many of the materials tested, when burnt or subjected to high temperatures, gave off irritant or toxic vapours and smokes. Examination of the employees concerned showed that no ill effects had been suffered by them as yet, and an adequate programme of safety precautions has been devised.

Noise as a pollutant of the industrial environment is of rapidly increasing importance and an appreciable amount of time has been taken up with investigating and advising on the problems of noise. Of special interest were two surveys conducted for departments of the University of Sydney where increased traffic noise has seriously affected the intelligibility of lectures delivered in some areas. In one case examined major remedial measures were plainly indicated.

## Parasitology

Associate Professor B. McMillan visited the Mubi River—Lake Kutubu area in the Southern Highlands of Papua (altitude 2,500 feet) in February 1971 in company with Dr R. W. Hornabrook and Mr A. Kelly of the Institute of Human Biology, Goroka. A filaria and malaria survey of the area resulted in the collection of 690 blood films which are currently being examined. The amount of clinical filariasis and the spleen rates were determined and these will be correlated with the observed parasitaemia. Intradermal testing for filariasis using the Sawada fractionated antigen recommended by W.H.O. was carried out in respect of 250 persons. Results will be correlated with those of microfilaraemia when available. The anopheline fauna was distinct in each area, predominantly *Anopheles longirostris* with a few *A. koliensis* in the Mubi River area and *A. farauti* in the Lake Kutubu area. By dissection of preserved material, it is hoped to incriminate *A. longirostris* as a local vector of filariasis in the Mubi River area.

Surveys of alimentary parasitism are continuing in Papua and New Guinea in conjunction with the Institute of Human Biology. Helminth egg counts are made in the field by the Institute and fresh or preserved faecal specimens are sent to this School for further examination. The surveys are designed to indicate the overall distribution and density of infection of alimentary parasites in Papua and New Guinea.

A strain of *Lymnaea lessona*, a fresh-water snail from the Northern Territory, was infected with *Fasciola hepatica* for the first time despite previous failures by other workers. This strain was sent to Dr J. Boray, Department of



*A combined party from the School of Public Health and Tropical Medicine and the Institute of Human Biology, Goroka, New Guinea, supervising the loading of canoes at Lake Kutubu, in the southern highlands of New Guinea. The party investigated parasitic diseases in the area in February 1971.*

Parasitology, University of Zurich, for further study and challenge with *F. giganticum*. Both species of *Fasciola* are fortunately absent as yet from the Northern Territory but if introduced the finding described could be of considerable economic significance.

### **Pathology and Microbiology**

A survey of oysters collected at various places around Sydney Harbour and adjacent estuaries, for the presence of enteric bacteria and viruses, was begun during the year. An oyster can filter up to twenty litres of water an hour and retain organisms in a viable form. This makes it an excellent indicator of microbiological pollution. No pathogens have so far been isolated, but extremely high bacterial counts were obtained in material from some sites.

Two unidentifiable pathogens isolated in this laboratory were provisionally identified as previously undescribed species of the genus *Moraxella* and *Corynebacterium* respectively. Submission of cultures of the organisms to the appropriate authorities abroad has confirmed this conclusion. The isolation and identification of these two new species will be the subject of a paper to be submitted for publication shortly.

Studies on the serological classification of *Clostridium welchii* Type A, as part of an international effort, continues. The feasibility of using bacteriocines for the typing of these organisms is also being studied—toxigenic classification of staphylococci responsible for food poisoning is now available. Facilities have also been established for the isolation and identification of *Vibrio parahaemolyticus*, a recently described pathogen encountered in sea foods.

The foregoing is part of a policy instituted to provide an authoritative unit capable of advising on the microbiological aspects of food poisoning. With the

advent of mass production and distribution of cooked and uncooked foods, this is becoming increasingly recognised as an emerging public health problem of considerable importance.

An increasing number of little-known gram-negative organisms are being received for identification. They are all from human sources. This is part of a general trend—they are replacing the previously widespread gram-positive pathogens. Their characterization is of some importance in determining therapeutic procedures.

### *Preventive and Social Medicine*

The Karamui Leprosy Study undertaken by Dr G. C. Scott in conjunction with the Department of Public Health, Territory of Papua and New Guinea, has continued. This study concerns two aspects of leprosy—the trial of BCG vaccine as a leprosy prophylactic, and the trial of DADDS (Hansolar, Parke Davis and Company) as a therapeutic measure for the control of leprosy in an endemic area.

In summary, the findings to date are that BCG vaccination causes a significant reduction of the incidence of the disease in a population in which leprosy is endemic. The use of DADDS (4,4'-diacetyldiaminodiphenylsulphone) has proved most beneficial. Over a two-year period, from December 1967 to December 1969, the administration of injections of DADDS at seventy-five day intervals has rendered all lepromatous cases non-infective, has resulted in clinical improvement in many cases, and has been without serious side-effects. DADDS appears to be the agent of choice for the treatment and control of leprosy among nomadic people or where domiciliary health services are scanty or absent.

Dr A. I. Adams has completed the analysis of patterns of utilization of medical care facilities in western Sydney. The study revealed the central position of the general practitioner in dictating the extent and manner in which medical resources were utilized. Although there were variations in utilisation patterns among people of different ethnic groups, there was a general preference for primary care services provided by general practitioners as opposed to hospitals. The extent to which private resources were utilized emphasised the necessity to accommodate the private sector when planning health services.

The laboratory resources of the section are now being devoted to cancer research under the direction of Mr H. L. Holmes. Mr Holmes has devised what he considers to be a reliable reproducible method which allows actual measurement of the response of cancer cells to drugs. The work so far has been primarily concerned with carcinoma of the breast and the results of therapy undertaken in accordance with experimental predictions are awaited. It is expected that a full series of laboratory tests on breast cancer will be completed by December 1971.

### *Radiation Biology*

The research activities of the Radiation Biology Section can be divided into two major areas—the prophylactic treatment of radiation injury in mice by haemopoietic supplementation and the effects of radiation on cell growth, particularly lymphocyte growth, in culture.

Current work in the first area involves several major investigations. Protection from the leukaemogenic effects of radiation has been attempted by the injection of various cell supplements—bone marrow, foetal liver, thymus and lymph node—as cell suspensions after the schedule of irradiation was complete. In this way the sixty-six per cent incidence of radiation-induced leukaemia in non-supplemented animals could be significantly reduced to incidences of nineteen and thirty-one per cent respectively following bone marrow supplementation by the intraperitoneal and intravenous routes. The intraperitoneal route for bone marrow injection has been adopted as the basis for further studies in which the schedule of supplementation relative to irradiation is varied in an attempt to increase the prophylactic effect still further.



*A staff member of the School of Public Health and Tropical Medicine played a leading role in a rescue drama on Heard Island, in the Antarctic, early in 1971.*

*Dr G. M. Budd was visiting Heard Island with a party of French scientists to carry out a programme of physiological and biological research, which required him to walk around the island, a journey of 44 miles over heavily-crevassed glaciers. While crossing the Gotley glacier, one of his two assistants, Mr Ian Holmes, fell into a crevasse and fractured a leg.*

*Dr Budd and his other assistant, Mr Iain Dillon, spent a few days with Mr Holmes, making him comfortable in a tent and stocking it with food, fuel and medical supplies, then walked 32 miles back to base to radio for help.*

*The Antarctic Division, Department of Supply, immediately diverted the relief ship, Nella Dan, from Davis to the Heard Island base, and a helicopter was sent to the scene.*

*The photograph above shows Dr Budd (circled on the pontoon of the helicopter) being lowered by winch to Mr Holmes (in the tent, arrowed). The injured man was strapped to a stretcher, winched up to the helicopter and flown to the Nella Dan. He returned to Australia aboard the ship and has made an excellent recovery.*

*—ANARE photograph by Dr A. J. Graff*

In the second area work has continued on the effect of *in vitro* radiation on the lymphocyte response to a mitogen. No inhibitory effect upon lymphocyte response to phytohaemagglutinin stimulation could be demonstrated when cells were cultured in medium obtained from previously irradiated cultures. It would appear therefore that the reduction in lymphocyte proliferative capacity after radiation is the product of the direct action of the radiation on PHA-sensitive cells and not an indirect effect caused by some radiation toxin arising in the culture medium or released into it by granulocyte death. Current research is directed towards a further elucidation of the detailed kinetics of irradiated cultures and in particular towards determining those regions of the cell cycle in which irradiated lymphocytes are subject to blocking or dose-dependent delays.

### *Tropical Medicine and Hygiene*

The Coasttown Project—a study of the health of Australian Aborigines—continued during the year. The study population is a rural-urban part-Aboriginal community centred on a New South Wales coastal town. This is a longitudinal study which began in 1966 with a social survey of the community by Mr R. G. Hausfeld. This was followed by a medical survey of the children in 1967 by Dr P. M. Moodie. Both of these staff members have continued to visit the community several times each year. An experimental Public Health Nurse service begun in July 1969 was to terminate at the end of July 1971. It is expected that a community nurse appointed by the New South Wales Department of Public Health will then take over.

The study of the venom of the Papuan black snake, carried out in conjunction with Dr C. Chesterman of the Haematology Department, St. Vincent's Hospital, was completed and a paper has been submitted for publication. Papuan black snake venom has an anticoagulant action on blood *in vitro* but *in vivo* in experimental animals it produces only a slight prolongation in the coagulation time of the blood.

## **CONSULTATIVE AND ADVISORY SERVICES**

Consultative services at the international level and to various Commonwealth and State Departments, health authorities and institutions, provided by the School in its special subjects, were maintained. These constitute a very substantial proportion of the duties of the senior members of the staff. Members of staff served on a wide range of official bodies devoted to health or science and as honorary consultants to hospitals and other institutions.

# Institute of Child Health

The Institute of Child Health continued its research, teaching and advisory functions during the year. Staff members, undergraduates and visiting fellows took part in many research activities.

In the long-term study of rheumatic fever and chorea, begun in 1952, a total of 282 children have now received regular penicillin prophylaxis, administered orally. During the nineteen-year period of the study, many of the patients have become adults and it has been of considerable interest to observe the effect of the illness on their lives in relation to employment, National Service training, marriage and family life. Twenty-one of the original patients have had children of their own. Nineteen encountered no special problems during pregnancy and delivery, but in two instances rheumatic recurrence followed delivery.

In the metabolic laboratory, studies continued to centre around a variety of aspects of mammalian folic acid metabolism. It is hoped eventually to expand this work into areas more closely related to clinical disorders. Research is also continuing on infants and children with congenital (non-goitrous) hypothyroidism, and on children with urinary tract infections. A number of children who have shown recurrences of urinary tract infection, in association with persisting vesico-ureteric reflux, have been submitted to anti-reflux surgery with impressively good results. The studies have again illustrated the difficulties in diagnosis of urinary infections in small children and the necessity for regular or prolonged supervision of patients under treatment.

## *Clinical activities*

The Institute's Metabolic Clinic—one of the largest of its kind in the world—now cares for ninety-two children from over fifty families. The clinic endeavours to provide total care—medical, dietary, social and emotional—for children with a wide variety of metabolic problems.

During the year the Gastroenterology Unit functioned principally as a clinical unit concerned with the care of children with gastroenterological disease and as an investigative unit to study the natural history of children with gastroenteritis and coeliac disease. The main study involved gastroenteritis and its complications, particularly stool chromatography for sugar.

## *Social work*

The Institute's social workers continued to play an active part in the teaching of medical students, in the assessing of problem cases among patients and in ensuring that long-term patients continued their treatment and understood the problems which might arise from their illnesses.

## *Child psychiatry*

Regular undergraduate teaching of medical and social work students continued in the field of child psychiatry. Demonstrations and lectures were held for candidates for the entrance examination for the Australian and New Zealand

College of Psychiatrists, and seminars in psychopathology were held for candidates taking the course in child psychiatry for the New South Wales Institute of Psychiatry.

### *Advisory services*

Staff members again served with a number of organisations. The Director continued as chairman of the Child Welfare Advisory Council of New South Wales and as secretary-general of the International Paediatric Association and also served as a short-term consultant to the World Health Organisation. The Institute received many inquiries and requests for advice from universities in South-East Asia on paediatric problems and the development of child health services. Two World Health Organisation fellows from Indonesia worked at the Institute, one specialising in gastroenterology and the other in the social aspects of paediatrics.

# International Health

The Department's active participation in international health matters continued in 1970-71, both with health organisations and in the field of international training, external medical aid, and co-ordination and liaison in other health activities.

## *World Health Organisation*

The International Health Section services Australian delegations to meetings of the World Health Organisation. During the year there were two such meetings, the Twenty-first Session of the Regional Committee for the Western Pacific, held in Manila in September 1970, and the Twenty-fourth World Health Assembly, held in Geneva in May 1971.

Australia was greatly honoured at the World Assembly when the Director-General of the Department was elected President. He presided over the plenary sessions of the Assembly and will continue to hold office until he hands over to his successor in 1972.

Australia is actively participating in a number of WHO programmes, particularly in regard to environmental health and the preparation for the United Nations Conference on the Environment, to be held in Stockholm in 1972; good practices in the manufacture and quality control of drugs; drug monitoring;



*The Director-General of the Department, Sir William Refshauge, presiding at the 24th World Health Assembly at Geneva in May 1971.*

health education and rehabilitation for drug dependence; and the collection and dissemination of health statistics. WHO's effective working budget for 1971 was finalised at \$US82,023,000. Australia's contribution will amount to \$US1,117,380.

### *Agency for Cancer Research*

The International Agency for Research on Cancer will soon move into a new sixteen-storey building in Lyons, France, erected by the French Government at no cost to the Agency. The budget for the Agency for 1971 amounts to \$US2,190,000, of which Australia has contributed \$US170,294.

### *International training*

As a training authority for various training schemes, the Department has continued to assist in placing trainees sponsored under the Colombo Plan, the South-East Asia Treaty Organisation Aid Programme, the Special Commonwealth African Assistance Plan, the South Pacific Aid Programme, the Australian International Award Scheme, the ANZAC Fellowship Scheme, and the Practical Training Scheme for Papuans and New Guineans in Australia. Students also come to Australia for training under the sponsorship of the United Nations, WHO, or the student's home government.

Training placements for the year ended 31 May 1971 totalled 140, including 76 postgraduate fellows, 14 first year resident medical officers, 45 paramedical trainees, and 5 dental health trainees. A number of trainees in nursing were also placed by the Nursing Section. The Department arranges the placement of these students in such fields as postgraduate training in the various branches of medicine, public health, nursing, dentistry, pharmacy, physiotherapy, occupational therapy, speech therapy, dietetics, medical records librarianship, radiography and any other form of training in which hospital training dominates.

The possible establishment of a WHO Regional Teacher Training Centre in Australia is at present being considered. Such a centre would draw teachers from the Western Pacific region to learn and develop the art of medical teaching.

### *External medical aid*

The Department provides advice when requested on external medical aid projects controlled by the Department of Foreign Affairs. One such project involved the sending of a team to Bien Hoa in South Vietnam. Australian policy is directed towards encouraging the Vietnamese to become self-reliant in health matters.

### *Overseas visitors*

Distinguished visitors from overseas during the year included Sir George Godber, Chief Medical Officer, Department of Health and Social Security in the United Kingdom; Dr Agnete Braestrup, President, International Planned Parenthood Federation; Mr S. Martin, Chairman, Ontario Hospital Services Commission; Dr J. Higginson, Director, International Agency for Research on Cancer; and Dr K. E. Taylor, Director, Office of International Affairs, Food and Drug Administration, U.S.A. A number of officers of the World Health Organisation and representatives of health organisations of other countries also paid visits.

### *New Guinea visit*

In December 1970, the Director-General paid a visit to Papua and New Guinea for discussions with the Director of Public Health on matters of mutual interest. It proved most useful to see at first hand some of the problems associated with the provision of health services in Papua and New Guinea, as well as the methods used to deal with the problems.

# National Health and Medical Research Council

During the year two sessions of the National Health and Medical Research Council were held—the 71st in Canberra on 29-30 October 1970 and the 72nd in Sydney on 13-14 May 1971.

## *Medical research*

At the 71st Session, the Council completed its major grant-making programme for 1971. Grants from the Medical Research Endowment Fund totalling \$2,261,883 were recommended for the support of 253 medical research projects (\$1,946,681); fifty Medical and Dental Postgraduate Research Scholarships (\$297,925); and five Public Health Travelling Fellowships (\$17,277).

The field of studies supported by the Council's grants is very wide, ranging from basic research to studies of more immediate application. An increasing number of projects are being supported in the fields of pregnancy and the unborn child. This is an area in which Australia is well advanced, and special encouragement is being given to investigations such as the causes of prematurity and congenital malformation. Another important project concerns research into intervertebral disc disease—a condition with far-reaching socio-economic implications.

Problems of oral health and disease are widespread in Australia. Pain and disability connected with diseases of the teeth and their supporting structures provide the impetus for research which seeks the causes, the treatment and ultimately the means of prevention of oral disease. One important dental project receiving continuing support is related to a study and measurement of malocclusion, which deals with deviation from the normal occlusion of teeth, resulting in impaired function or appearance. The importance of malocclusion as a public health problem is increasing each year. More recent developments have been concerned with the psychological effect of malocclusion on the individual.

At the 72nd Session the Council recommended the award of three C. J. Martin Travelling Fellowships in the fields of psychiatry, immunology and reproductive physiology. Fifty-two undergraduate medical and dental research scholarships were also recommended for use in 1971-72.

## *Rubella vaccination*

The Council reviewed all previous recommendations on the use of rubella virus vaccine and reaffirmed its current recommendations. These are that the vaccine should be available for immunisation of girls aged 12 to 14 years in public health campaigns and that immunisation in such campaigns should not be extended to girls who have reached 15 years.

For adult immunisation, the Council recommended that all medical practitioners should be advised that rubella vaccine can be safely given to non-pregnant women of child-bearing age, whether or not they are already immune. It also recommended that suitable times for the immunisation of these women

are in the immediate post-partum period, during the normal menstruation, or when an effective form of contraception has been practised for at least two months before immunisation. The Council further recommended that all women of child-bearing age should be advised to avoid becoming pregnant for a further two months after being immunised against rubella.

### *Seat belts*

The Council recognised the incontrovertible evidence of the efficacy of wearing properly-fitted seat belts as a means of reducing the frequency and severity of injury in road accidents.

### *Multi-dose technique for mass immunisation*

The Council stated that there was a possible risk of infection with any inoculation procedure, although this risk was minimal when a single dose vial was used with proper aseptic precautions. Provided the strictest aseptic technique was observed, the Council considered that the risk associated with the multi-dose vial was extremely small. However, it was recommended that multi-dose vials should be discarded, even if only partly used, at the end of each immunisation session and should not be re-stored.

### *Multiphasic screening*

In view of the growing use of automated laboratory procedures in Australia, the Council established an *ad hoc* Committee on Multiphasic Screening to inquire into multiphasic health screening services and advise the Council on the place of such services in medical practice and their value in preventive medicine.

### *Leprosy*

The Council recommended that the diagnosis of leprosy should be based on the presence of at least one of four specific criteria and that nobody should be treated for leprosy unless so diagnosed. It was considered that leprosy patients should, where possible, be treated as out-patients in their home environments and that emphasis should be placed on rehabilitation.

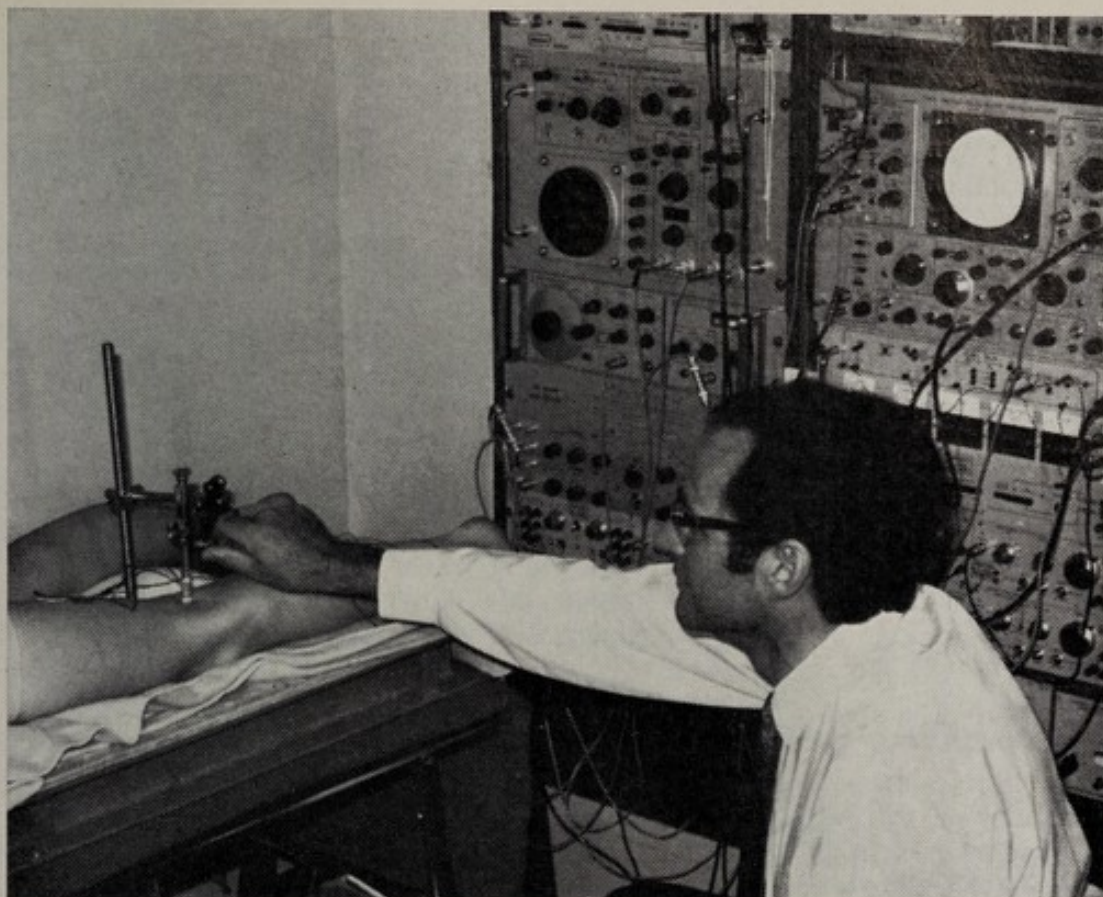
The Council also considered that the participation of patients with other chronic diseases in the rehabilitation scheme for leprosy patients could lead to a reduction in the social isolation of leprosy patients and the more efficient use of skilled staff. There was a great need for education of all sections of the community to remove the stigma attached to leprosy. The Council endorsed the current training schemes in northern Australia for para-medical workers in leprosy control, and recommended that these workers be trained in all aspects of public health.

### *Drug effects on driving performance*

The Council considered the available evidence on the effects of drugs on driving performance in motor vehicles, and recommended that medical practitioners, when prescribing certain drugs, should advise their patients of the direct side effects of these drugs and of the possible potentiation of these effects by alcohol. Because antihistamines and bromureides may impair driving performance, the Council re-affirmed its previous recommendation that these drugs be available on prescription only.

### *Smoking and health*

The Council re-affirmed an earlier recommendation that health education was probably the most effective way to attack the smoking problem and that appropriate labelling of cigarettes would assist such education programmes. The



*Dr L. J. Veale, of the Department of Physiology, Monash University, performing an experiment in which nerves behind the knee joint are stimulated to test the excitability of different kinds of nerve fibre in relation to reflex control of the calf muscles. This is part of an investigation on the transfer of somatosensory information to the brain, one of the many research projects supported by the National Health and Medical Research Council.*

Council had previously stated that there should be a warning label conspicuously printed on each cigarette package, and that cigarette packages should be labelled to indicate the 'tar' and nicotine yield on smoking. The Council considered that there was a need for legislative restriction by the States and Commonwealth of all forms of advertising of cigarettes, and for legal or administrative action to ensure that adequate time is made available on radio and television to inform the public of the health hazards of smoking.

### *Analysis of tobacco smoke*

The Council noted that there was now a reliable and comparative standard method of analysis which could be included in legislation if, and when, the analysis of tar and nicotine content of tobacco smoke and the labelling of cigarette packets became mandatory.

### *Training in obstetrics*

The Council recommended that the general nursing course should include instruction in the principles and practice of obstetric nursing, but not necessarily including the personal conduct of deliveries. The Council considered that medical undergraduate training in obstetrics should be directed primarily to the principles and practice of the subject, but should continue to include experience of the management of patients throughout pregnancy, labour and the puerperium.

### *Environmental health*

The Council established an Environmental Health Committee to consider all aspects of environmental contaminants which may influence human health and well-being. An Air Pollution Control Sub-Committee was also formed to enquire into ambient air quality standards and emission standards for air pollutants.

### *Maternal mortality survey*

The Council requested the Maternal Health Committee to conduct a research survey of maternal deaths in Australia for the period 1967-69 and to prepare a report for publication and distribution.

### *Dichlorvos*

The Council recommended that the Uniform Labelling Standard for Poisons, as published in the Report of the 69th Session of Council (November 1969) be amended to provide for warning labels on preparations containing dichlorvos, indicating that the substance should not be used in food preparation or food storage areas or in nurseries and sick rooms where people may be continuously exposed.

### *Registration of audiometrists*

It was recommended that some form of recognised training should be specified for audiometrists. The Council also recommended that the controls whereby the methods and standards of training were implemented, whether by registration of audiometrists or licensing of retailers, should be determined individually by the Commonwealth and each State.

# Commonwealth Grants

Commonwealth grants totalling \$17.4 million were paid to the State Governments and non-profit organisations during 1970-71 to promote and assist in the provision of a variety of health services.

## *Public nursing homes*

So far approval has been given under the *States Grants (Nursing Homes) Act* 1969 for expenditure to provide 464 new beds at public nursing homes in Queensland, Western Australia and Tasmania. Under the Act, the Commonwealth has offered \$5 million, on a matching basis, towards capital expenditure by the States on such homes. The money is available, broadly on a population basis, during the five-year period which began on 1 July 1969.

The Commonwealth offer is designed to increase the number of beds available for aged people with limited means. Subject to prior approval by the Commonwealth Minister for Health, expenditure by a State for the erection of nursing home accommodation attracts a subsidy from the Commonwealth. Grants during the year—matching State expenditure on approved homes—totalled \$337,004.

## *Paramedical services*

Two schemes for the provision of paramedical services in South Australia were approved during the year, together with a State-wide scheme for Tasmania. As part of a comprehensive home-care programme, the Commonwealth has offered \$250,000 a year, on a matching basis, towards expenditure by the States on schemes to provide paramedical services to aged people in their homes.

Under the *States Grants (Paramedical Services) Act* 1969, Commonwealth assistance is available to the States, again broadly on a population basis, towards the provision of services such as physiotherapy, occupational therapy, speech therapy, chiropody and similar services. Five States have indicated that they intend to participate in the programme of home care for the aged.

## *Mental health institutions*

During the year the *States Grants (Mental Health Institutions) Act* was amended to extend Commonwealth financial assistance to the States for institutional buildings and equipment for a further three year period. Payments totalling \$4.2 million were made to the States during 1970-71. Grants towards the building and equipment of mental health institutions have amounted to \$48 million since 1955.

## *Free milk for school children*

Free milk was supplied to 1.7 million children attending primary schools, kindergartens, creches, nursery schools and Aboriginal missions throughout the Commonwealth during 1970-71. The *States Grants (Milk for School Children) Act* 1950 provides for Commonwealth reimbursement of the cost of milk supplied by the States to school children, together with half of approved capital and incidental expenditure incurred in running the Scheme.

Payments to the States during the year totalled \$9.9 million for the cost of milk and \$38,732 for other expenditure. In addition, \$240,506 was spent on the cost of school milk in the Australian Capital Territory and the Northern Territory.

### *Home nursing subsidy scheme*

Approved home nursing organisations received a total of \$1.45 million in subsidies during the year. Under the *Home Nursing Subsidy Act* 1956, non-profit organisations which employ registered nurses and receive State or local government assistance are eligible for subsidies. Payments are based on the number of nurses employed on home nursing over and above the number employed in September 1956 and, in the case of services established since that date, on all nurses employed on home nursing.

### *Blood transfusion service*

Since 1954, the Commonwealth has made an annual grant to State Governments towards the cost of the nation-wide blood transfusion service operated by the Australian Red Cross Society. The grant equals 30 per cent of the operating costs of the service, provided that 60 per cent is paid by the State concerned. The Society pays the remaining ten per cent.

Grants to the States for 1970-71 totalled \$845,429. The Red Cross Society also operates blood transfusion services in the Australian Capital Territory and the Northern Territory where the Commonwealth makes grants to the Society amounting to 90 per cent of the operating expenses. Grants during the year amounted to \$16,870 in the A.C.T. and \$23,000 in the Northern Territory.

(In addition to these grants, the Commonwealth pays a substantial sum annually to the Commonwealth Serum Laboratories for processing costs involved in the production of blood fractions. In 1970-71, this payment totalled \$1,053,000.)

### *Royal Flying Doctor Service*

Commonwealth assistance towards the operational and capital requirements of the Royal Flying Doctor Service has continued at the higher level to which it was raised in 1968-69. Assistance is provided to the Service under a three-year arrangement whereby the Government provided \$540,000 for operational costs and \$498,401, on a dollar-for-dollar basis, towards an approved programme of capital expenditure.

Under the current arrangement, the Commonwealth will also meet the estimated cost of \$480,000 for the mandatory change-over of twelve base stations from double sideband to single sideband radio operation. Payments of \$12,526 were made for this purpose during 1970-71.

# National Fitness

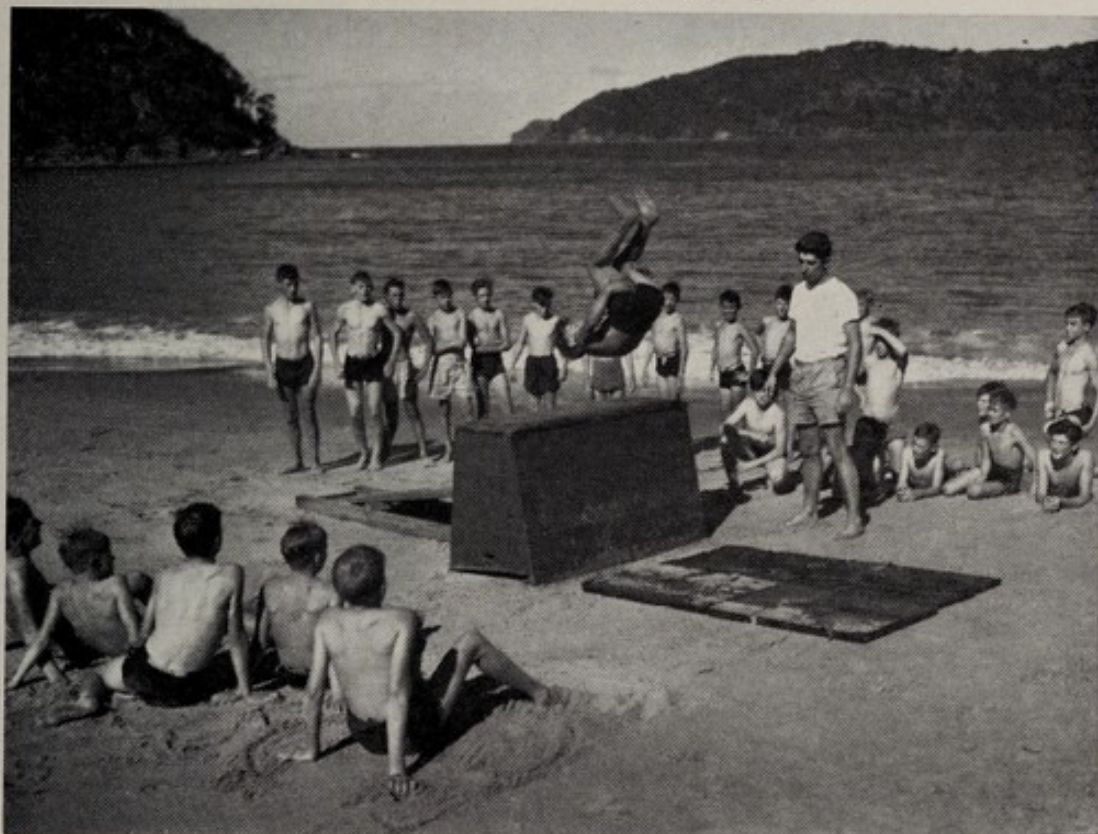
A number of new National Fitness programmes were developed during 1970-71 to meet the expressed needs of various sections of the community. These needs are being met by the provision of more adventure-type facilities for the young, such as snow-camping, mountaineering and bushwalking, while for adults there are family camps and instruction and participation in sports programmes.

The Commonwealth provided \$350,000 during the year to assist the development of National Fitness, particularly in the camping and physical recreation spheres. A further grant of \$66,000 was made available on the basis of \$1 for each \$2 provided by the States for approved capital projects. This helps satisfy an increasing demand for suitable National Fitness facilities.

All State National Fitness Councils have provided facilities for the community as a whole, including keep-fit programmes, new walking tracks, sports coaching and camps. The State programmes are administered in widely scattered areas by regional National Fitness officers or field officers.

## *State Education Departments*

The Commonwealth grant to State Education Departments during the 1970-71 financial year was \$34,000. This amount is used for in-service training courses for teachers, and to provide films, publications and equipment. In several States this grant assists the development of school camping programmes.



*Gymnastics by the sea for youngsters at a National Fitness camp.*

## *Universities*

A total of \$24,800 was made available to universities from the National Fitness Fund to assist in the training of teachers involved in full-time degree or diploma courses in physical education. These courses are usually undertaken by students who become specialist physical education teachers. Physical Education Departments of the Universities have often assisted State National Fitness Councils by providing expert advice in particular areas and by making lecturers available for courses.

The Universities of Melbourne, Queensland, Adelaide and Western Australia each received \$4,200 while the Universities of Sydney and Tasmania received \$4,000 each.

## *Youth Fitness Survey*

The Youth Fitness Survey, which was designed to assess the fitness of State secondary school students between the ages of 13 and 17 years, was completed during the year. The survey was sponsored by the A.M.P. Society and supported by the State Directors-General of Education. Dr A. W. Willee, Director of the Physical Education Department, University of Melbourne, directed the survey, which involved some 8,000 children selected in a sample prepared by the Commonwealth Bureau of Census and Statistics.

Dr Willee's report, presented at the Twenty-Fourth Session of the Commonwealth Council for National Fitness, will serve as a guide for physical education teachers in developing their school programmes.

## *Duke of Edinburgh Award scheme*

State National Fitness Councils have assisted in the promotion of the Duke of Edinburgh Award scheme through State committees and their field officers. A total of 6,460 young people participated in the scheme during the year, 3,740 of them being new participants. The Duke presented sixty awards to successful participants at gold level during his visit to Australia early in 1971. A total of 545 young people have now won gold awards since the scheme was launched in Australia in 1962.

## CONTENTS—Appendix 1—Statistics

### NATIONAL HEALTH

<i>Table No.</i>	1. Departmental Expenditure—1966–67 to 1970–71 . . . . .	<i>page</i>	127
------------------	--	-------------	-----

### HOSPITAL BENEFITS

2.	Number of registered organisations, membership and coverage—1962–63 to 1970–71 . . . . .	128
3.	Number of registered organisations, membership and coverage—by States—30 June 1971 . . . . .	128
4.	Membership and coverage of the Subsidised Medical Services Scheme—by States—30 June 1971 . . . . .	129
5.	Benefits paid to contributors by registered organisations—1962–63 to 1970–71 . . . . .	129
6.	Benefits paid to contributors by registered organisations—by States—1970–71 . . . . .	130
7.	Amount of Commonwealth and fund benefits paid and other Commonwealth payments—1963–64 to 1970–71 . . . . .	130
8.	Amount of Commonwealth and fund benefits paid and other Commonwealth payments—by States—1970–71 . . . . .	131
9.	Number of days for which Commonwealth hospital benefits were paid—1963–64 to 1970–71 . . . . .	131
10.	Number of days for which Commonwealth hospital benefits were paid—by States—1970–71 . . . . .	132
11.	Number of approved hospitals and number of beds—1962–63 to 1970–71 . . . . .	132
12.	Number of approved hospitals—by States—30 June 1971 . . . . .	133
13.	Number of beds in approved hospitals—by States—30 June 1971 . . . . .	133

### NURSING HOME BENEFITS

14.	Amount of Commonwealth nursing home benefits paid—1962–63 to 1970–71 . . . . .	134
15.	Amount of Commonwealth nursing home benefits paid—by States—1970–71 . . . . .	134
16.	Number of days for which Commonwealth nursing home benefits were paid—1962–63 to 1970–71 . . . . .	135
17.	Number of days for which Commonwealth nursing home benefits were paid—by States—1970–71 . . . . .	135
18.	Number of approved nursing homes and number of beds—1962–63 to 1970–71 . . . . .	136
19.	Number of approved nursing homes—by States—30 June 1971 . . . . .	136
20.	Number of beds in approved nursing homes—by States—30 June 1971 . . . . .	137

## HANDICAPPED CHILDREN'S BENEFIT

21. Number of approved homes, number of children accommodated and amount of benefit paid—1968-69 to 1970-71 . . . . .	137
22. Number of approved homes, number of children accommodated and amount of benefit paid—by States—1970-71 . . . . .	137

## MEDICAL BENEFITS

23. Number of registered organisations, membership and coverage—1962-63 to 1970-71 . . . . .	138
24. Number of registered organisations, membership and coverage—by States—30 June 1971 . . . . .	138
25. Membership and coverage of the Subsidised Medical Services Scheme—by States—30 June 1971 . . . . .	139
26. Medical services received by contributors to registered organisations—fee-for-service organisations only—1962-63 to 1970-71 . . . . .	139
27. Medical services received by contributors to registered organisations—fee-for-service organisations only—by States—1970-71 . . . . .	140
28. Amount of Commonwealth and fund benefits paid and other Commonwealth payments—1962-63 to 1970-71 . . . . .	140
29. Amount of Commonwealth and fund benefits paid and other Commonwealth payments—by States—1970-71 . . . . .	141
30. Cost of medical services and how cost is met—1962-63 to 1970-71 . . . . .	141
31. Cost of medical services and how cost is met—fee-for-service organisations—by States—1970-71 . . . . .	142
32. Level of observance of the most common fee—by States . . . . .	142

## PENSIONER MEDICAL SERVICE

33. Number enrolled, number of services received and average number of services per enrolled person—1962-63 to 1970-71 . . . . .	143
34. Number enrolled, number of services received and average number of services per enrolled person—by States—1970-71 . . . . .	143
35. Number of participating doctors, payments to doctors and average cost per enrolled person—1962-63 to 1970-71 . . . . .	144
36. Number of participating doctors, payments to doctors and average cost per enrolled person—by States—1970-71 . . . . .	144

## PHARMACEUTICAL BENEFITS

37. Cost of pharmaceutical benefits—1961-62 to 1970-71 . . . . .	145
38. Cost of prescription benefits—by States—1970-71 . . . . .	145
39. Payments to hospitals and miscellaneous services—by States—1961-62 to 1970-71 . . . . .	146
40. Dissection of benefit prescription costs into ingredient cost and approved suppliers' remuneration—1961-62 to 1970-71 . . . . .	146
41. Dissection of benefit prescription costs into ingredient cost and approved suppliers' remuneration—by States—1970-71 . . . . .	147
42. Number of benefit prescriptions and average cost per prescription—1961-62 to 1970-71 . . . . .	147
43. Number of benefit prescriptions and average cost per prescription—by States—1970-71 . . . . .	148
44. Number of benefit prescriptions per head of population and average cost per head of population—1961-62 to 1970-71 . . . . .	148

45. Number of benefit prescriptions per head of population and average cost per head of population—by States—1970-71 . . . . .	149
46. Drugs dispensed by chemists—1970-71 . . . . .	149
47. Number of pharmaceutical chemists and medical practitioners dispensing pharmaceutical benefits prescriptions—1949-50 to 1970-71 . . . . .	150
48. Number of prescriptions and cost of more frequently prescribed therapeutic groups 1969-70 and 1970-71 . . . . .	151

#### TUBERCULOSIS

49. Number of allowances, notifications and mortality—1952 to 1970 . . . . .	152
50. Number of allowances, notifications and mortality—by States—year ended 31 December 1970 . . . . .	152
51. Expenditure under the Tuberculosis Act—1951-52 to 1970-71 . . . . .	153
52. Expenditure under the Tuberculosis Act—by States—1970-71 . . . . .	153
53. Results of mass X-ray surveys—by States—year ended 31 December 1970 . . . . .	154

#### PUBLIC HEALTH

54. Notifiable diseases: Number of cases notified—1966 to 1970 . . . . .	154
55. Diseases notified in the States and Territories of Australia—year ended 31 December 1970 . . . . .	155
56. Radio and television scripts on medical matters examined—1968-69 to 1970-71 . . . . .	156

#### QUARANTINE

57. Vessels boarded and cleared—by States—1970-71 . . . . .	156
58. Infectious diseases on overseas vessels arriving in Australia—1970-71 . . . . .	157
59. Animal importations subject to quarantine—1970-71 . . . . .	157

#### NORTHERN TERRITORY HEALTH

60. Aerial Medical Service 1970-71 . . . . .	158
61. Health services provided at main Northern Territory hospitals—1970-71 . . . . .	158
62. Dental services provided in the Northern Territory—1970-71 . . . . .	159

#### AUSTRALIAN CAPITAL TERRITORY HEALTH

63. Licences issued under the public health ordinance—year ended 31 December 1970 . . . . .	159
64. Registrations granted—1970-71 . . . . .	160
65. Samples collected by health inspection section—1970-71 . . . . .	160
66. School medical service examinations—1969-70 and 1970-71 . . . . .	160

#### NATIONAL FITNESS

67. Allocation of Commonwealth National Fitness Grants—1970-71 . . . . .	161
68. Allocations to State agencies—1970-71 . . . . .	161

#### COMMONWEALTH MEDICAL OFFICERS

69. Number of clinical examinations by Commonwealth Medical Officers—by States—1970-71 . . . . .	162
70. Number of vaccinations by Commonwealth Medical Officers—by States—1970-71 . . . . .	162

## COMMONWEALTH HEALTH LABORATORIES

- |  |     |
|--|-----|
| 71. Number of pathology examinations and laboratory tests performed and number of patient requests—1970-71 . . . . . | 163 |
|--|-----|

## NATIONAL BIOLOGICAL STANDARDS LABORATORY

- |   |     |
|---|-----|
| 72. Summary of all samples examined—1970-71 . . . . .                     | 164 |
| 73. Reasons for failure as percentage of total failures—1970-71 . . . . . | 164 |
| 74. Safety tests performed—1970-71 . . . . .                              | 165 |

## COMMONWEALTH ACOUSTIC LABORATORIES

- |   |     |
|---|-----|
| 75. Cases examined—1970-71 . . . . .                      | 165 |
| 76. Calaid hearing aids fitted—1970-71 . . . . .          | 165 |
| 77. Calaid hearing aids on loan at 30 June 1971 . . . . . | 166 |

## COMMONWEALTH X-RAY AND RADIUM LABORATORY

- |  |     |
|--|-----|
| 78. Expenditure from the National Welfare Fund on radio-isotopes for medical purposes—1955-56 to 1970-71 . . . . . | 166 |
|--|-----|

## NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL

- |  |     |
|--|-----|
| 79. Grants made from the Medical Research Endowment Fund—1970-71 . . . . . | 167 |
|--|-----|

## COMMONWEALTH GRANTS

- |  |     |
|--|-----|
| 80. Allocation of Commonwealth Grants—1961-62 to 1907-71 . . . . . | 168 |
| 81. Allocation of Commonwealth Grants—by States—1970-71 . . . . .  | 168 |
| 82. Milk for school children—by States—1970-71 . . . . .           | 168 |

## APPENDIX I—STATISTICS

TABLE 1. DEPARTMENTAL EXPENDITURE 1966-67 TO 1970-71

<i>Year ended 30 June</i>	<i>1967</i>	<i>1968</i>	<i>1969</i>	<i>1970</i>	<i>1971</i>
	<i>\$'000</i>	<i>\$'000</i>	<i>\$'000</i>	<i>\$'000</i>	<i>\$'000</i>
<b>National Welfare Fund</b>					
Hospital Benefits . . . . .	44,631	50,264	54,298	64,415	73,367
Nursing Home and Handicapped Children's Benefits . . . . .	22,767	24,486	31,719	47,446	49,933
Medical Benefits . . . . .	43,841	46,431	49,556	56,863	95,604
Pharmaceutical Benefits . . . . .	101,281	105,134	118,373	136,718	160,275
Pensioner Medical Service . . . . .	14,351	16,116	16,912	19,230	19,898
Milk for School Children . . . . .	9,021	9,831	10,053	10,051	10,160
Tuberculosis* . . . . .	10,983	11,269	11,460	10,555	10,597
Miscellaneous . . . . .	3,947	4,349	4,601	4,955	6,612
<b>Total National Welfare Fund . . . . .</b>	<b>250,821</b>	<b>267,881</b>	<b>296,974</b>	<b>350,233</b>	<b>426,447</b>
<b>Consolidated Revenue Fund</b>					
Administrative Expenditure . . . . .	11,507	13,636	15,038	17,927	21,610
Australian Capital Territory Health Services . . . . .	3,291	3,805	4,221	4,531	6,465
Northern Territory Health Services . . . . .	4,420	5,102	6,128	7,625	9,420
Capital Works and Services . . . . .	1,096	1,545	1,192	1,252	5,707
Payments to or for the States . . . . .	2,033	2,011	2,226	2,698	2,128
<b>Total Consolidated Revenue Fund . . . . .</b>	<b>22,346</b>	<b>26,099</b>	<b>28,805</b>	<b>34,033</b>	<b>45,330</b>
<b>Special Appropriations to or for the States</b>					
Mental Health Institutions—Contribu- tion to Capital Expenditure . . . . .	4,973	4,243	4,678	5,478	4,199
States Grants—Nursing Homes . . . . .	..	..	..	..	337
<b>Total Expenditure . . . . .</b>	<b>278,141</b>	<b>298,222</b>	<b>330,457</b>	<b>389,744</b>	<b>476,313</b>

Apparent minor errors are due to rounding.

\* In addition to the amounts shown allowances are paid by the Department of Social Services—see Table 51, page 153.

TABLE 2. HOSPITAL BENEFITS

NUMBER OF REGISTERED ORGANISATIONS, MEMBERSHIP AND COVERAGE—1962-63 TO 1970-71

<i>As at 30 June</i>	<i>No. of registered organisations</i>	<i>Membership*</i>	<i>Estimated* coverage</i>	<i>Percentage of population covered</i>
		<i>000's</i>	<i>000's</i>	<i>%</i>
1963 . . .	110	3,176	7,895	73
1964 . . .	112	3,286	8,194	74
1965 . . .	111	3,407	8,732	77
1966 . . .	111	3,489	8,915	78
1967 . . .	109	3,657	9,342	80
1968 . . .	109	3,680	9,254	77
1969 . . .	106	3,877	9,481	77
1970 . . .	103	3,996	9,892	79
1971 . . .	93	4,130	10,157	79

\* As advised by the organisations.

TABLE 3. HOSPITAL BENEFITS

NUMBER OF REGISTERED ORGANISATIONS, MEMBERSHIP AND COVERAGE—BY STATES—30 JUNE 1971

<i>State</i>	<i>No. of registered organisations</i>	<i>Membership as at 30 June 1971*</i>			<i>Total estimated coverage*</i>	<i>Approximate percentage of population covered</i>
		<i>Ordinary account</i>	<i>Special account</i>	<i>S.M.S.† scheme</i>		
		<i>000's</i>	<i>000's</i>	<i>000's</i>	<i>000's</i>	<i>%</i>
New South Wales . . .	35	1,586	31	6	3,909	82
Victoria . . .	24	1,217	10	4	3,063	87
Queensland . . .	7	366	5	1	943	52
South Australia . . .	10	426	4	4	1,069	85
Western Australia . . .	7	344	2	5	872	86
Tasmania . . .	10	116	1	1	301	76
Commonwealth . . .	93	4,056	53	21	10,157	79

\* As advised by the organisations. Australian Capital Territory included in New South Wales—Northern Territory included in South Australia, New South Wales and Queensland.

† Subsidised Medical Services.

TABLE 4. HOSPITAL BENEFITS

MEMBERSHIP AND COVERAGE OF THE SUBSIDISED MEDICAL SERVICES SCHEME—BY STATES—30 JUNE 1971

<i>Membership as at 30 June 1971*</i>							
<i>State</i>	<i>Low Income Members†</i>			<i>Unemployment, sickness and special beneficiaries</i>	<i>Migrants‡</i>	<i>Total membership</i>	<i>Total estimated coverage*</i>
	<i>Class A</i>	<i>Class B</i>	<i>Class C</i>				
New South Wales . . . . .	2,171	100	94	1,954	1,440	5,759	14,028
Victoria . . . . .	564	62	43	2,308	1,094	4,071	9,522
Queensland . . . . .	188	16	7	317	10	538	1,181
South Australia . . . . .	1,118	60	48	2,162	574	3,962	9,710
Western Australia . . . . .	1,559	59	39	2,433	1,086	5,176	14,298
Tasmania . . . . .	233	30	11	1,125	32	1,431	3,075
Commonwealth . . . . .	5,833	327	242	10,299	4,236	20,937	51,814

\* As advised by the organisations. Australian Capital Territory included in New South Wales—Northern Territory included in South Australia, New South Wales and Queensland.

† As from 1.3.71—

Class A—families with incomes up to \$46.50 a week

Class B—families with incomes from \$46.51 to \$49.50 a week

Class C—families with incomes from \$49.51 to \$52.50 a week

‡ Migrants are eligible for assistance under the Subsidised Medical Services Scheme for services rendered during the first two months after arrival in Australia. These figures represent the number of eligible migrants who were registered with a hospital benefits organisation as at 30 June 1971.

TABLE 5. HOSPITAL BENEFITS

BENEFITS PAID TO CONTRIBUTORS BY REGISTERED ORGANISATIONS—1962-63 TO 1970-71

<i>Year ended 30 June</i>	<i>Fund benefits</i>			<i>No. of days fund benefit paid</i>	<i>Average daily fund benefit</i>	<i>Average No. of days fund benefit paid per member</i>
	<i>Excluding ancillary</i>	<i>Ancillary</i>	<i>Total</i>			
	<i>\$'000</i>	<i>\$'000</i>	<i>\$'000</i>	<i>000's</i>	<i>\$</i>	
1963 . . . . .	35,783	944	36,727	10,419	3.43	3.32
1964 . . . . .	42,120	1,162	43,282	9,576	4.40	2.86
1965 . . . . .	48,282	1,537	49,819	9,988	4.83	3.00
1966 . . . . .	55,330	2,232	57,562	10,252	5.40	2.97
1967 . . . . .	66,379	2,632	69,011	10,444	6.36*	2.91
1968 . . . . .	78,903	2,879	81,782	10,572	7.46	2.89
1969 . . . . .	93,901	3,182	97,083	10,963	8.57	2.89
1970 . . . . .	115,532*	3,524	119,056*	11,576	9.98	2.94
1971 . . . . .	128,609	3,737	132,346	12,162	10.57	2.98

Subsidised Medical Services Scheme statistics have been included in the above figures.

\* Revised.

TABLE 6. HOSPITAL BENEFITS

BENEFITS PAID TO CONTRIBUTORS BY REGISTERED ORGANISATIONS—BY STATES—1970-71

State*	Fund benefits			No. of days fund benefit paid	Average daily fund benefit	Average No. of days fund benefit paid per member
	Excluding ancillary	Ancillary	Total			
	\$'000	\$'000	\$'000	000's	\$	
New South Wales .	55,976	1,414	57,390	5,138	10.90	3.20
Victoria .	33,922	1,081	35,003	3,002	11.30	2.45
Queensland .	10,444	309	10,753	1,367	7.64	3.85
South Australia .	14,003	574	14,576	1,349	10.38	3.07
Western Australia .	10,651	272	10,922	946	11.26	2.78
Tasmania .	3,613	88	3,701	361	10.02	3.07
Commonwealth .	128,609	3,737	132,346	12,162	10.57	2.98

Apparent minor errors in totals are due to rounding.

\* Benefits paid to Australian Capital Territory contributors included in New South Wales—Northern Territory included in South Australia, New South Wales and Queensland.

TABLE 7. HOSPITAL BENEFITS

AMOUNT OF COMMONWEALTH AND FUND BENEFITS PAID AND OTHER COMMONWEALTH PAYMENTS—1963-64 TO 1970-71

Year ended 30 June	Commonwealth benefits					Other Commonwealth payments			Total Com- mon- wealth expendi- ture	Total fund benefits
	Insured patients	Un- insured patients	Hospital- isation† free of charge	Pen- sioner patients	Total Com- mon- wealth benefits	Special account deficits	S.M.S.* fund benefit re- imburse- ments	S.M.S.* manage- ment expenses		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1964 .	18,657	2,578		13,354	34,589	3,749			38,338	43,282
1965 .	19,221	2,614		13,585	35,420	3,576			38,995	49,819
1966 .	19,616	2,464		14,665	36,745	2,873			39,619	57,562
1967 .	19,740	2,376		18,731	40,847	3,784			44,631	69,011
1968 .	19,807	2,298		23,665	45,770	4,494			50,264	81,782
1969 .	20,425	2,240		24,520	47,185	7,113			54,298	97,083
1970† .	21,596	2,143		24,157	47,895	16,063	425	33	64,415	119,056
1971 .	22,319	1,107	2,897	23,555	49,878	19,605	3,616	269	73,367	132,346

Apparent minor errors in totals are due to rounding.

\* Subsidised Medical Services Scheme.

† Introduced 1.7.70. A payment of \$2 per day is made to hospitals for patients hospitalised free of charge.

‡ Revised.

TABLE 8. HOSPITAL BENEFITS

AMOUNT OF COMMONWEALTH AND FUND BENEFITS PAID AND OTHER COMMONWEALTH PAYMENTS—BY STATES—1970-71

State*	Commonwealth benefits					Other Commonwealth payments			Total Commonwealth expenditure	Total fund benefits
	Insured patients	Uninsured patients	Hospitalisation free of charge	Pensioner patients	Total Commonwealth benefits	Special account deficits	S.M.S. fund benefit	S.M.S. management expenses		
							reimbursements			
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
New South Wales . . . . .	9,515	465	134	9,269	19,382	10,518	1,661	125	31,685	57,390
Victoria . . . . .	5,634	239	136	5,255	11,264	3,823	734	55	15,877	35,003
Queensland . . . . .	2,108	163	2,381	3,813	8,465	2,284	9	1	10,760	10,753
South Australia . . . . .	2,449	104	201	2,113	4,866	2,040	378	28	7,313	14,576
Western Australia . . . . .	1,895	103	42	2,058	4,098	789	672	48	5,606	10,922
Tasmania . . . . .	718	33	4	1,048	1,803	150	161	12	2,127	3,701
Commonwealth	22,319	1,107	2,897	23,555	49,878	19,605	3,616	269	73,367	132,346

Apparent minor errors in totals are due to rounding.

\* Australian Capital Territory included in New South Wales—Northern Territory: Insured patients (Commonwealth and fund benefit) included in South Australia, New South Wales and Queensland; uninsured patients, hospitalisation free of charge and pensioner patients included in South Australia only.

TABLE 9. HOSPITAL BENEFITS

NUMBER OF DAYS FOR WHICH COMMONWEALTH HOSPITAL BENEFITS WERE PAID—1963-64 TO 1970-71

Year ended 30 June	Insured			Uninsured	Hospitalisation* free of charge	Pensioners	Total
	Ordinary account	Special account	S.M.S. scheme				
	000's	000's	000's	000's	000's	000's	000's
1964	7,157	2,230		3,221		3,709	16,317
1965	8,180	1,490		3,209		3,770	16,648
1966	8,382	1,478		3,080		4,074	17,015
1967	8,499	1,421		2,970		4,516	17,407
1968	8,588	1,368		2,872		4,726	17,555
1969	8,769	1,498		2,800		4,905	17,972
1970	8,877	1,919	58	2,678		4,840	18,372
1971	8,720	2,045	447	1,384	1,448	4,712	18,757

Apparent minor errors in totals are due to rounding.

\* Introduced 1 July 1970. A payment of \$2 per day is made to hospitals for patients hospitalised free of charge.

TABLE 10. HOSPITAL BENEFITS

NUMBER OF DAYS FOR WHICH COMMONWEALTH HOSPITAL BENEFITS WERE PAID—BY STATES—1970-71

State*	Insured			Uninsured	Hospitalisation free of charge	Pensioners	Total
	Ordinary account	Special account	S.M.S. scheme				
	000's	000's	000's	000's	000's	000's	000's
New South Wales . . .	3,574	996	216	581	67	1,854	7,287
Victoria . . . . .	2,361	373	96	299	68	1,051	4,247
Queensland . . . . .	692	361	6	204	1,191	765	3,219
South Australia . . .	980	201	47	131	100	423	1,881
Western Australia . .	813	75	62	129	21	412	1,512
Tasmania . . . . .	300	39	21	41	2	208	610
Commonwealth	8,720	2,045	447	1,384	1,448	4,712	18,757

Apparent minor errors in totals are due to rounding.

\* Australian Capital Territory included in New South Wales—Northern Territory: Insured patients included in South Australia, New South Wales and Queensland; uninsured patients, hospitalisation free of charge and pensioner patients included in South Australia only.

TABLE 11. HOSPITAL BENEFITS

NUMBER OF APPROVED HOSPITALS AND NUMBER OF BEDS—1962-63 TO 1970-71

As at 30 June	No. of approved hospitals			No. of beds			No. of beds per 1,000 of population
	Public	Private	Total	Public	Private	Total	
1963 . . . . .	745	395	1,140	57,842	11,772	69,614	6.4
1964 . . . . .	750	392	1,142	58,177	12,039	70,216	6.3
1965 . . . . .	753	376	1,129	59,042	12,251	71,293	6.3
1966 . . . . .	759	350	1,109	60,173	12,162	72,335	6.2
1967 . . . . .	760	338	1,098	61,221	12,423	73,644	6.2
1968 . . . . .	762	331	1,093	61,657	12,455	74,112	6.2
1969 . . . . .	757	325	1,082	62,162	12,605	74,767	6.1
1970 . . . . .	764	322	1,086	62,401	13,033	75,434	6.0
1971 . . . . .	765	324	1,089	63,670	13,571	77,241	6.0

TABLE 12. HOSPITAL BENEFITS

NUMBER OF APPROVED HOSPITALS—BY STATES—30 JUNE 1971

State	Public			Private			Total all hospitals
	State	Religious and charitable	Total	Private enterprise	Religious and charitable	Total	
New South Wales	221	31	252	81	21	102	354
Victoria	154	6	160	80	19	99	259
Queensland	137	13	150	9	28	37	187
South Australia	63	3	66	44	12	56	122
Western Australia	100	5	105	8	13	21	126
Tasmania	26	..	26	3	5	8	34
Australian Capital Territory	2	..	2	1	..	1	3
Northern Territory	4	..	4	..	..	..	4
Commonwealth	707	58	765	226	98	324	1,089

TABLE 13. HOSPITAL BENEFITS

NUMBER OF BEDS IN APPROVED HOSPITALS—BY STATES—30 JUNE 1971

State	Public			Private			Total No. of beds	No. of beds per 1,000 of population
	State	Religious and charitable	Total	Private enterprise	Religious and charitable	Total		
New South Wales	20,946	3,414	24,360	2,328	1,594	3,922	28,282	6.1
Victoria	13,354	703	14,057	1,877	1,697	3,574	17,631	5.0
Queensland	10,941	631	11,572	320	1,945	2,265	13,837	7.6
South Australia	4,245	604	4,849	1,441	637	2,078	6,927	5.9
Western Australia	5,174	46	5,220	151	1,099	1,250	6,470	6.4
Tasmania	2,278	..	2,278	59	399	458	2,736	6.9
Australian Capital Territory	660	..	660	24	..	24	684	4.8
Northern Territory	674	..	674	..	..	..	674	8.9
Commonwealth	58,272	5,398	63,670	6,200	7,371	13,571	77,241	6.0

TABLE 14. NURSING HOME BENEFITS

AMOUNT OF COMMONWEALTH NURSING HOME BENEFITS PAID—1962-63 TO 1970-71

Year ended 30 June	Public nursing homes		Private nursing homes		All nursing homes		Total
	Ordinary benefit	Supplementary benefit	Ordinary benefit	Supplementary benefit	Ordinary benefit	Supplementary benefit	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
1963*	2,513		4,133		6,646		6,646
1964 . . .	6,503		11,377		17,880		17,880
1965 . . .	6,773		13,023		19,796		19,796
1966 . . .	6,970		14,253		21,223		21,223
1967 . . .	7,249		15,518		22,767		22,767
1968 . . .	7,694		16,792		24,486		24,486
1969 . . .	7,801	1,406	18,238	4,199	26,039	5,605	31,643
1970 . . .	8,397	5,730	20,055	12,777	28,453	18,507	46,960
1971 . . .	8,187	5,303	21,562	14,424	29,750	19,727	49,477

Apparent minor errors in totals are due to rounding.

As from 1 January 1969 all patients received ordinary benefit of \$2 a day and intensive care patients received a supplementary benefit of \$3 a day.

\* Six months, 1 January 1963 to 30 June 1963.

TABLE 15. NURSING HOME BENEFITS

AMOUNT OF COMMONWEALTH NURSING HOME BENEFITS PAID—BY STATES—1970-71

State	Public nursing homes		Private nursing homes		All nursing homes		Total
	Ordinary benefit	Supplementary benefit	Ordinary benefit	Supplementary benefit	Ordinary benefit	Supplementary benefit	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
New South Wales . . .	1,988	777	11,576	7,036	13,564	7,814	21,378
Victoria . . .	2,547	1,614	2,868	2,321	5,415	3,935	9,350
Queensland . . .	1,893	1,573	2,615	1,928	4,508	3,500	8,008
South Australia* . . .	469	426	2,130	1,495	2,599	1,921	4,520
Western Australia . . .	964	667	1,712	1,306	2,676	1,973	4,650
Tasmania . . .	327	246	616	324	942	570	1,512
Australian Capital Territory . . .	..	..	44	14	44	14	58
Commonwealth	8,187	5,303	21,562	14,424	29,750	19,727	49,477

Apparent minor errors in totals are due to rounding.

\* Includes Northern Territory.

TABLE 16. NURSING HOME BENEFITS

NUMBER OF DAYS FOR WHICH COMMONWEALTH NURSING HOME BENEFITS WERE PAID—1962-63 TO 1970-71

Year ended 30 June	Public nursing homes		Private nursing homes		All nursing homes	
	Ordinary benefit	Supplementary benefit	Ordinary benefit	Supplementary benefit	Ordinary benefit	Supplementary benefit
	000's	000's	000's	000's	000's	000's
1963*	1,257		2,067		3,324	
1964 . . . . .	3,252		5,688		8,940	
1965 . . . . .	3,386		6,512		9,898	
1966 . . . . .	3,485		7,127		10,612	
1967 . . . . .	3,624		7,759		11,383	
1968 . . . . .	3,847		8,396		12,243	
1969 . . . . .	3,900	469	9,119	1,400	13,019	1,868
1970 . . . . .	4,197	1,910	10,028	4,259	14,225	6,169
1971 . . . . .	4,094	1,768	10,781	4,808	14,875	6,576

\* Six months 1 January 1963 to 30 June 1963.

Apparent minor errors in totals are due to rounding.

As from 1 January 1969 all patients received ordinary benefit of \$2 per day, and intensive care patients received a supplementary benefit of \$3 per day.

Number of days for which ordinary benefit is paid includes the number of supplementary benefit days.

TABLE 17. NURSING HOME BENEFITS

NUMBER OF DAYS FOR WHICH COMMONWEALTH NURSING HOME BENEFITS WERE PAID—BY STATES—1970-71

State	Public nursing homes		Private nursing homes		All nursing homes	
	Ordinary benefit	Supplementary benefit	Ordinary benefit	Supplementary benefit	Ordinary benefit	Supplementary benefit
	000's	000's	000's	000's	000's	000's
New South Wales . . . . .	994	259	5,788	2,345	6,782	2,605
Victoria . . . . .	1,273	538	1,434	774	2,707	1,312
Queensland . . . . .	946	524	1,308	643	2,254	1,167
South Australia* . . . . .	235	142	1,065	498	1,300	640
Western Australia . . . . .	482	222	856	435	1,338	658
Tasmania . . . . .	163	82	308	108	471	190
Australian Capital Territory . . . . .	..	..	22	5	22	5
Commonwealth . . . . .	4,094	1,768	10,781	4,808	14,875	6,576

Apparent minor errors in totals are due to rounding

\* Includes Northern Territory.

Number of days for which ordinary benefit is paid includes the number of supplementary benefit days.

TABLE 18 NURSING HOME BENEFITS

NUMBER OF APPROVED NURSING HOMES AND NUMBER OF BEDS—1962-63 TO 1970-71

<i>As at 30 June</i>	<i>No. of approved nursing homes</i>			<i>No. of beds</i>			<i>No. of beds per 1,000 of population</i>
	<i>Public</i>	<i>Private</i>	<i>Total homes</i>	<i>Public</i>	<i>Private</i>	<i>Total beds</i>	
1963 . . . . .	91	811	902	9,405	16,130	25,535	2.3
1964 . . . . .	98	850	948	10,353	18,332	28,685	2.6
1965 . . . . .	103	919	1,022	10,648	20,642	31,290	2.8
1966 . . . . .	104	955	1,059	10,851	22,224	33,075	2.9
1967 . . . . .	111	987	1,098	11,426	24,111	35,537	3.0
1968 . . . . .	114	1,008	1,122	11,832	26,051	37,883	3.2
1969 . . . . .	119	1,016	1,135	12,088	28,079	40,167	3.3
1970 . . . . .	119	1,038	1,157	12,495	30,408	42,903	3.4
1971 . . . . .	123	1,071	1,194	12,761	33,989	46,750	3.7

TABLE 19. NURSING HOME BENEFITS

NUMBER OF APPROVED NURSING HOMES—BY STATES—30 JUNE 1971

<i>State</i>	<i>Public</i>			<i>Private</i>			<i>Total all nursing homes</i>
	<i>State</i>	<i>Religious and charitable</i>	<i>Total</i>	<i>Private enterprise</i>	<i>Religious and charitable</i>	<i>Total</i>	
New South Wales . . . . .	12	15	27	369	96	465	492
Victoria . . . . .	15	28	43	197	21	218	261
Queensland . . . . .	10	13	23	91	39	130	153
South Australia* . . . . .	2	2	4	92	38	130	134
Western Australia . . . . .	9	13	22	59	27	86	108
Tasmania . . . . .	3	1	4	15	26	41	45
Australian Capital Territory . . . . .	..	..	..	..	1	1	1
Commonwealth	51	72	123	823	248	1,071	1,194

\* Includes Northern Territory.

TABLE 20. NURSING HOME BENEFITS

NUMBER OF BEDS IN APPROVED NURSING HOMES—BY STATES—30 JUNE 1971

State	Public			Private			Total No. of beds	No. of beds per 1,000 of population
	State	Religious and charitable	Total	Private enterprise	Religious and charitable	Total		
New South Wales	1,945	1,133	3,078	14,283	3,959	18,242	21,320	4.6
Victoria	3,001	999	4,000	3,802	811	4,613	8,613	2.5
Queensland	2,013	849	2,862	3,193	976	4,169	7,031	3.8
South Australia*	262	453	715	2,005	1,231	3,236	3,951	3.1
Western Australia	844	758	1,602	1,784	889	2,673	4,275	4.2
Tasmania	468	36	504	311	674	985	1,489	3.8
Australian Capital Territory	..	..	..	..	71	71	71	0.5
Commonwealth	8,533	4,228	12,761	25,378	8,611	33,989	46,750	3.7

\* Includes Northern Territory.

TABLE 21. HANDICAPPED CHILDREN'S BENEFIT

NUMBER OF APPROVED HOMES, NUMBER OF CHILDREN ACCOMMODATED AND AMOUNT OF BENEFIT PAID—1968-69 TO 1970-71

As at 30 June	No. of approved handicapped persons' homes as at 30 June	No. of handicapped children accommodated at 30 June	No. of days for which benefit paid	Total amount benefit paid
				\$
1969	17	926	50,680*	76,020*
1970	36	1,155	323,568	485,353
1971	44	1,262	303,830	455,745

\* Six months 1 January 1969 to 30 June 1969.

TABLE 22. HANDICAPPED CHILDREN'S BENEFIT

NUMBER OF APPROVED HOMES, NUMBER OF CHILDREN ACCOMMODATED AND AMOUNT OF BENEFIT PAID—BY STATES—1970-71

State	No. of approved handicapped persons' homes as at 30 June 1971	No. of handicapped children accommodated at 30 June 1971	No. of days for which benefit paid	Total amount benefit paid
				\$
New South Wales	15	458	106,797	160,195
Victoria	9	308	59,430	89,145
Queensland	6	86	22,279	33,419
South Australia	4	223	60,687	91,030
Western Australia	5	134	40,225	60,337
Tasmania	3	44	11,925	17,888
Australian Capital Territory	1	1	143	215
Northern Territory	1	8	2,344	3,516
Commonwealth	44	1,262	303,830	455,745

TABLE 23. MEDICAL BENEFITS

NUMBER OF REGISTERED ORGANISATIONS, MEMBERSHIP AND COVERAGE—1962-63 TO 1970-71

<i>As at 30 June</i>	<i>No. of registered organisations</i>	<i>Membership*</i>	<i>Estimated* coverage</i>	<i>Percentage of population covered</i>
		<i>000's</i>	<i>000's</i>	<i>%</i>
1963 . . .	78	2,952	7,686	71
1964 . . .	81	3,095	8,058	73
1965 . . .	80	3,217	8,462	75
1966 . . .	80	3,313	8,679	76
1967 . . .	78	3,418	8,846	76
1968 . . .	78	3,456	8,817	74
1969 . . .	78	3,635	9,017	74
1970 . . .	77	3,753	9,453†	75
1971 . . .	81	3,916	9,801	77

\* As advised by the organisations.

† Revised.

TABLE 24. MEDICAL BENEFITS

NUMBER OF REGISTERED ORGANISATIONS, MEMBERSHIP AND COVERAGE—BY STATES—30 JUNE 1971

<i>State</i>	<i>No. of registered organisations</i>	<i>Membership as at 30 June 1971*</i>			<i>Total estimated coverage*</i>	<i>Approximate percentage of population covered</i>
		<i>Ordinary account</i>	<i>Special account</i>	<i>S.M.S.† scheme</i>		
		<i>000's</i>	<i>000's</i>	<i>000's</i>	<i>000's</i>	<i>%</i>
New South Wales . . .	30	1,462	35	6	3,693	77
Victoria . . .	19	1,159	5	4	2,942	84
Queensland . . .	7	365	6	1	956	52
South Australia . . .	7	403	2	4	1,050	83
Western Australia . . .	8	338	2	5	862	85
Tasmania . . .	10	116	1	1	298	75
Commonwealth . . .	81	3,843	50	22	9,801	77

\* As advised by the organisations. Australian Capital Territory included in New South Wales—Northern Territory included in South Australia, New South Wales and Queensland.

† Subsidised Medical Services.

TABLE 25. MEDICAL BENEFITS

MEMBERSHIP AND COVERAGE OF THE SUBSIDISED MEDICAL SERVICES SCHEME—BY STATES—30 JUNE 1971

<i>Membership as at 30 June 1971*</i>							
<i>State</i>	<i>Low income members†</i>			<i>Unemployment, sickness and special beneficiaries</i>	<i>Migrants‡</i>	<i>Total membership</i>	<i>Total estimated coverage*</i>
	<i>Class A</i>	<i>Class B</i>	<i>Class C</i>				
New South Wales . . .	2,268	102	100	2,249	1,457	6,176	14,987
Victoria . . .	553	62	43	2,297	1,094	4,049	9,459
Queensland . . .	369	53	27	865	143	1,457	3,305
South Australia . . .	1,116	60	48	2,160	573	3,957	9,699
Western Australia . . .	1,561	60	39	2,434	1,086	5,180	14,308
Tasmania . . .	235	30	11	1,128	32	1,436	3,096
Commonwealth	6,102	367	268	11,133	4,385	22,255	54,854

\* As advised by the organisations. Australian Capital Territory included in New South Wales—Northern Territory included in South Australia, New South Wales and Queensland.

† As from 1 March 1971—

Class A—families with incomes up to \$46.50 a week

Class B—families with incomes from \$46.51 to \$49.50 a week

Class C—families with incomes from \$49.51 to \$52.50 a week

‡ Migrants are eligible for assistance under the Subsidised Medical Services Scheme for services rendered during the first two months after arrival in Australia. These figures represent the number of eligible migrants who were registered with a medical benefits organisation as at 30 June 1971.

TABLE 26. MEDICAL BENEFITS

MEDICAL SERVICES RECEIVED BY CONTRIBUTORS TO REGISTERED ORGANISATIONS—FEE-FOR-SERVICE ORGANISATIONS ONLY—1962-63 TO 1970-71

<i>Year ended 30 June</i>	<i>No. of services received</i>	<i>Percentage of G.P. services to total No. of services</i>	<i>Average No. of services per contributor</i>	<i>Average No. of services per person covered</i>	<i>Average cost per service*</i>
	<i>000's</i>	<i>%</i>			<i>\$</i>
1963 . . . . .	23,431	72	8.0	3.1	3.69
1964 . . . . .	24,308	71	7.8	3.1	3.85
1965 . . . . .	25,847	70	8.3	3.2	4.02
1966 . . . . .	28,210	69	8.7	3.3	4.20
1967 . . . . .	29,269	68	8.7	3.4	4.48
1968 . . . . .	31,991	63	9.4	3.7	4.67
1969 . . . . .	34,134	63	9.7	3.8	4.87
1970 . . . . .	38,076	62	10.4	4.2	5.13
1971 . . . . .	39,555	62	10.3	4.1	6.04

\* Average cost per matched service only from 1967-68 (a matched service is one for which both Commonwealth benefit and fund benefit are paid).

Subsidised Medical Services Scheme statistics have been included in the above figures.

TABLE 27. MEDICAL BENEFITS

MEDICAL SERVICES RECEIVED BY CONTRIBUTORS TO REGISTERED ORGANISATIONS—FEE-FOR-SERVICE ORGANISATIONS ONLY—BY STATES—1970-71

State†	No. of services received*		Percentage of G.P. services to total No. of services	Average No. of services per contributor	Average No. of services per person covered	Average cost per matched service
	Matched	Unmatched				
	000's	000's	%			\$
New South Wales	14,655	671	62	10.3	4.2	6.58
Victoria	10,224	409	65	9.3	3.6	5.98
Queensland	4,162	187	65	12.2	4.7	5.26
South Australia	4,297	578	59	11.9	4.7	5.56
Western Australia	2,834	363	59	9.9	3.9	5.55
Tasmania	1,049	125	54	10.4	4.0	5.35
Commonwealth	37,222	2,333	62	10.3	4.1	6.04

\* A matched service is one for which both Commonwealth benefit and fund benefit are paid. Either no Commonwealth benefit or no fund benefit is paid for an unmatched service.

† Australian Capital Territory included in New South Wales—Northern Territory included in South Australia, New South Wales and Queensland.

Subsidised Medical Services Scheme statistics have been included in the above figures.

TABLE 28. MEDICAL BENEFITS

AMOUNT OF COMMONWEALTH AND FUND BENEFITS PAID AND OTHER COMMONWEALTH PAYMENTS—1962-63 TO 1970-71

Year ended 30 June	Common-wealth benefits	Other Commonwealth payments			Total Commonwealth expenditure	Fund benefits		
		Special account deficits	S.M.S.* fund benefit reimbursements	S.M.S.* management expenses		Excluding ancillary	Ancillary	Total fund benefits
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1963	22,982	492			23,474	32,042	1,564	33,606
1964	24,232	615			24,847	34,442	1,708	36,150
1965	34,594	682			35,276	36,880	1,996	38,876
1966	40,507	775			41,282	42,560	1,942	44,502
1967	42,884	956			43,841	46,898	2,042	48,940
1968	45,475	956			46,431	50,332	2,244	52,576
1969	48,411	1,146			49,556	55,539	2,492	58,031
1970	54,935	1,820	97	12	56,863	65,693	2,857	68,550
1971	92,361	2,231	885	128	95,604	81,231	2,657	83,888

Apparent minor errors in totals are due to rounding.

\* Subsidised Medical Services Scheme.

TABLE 29. MEDICAL BENEFITS

AMOUNT OF COMMONWEALTH AND FUND BENEFITS PAID AND OTHER COMMONWEALTH PAYMENTS—BY STATES—1970-71

State*	Common-wealth benefits	Other Commonwealth payments			Total Commonwealth expenditure	Fund benefits		
		Special account deficits	S.M.S. fund benefit reimbursements	S.M.S. management expenses		Ex-cluding ancillary	Ancillary	Total fund benefits
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
New South Wales .	36,669	1,643	434	54	38,799	36,124	1,246	37,370
Victoria .	23,871	340	165	21	24,397	22,435	548	22,982
Queensland .	8,984	81	63	8	9,136	7,271	293	7,564
South Australia .	11,767	67	102	20	11,956	7,948	280	8,228
Western Australia .	8,229	85	103	20	8,437	5,562	184	5,746
Tasmania .	2,841	16	18	4	2,879	1,891	105	1,997
Commonwealth	92,361	2,231	885	128	95,604	81,231	2,657	83,888

Apparent minor errors in totals are due to rounding.

\* Australian Capital Territory included in New South Wales—Northern Territory included in South Australia, New South Wales, and Queensland.

TABLE 30. MEDICAL BENEFITS

COST OF MEDICAL SERVICES AND HOW COST IS MET—1962-63 TO 1970-71

Year ended 30 June	Total cost of matched services*	Percentage of total cost met by—( fee-for-service organisations)		
		Fund Benefit	Commonwealth Benefit	Insured Member
	\$'000	%	%	%
1963 . . . . .	86,213	37.1	26.6	36.3
1964 . . . . .	93,313	36.8	25.9	37.3
1965 . . . . .	104,624	35.2	32.9	31.9
1966 . . . . .	119,021	35.7	33.9	30.4
1967 . . . . .	131,770	35.5	32.2	32.3
1968 . . . . .	141,982	35.4	32.0	32.6
1969 . . . . .	157,862	35.1	30.2	34.7
1970 . . . . .	183,406†	35.6	28.9	35.5
1971 . . . . .	224,674	36.0	39.6	24.4

\* As from 1969-70 the total cost excludes services by contract organisations. During the year 1970-71 there were 223,481 services performed by contract organisations, the total cost being \$772,494.

Subsidised Medical Services Scheme statistics have been included in the above figures.

† Revised.

TABLE 31. MEDICAL BENEFITS

COST OF MEDICAL SERVICES AND HOW COST IS MET—FEE-FOR-SERVICE ORGANISATIONS—BY STATES—1970-71

State*	Total cost of matched services	Percentage of total cost met by—		
		Fund Benefit	Commonwealth Benefit	Insured Member
	\$'000	%	%	%
New South Wales	96,388	37.5	37.9	24.6
Victoria . . . . .	61,139	36.5	38.7	24.7
Queensland . . . . .	21,886	33.2	41.1	25.7
South Australia . . . . .	23,908	33.2	43.5	23.3
Western Australia . . . . .	15,734	34.3	44.2	21.5
Tasmania . . . . .	5,618	32.6	43.5	24.0
Commonwealth . . . . .	224,674	36.0	39.6	24.4

Subsidised Medical Services Scheme statistics have been included in the above figures.

\* Australian Capital Territory included in New South Wales—Northern Territory included in South Australia, New South Wales and Queensland.

TABLE 32. MEDICAL BENEFITS

LEVEL OF OBSERVANCE OF THE MOST COMMON FEE—BY STATES

Part or item in medical benefits schedule	Level of observance(%)*									
	New South Wales		Queensland		South Australia		Western Australia		Tasmania	
	Dec.† Qtr	March‡ Qtr	Dec. Qtr	March Qtr	Dec. Qtr	March Qtr	Dec. Qtr	March Qtr	Dec. Qtr	March Qtr
General practitioner—										
Surgery . . . . .	76	76	75	74	90	89	87	90	67	65
Home visits . . . . .	73	68	75	71	83	78	79	74	50	50
Specialist—										
Initial consultations . . . . .	74	73	91	91	84	86	69	72	56	57
Subsequent consultations . . . . .	54	54	80	78	78	79	76	79	61	60
Consultant physician—										
Initial consultations . . . . .	96	97	89	92	86	84	88	85	91	92
Subsequent consultations . . . . .	77	77	87	87	72	67	85	84	68	79
Obstetrics . . . . .	72	72	66	66	78	82	82	82	73	81
Anaesthetics . . . . .	80	84	85	85	89	90	79	81	85	85
Pathology . . . . .	93	94	97	96	97	97	88	88	98	98
Radiology . . . . .	79	79	52	59	85	85	92	92	87	87
Assistance at operation . . . . .	76	76	86	90	90	90	83	85	87	89
Operations . . . . .	81	81	77	78	81	81	83	83	77	78
Whole of schedule . . . . .	77	77	76	76	88	87	86	88	71	70

\* Percentage of services for which the most common fee or less was charged based on a survey of claims processed by the principal registered organisations in each State.

† Claims processed during the quarter ended 31 December 1970.

‡ Claims processed during the quarter ended 31 March 1971.

Figures for Victoria not available.

TABLE 33. PENSIONER MEDICAL SERVICE

NUMBER ENROLLED, NUMBER OF SERVICES RECEIVED AND AVERAGE NUMBER OF SERVICES PER ENROLLED PERSON—1962-63 TO 1970-71

Year ended 30 June	No. of pensioners and dependants enrolled at 30 June	Percentage of population enrolled	No. of services received			Average No. of services per enrolled person
			Surgery	Domiciliary	Total	
	000's	%	000's	000's	000's	
1963 . . . . .	831	7.7	4,278	3,111	7,389	9.0
1964 . . . . .	844	7.7	4,406	3,020	7,426	8.9
1965 . . . . .	849	7.5	4,389	2,859	7,248	8.6
1966 . . . . .	1,006	8.8	4,670	2,824	7,494	8.4
1967 . . . . .	1,043	9.0	5,215	2,972	8,187	8.0
1968 . . . . .	1,115	9.3	5,757	2,898	8,655	7.9
1969 . . . . .	1,164	9.5	6,291	2,866	9,157	8.1
1970 . . . . .	1,187	9.5	6,761	2,796	9,557	8.2
1971 . . . . .	1,216	9.5	7,157	2,783	9,939	8.2

TABLE 34. PENSIONER MEDICAL SERVICE

NUMBER ENROLLED, NUMBER OF SERVICES RECEIVED AND AVERAGE NUMBER OF SERVICES PER ENROLLED PERSON—BY STATES—1970-71

State	No. of pensioners and dependants enrolled at 30 June	Percentage of population enrolled	No. of services received			Average No. of services per enrolled person
			Surgery	Domiciliary	Total	
	000's	%	000's	000's	000's	
New South Wales*	458	9.5	2,767	1,010	3,777	8.3
Victoria . . . . .	313	8.9	1,723	838	2,561	8.3
Queensland . . . . .	197	10.8	1,231	375	1,606	8.2
South Australia†	120	9.5	672	323	995	8.4
Western Australia . . . . .	88	8.7	529	156	684	7.8
Tasmania . . . . .	40	10.2	234	82	316	7.9
Commonwealth . . . . .	1,216	9.5	7,157	2,783	9,939	8.2

\* Includes Australian Capital Territory.

† Includes Northern Territory.

TABLE 35. PENSIONER MEDICAL SERVICE

NUMBER OF PARTICIPATING DOCTORS, PAYMENTS TO DOCTORS AND AVERAGE COST PER ENROLLED PERSON—1962-63 TO 1970-71

<i>Year ended 30 June</i>	<i>No. of participating doctors at 30 June</i>	<i>Payments to doctors</i>	<i>Average payments to doctors</i>	<i>Average cost per enrolled person</i>
		\$'000	\$	\$
1963 . . . . .	6,025	9,146	1,520	12.24
1964 . . . . .	5,899	9,531	1,598	12.68
1965 . . . . .	5,896	9,320	1,578	11.05
1966 . . . . .	6,034	13,365	2,246	14.95
1967 . . . . .	6,175	14,351	2,360	14.03
1968 . . . . .	6,333	16,115	2,573	14.76
1969 . . . . .	6,417	16,912	2,665	14.93
1970 . . . . .	6,451	19,230	2,969	16.50
1971 . . . . .	6,617	19,898	3,045	16.51

TABLE 36. PENSIONER MEDICAL SERVICE

NUMBER OF PARTICIPATING DOCTORS, PAYMENTS TO DOCTORS AND AVERAGE COST PER ENROLLED PERSON—BY STATES—1970-71

<i>State</i>	<i>No. of participating doctors at 30 June</i>	<i>Payments to doctors</i>	<i>Average payments to doctors</i>	<i>Average cost per enrolled person</i>
		\$'000	\$	\$
New South Wales*	2,504	7,511	3,026	16.50
Victoria . . . . .	1,766	5,180	2,950	16.77
Queensland . . . . .	950	3,168	3,388	16.21
South Australia†	653	2,056	3,187	17.36
Western Australia . . . . .	532	1,345	2,679	15.42
Tasmania . . . . .	212	639	2,999	16.06
Commonwealth . . . . .	6,617	19,898	3,045	16.51

\* Includes Australian Capital Territory.

† Includes Northern Territory.

TABLE 37. PHARMACEUTICAL BENEFITS  
COST OF PHARMACEUTICAL BENEFITS—1961-62 TO 1970-71

Year ended 30 June	Commonwealth payments			Total payments	Patient contribution on general benefit prescriptions	Total cost
	Prescription benefits		Hospitals and miscellaneous services			
	General*	Pensioner†				
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1962 . . . . .	44,632	18,195	7,552	70,380	13,008	83,388
1963 . . . . .	47,093	19,831	9,986	76,910	14,742	91,653
1964 . . . . .	46,461	20,602	11,776	78,839	15,574	94,412
1965 . . . . .	48,930	21,564	11,708	82,203	16,841	99,044
1966 . . . . .	53,078	24,071	14,635	91,784	17,481	109,265
1967 . . . . .	56,656	29,280	15,344	101,281	18,347	119,628
1968 . . . . .	56,800	32,115	16,219	105,134	18,504	123,639
1969 . . . . .	64,025	36,609	17,739	118,373	20,129	138,503
1970 . . . . .	73,228	41,069	22,422	136,718	21,942	158,660
1971 . . . . .	88,176	45,181	26,918	160,275	24,384	184,659

Apparent minor errors in totals are due to rounding.

\* Benefits supplied to persons other than those eligible to receive pensioner pharmaceutical benefits.

† Benefits supplied to persons eligible to receive pensioner benefits.

TABLE 38. PHARMACEUTICAL BENEFITS  
COST OF PRESCRIPTION BENEFITS—BY STATES—1970-71

State	Commonwealth payments			Patient contribution or general benefits	Total cost of prescription benefits
	General benefits	Pensioner benefits	Total*		
	\$'000	\$'000	\$'000	\$'000	\$'000
New South Wales†	34,201	18,338	52,539	9,421	61,960
Victoria . . . . .	25,361	11,186	36,547	6,833	43,381
Queensland . . . . .	12,626	7,297	19,923	3,628	23,551
South Australia† . . . . .	8,083	4,315	12,399	2,255	14,653
Western Australia . . . . .	5,681	2,814	8,495	1,627	10,121
Tasmania . . . . .	2,224	1,231	3,454	620	4,074
Commonwealth . . . . .	88,176	45,181	133,357	24,384	157,741

Apparent minor errors in totals are due to rounding.

\* Excludes payments to hospitals and miscellaneous services.

† Includes Australian Capital Territory.

‡ Includes Northern Territory.

TABLE 39. PHARMACEUTICAL BENEFITS

PAYMENTS TO HOSPITALS AND MISCELLANEOUS SERVICES—BY STATES—1961-62 TO 1970-71

Year ended 30 June	Payments to hospitals							Total
	New South Wales*	Victoria	Queens- land	South Australia	Western Australia	Tasmania	Miscell- aneous	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1962 . . .	2,454	2,536	1,413	417	652	10	71	7,552
1963 . . .	2,890	3,360	1,856	597	822	247	214	9,986
1964 . . .	3,341	4,300	2,200	712	892	75	256	11,776
1965 . . .	3,039	4,396	2,114	738	764	414	243	11,708
1966 . . .	6,692	4,000	1,613	607	700	713	309	14,635
1967 . . .	5,233	5,000	2,041	1,110	1,100	538	322	15,344
1968 . . .	6,222	4,103	2,198	1,416	1,286	602	392	16,219
1969 . . .	6,586	4,160	2,655	1,403	1,803	706	427	17,739
1970 . . .	8,038	6,000	3,195	1,828	2,133	739	489	22,422
1971 . . .	9,194	7,229	4,097	2,153	2,679	919	646†	26,918

\* Includes the Australian Capital Territory.

† Miscellaneous services expenditure consisted of—

	\$'000
Biological products and prophylactic materials . . . . .	409
Commonwealth Medical Officers and Immigration Service . . . . .	31
Miscellaneous (including bush nursing and testing expenses) . . . . .	206

Apparent minor errors in totals are due to rounding.

TABLE 40. PHARMACEUTICAL BENEFITS

DISSECTION OF BENEFIT PRESCRIPTION COSTS INTO INGREDIENT COST AND APPROVED SUPPLIERS' REMUNERATION—1961-62 TO 1970-71

Year ended 30 June	Cost of ingredients and containers	Suppliers' remuneration	Total cost
	\$'000	\$'000	\$'000
1962 . . .	46,714	29,121	75,835
1963 . . .	49,113	32,553	81,666
1964 . . .	49,398	33,239	82,637
1965 . . .	52,139	35,197	87,336
1966 . . .	57,293	37,337	94,630
1967 . . .	63,676	40,608	104,284
1968 . . .	66,662	40,758	107,420
1969 . . .	75,314	45,450	120,764
1970 . . .	85,821	50,418	136,239
1971 . . .	99,366	58,375	157,741

Apparent minor errors in totals are due to rounding.

Cost of ingredients and containers includes payments to suppliers for wastage on broken quantities of ready prepared items.

Remuneration includes markup on wholesale price and professional fees but does not include discount allowed to suppliers by wholesalers and manufacturers.

Excludes costs in relation to hospitals and miscellaneous services.

TABLE 41. PHARMACEUTICAL BENEFITS

DISSECTION OF BENEFIT PRESCRIPTION COSTS INTO INGREDIENT COST AND APPROVED SUPPLIERS' REMUNERATION—BY STATES—1970-71

<i>State</i>	<i>Cost of ingredients and containers</i>	<i>Suppliers' remuneration</i>	<i>Total cost</i>
	\$'000	\$'000	\$'000
New South Wales*	39,089	22,871	61,960
Victoria	27,430	15,951	43,381
Queensland	14,713	8,839	23,551
South Australia†	9,214	5,439	14,653
Western Australia	6,351	3,770	10,121
Tasmania	2,569	1,505	4,074
Commonwealth	99,366	58,375	157,741

Apparent minor errors in totals are due to rounding.

Cost of ingredients and containers includes payments to suppliers for wastages on broken quantities of ready-prepared items.

Remuneration includes mark up on wholesale price and professional fees, but does not include discount allowed to suppliers by wholesalers and manufacturers.

Excludes costs in relation to hospitals and miscellaneous services.

\* Includes Australian Capital Territory.

† Includes Northern Territory.

TABLE 42. PHARMACEUTICAL BENEFITS

NUMBER OF BENEFIT PRESCRIPTIONS AND AVERAGE COST PER PRESCRIPTION—1961-62 TO 1970-71

<i>Year ended 30 June</i>	<i>No. of benefit prescriptions</i>			<i>Average cost per benefit prescription*</i>		
	<i>General benefits</i>	<i>Pensioner benefits</i>	<i>Total</i>	<i>General benefits</i>	<i>Pensioner benefits</i>	<i>Total</i>
	000's	000's	000's	\$	\$	\$
1962	26,050	11,664	37,714	2.22	1.56	2.01
1963	29,518	12,674	42,192	2.09	1.57	1.93
1964	31,040	13,317	44,357	2.00	1.55	1.86
1965	33,715	13,841	47,556	1.95	1.56	1.83
1966	35,085	14,908	49,993	2.01	1.61	1.89
1967	36,751	16,936	53,687	2.04	1.73	1.94
1968	37,053	18,370	55,423	2.03	1.75	1.94
1969	40,453	19,954	60,408	2.08	1.83	2.00
1970	44,071	21,504	65,575	2.16	1.91	2.08
1971	48,971	22,515	71,487	2.30	2.01	2.21

Apparent minor errors in totals are due to rounding.

Excludes benefit prescriptions dispensed by hospitals and miscellaneous services.

\* Includes patient contribution where applicable.

TABLE 43. PHARMACEUTICAL BENEFITS

NUMBER OF BENEFIT PRESCRIPTIONS AND AVERAGE COST PER PRESCRIPTION—BY STATES—1970-71

State	No. of benefit prescriptions			Average cost per benefit prescription*		
	General benefits	Pensioner benefits	Total	General benefits	Pensioner benefits	Total
	000's	000's	000's	\$	\$	\$
New South Wales† . . . . .	18,913	9,188	28,101	2.31	2.00	2.20
Victoria . . . . .	13,748	5,409	19,157	2.34	2.07	2.26
Queensland . . . . .	7,275	3,792	11,067	2.23	1.92	2.13
South Australia‡ . . . . .	4,527	2,127	6,654	2.28	2.03	2.20
Western Australia . . . . .	3,265	1,406	4,671	2.24	2.00	2.17
Tasmania . . . . .	1,243	594	1,837	2.29	2.07	2.22
Commonwealth . . . . .	48,971	22,515	71,487	2.30	2.01	2.21

Excludes benefit prescriptions dispensed by hospitals and miscellaneous services.

\* Includes patient contribution where applicable.

† Includes Australian Capital Territory.

‡ Includes Northern Territory.

TABLE 44. PHARMACEUTICAL BENEFITS

NUMBER OF BENEFIT PRESCRIPTIONS PER HEAD OF POPULATION AND AVERAGE COST PER HEAD OF POPULATION—1961-62 TO 1970-71

Year ended 30 June	Number of prescriptions per head of population			Average cost per head of population*		
	General† population	Pensioner‡ population	Total population	General population	Pensioner population	Total population
				\$	\$	\$
1962 . . . . .	2.65	14.80	3.56	5.92	23.08	7.20
1963 . . . . .	2.95	15.45	3.90	6.12	23.95	7.48
1964 . . . . .	3.05	15.91	4.02	6.10	24.38	7.51
1965 . . . . .	3.24	16.35	4.23	6.47	25.88	7.93
1966 . . . . .	3.32	16.38	4.36	6.68	26.45	8.25
1967 . . . . .	3.46	16.59	4.61	7.06	28.68	8.95
1968 . . . . .	3.42	16.82	4.65	6.95	29.40	9.01
1969 . . . . .	3.67	17.61	4.96	7.62	32.30	9.92
1970 . . . . .	3.90	18.68	5.27	8.43	35.68	10.95
1971 . . . . .	4.26	18.73	5.63	9.80	37.59	12.43

Excludes benefit prescriptions dispensed by hospitals and miscellaneous services.

\* Includes patient contribution where applicable.

† Population excluding persons eligible to receive pensioner pharmaceutical benefits.

‡ Population of persons eligible to receive pensioner pharmaceutical benefits.

TABLE 45. PHARMACEUTICAL BENEFITS

NUMBER OF BENEFIT PRESCRIPTIONS PER HEAD OF POPULATION AND AVERAGE COST PER HEAD OF POPULATION—BY STATES—1970-71

State	Number of prescriptions per head of population			Average cost per head of population*		
	General population	Pensioner population	Total population	General population	Pensioner population	Total population
				\$	\$	\$
New South Wales†	4.40	20.14	5.91	10.15	40.20	13.03
Victoria	4.34	17.57	5.51	10.16	36.33	12.48
Queensland	4.48	19.45	6.09	10.02	37.42	12.96
South Australia‡	4.00	18.29	5.33	9.13	37.10	11.73
Western Australia	3.58	16.21	4.68	8.01	32.45	10.13
Tasmania	3.50	14.95	4.65	8.01	31.00	10.32
Commonwealth	4.26	18.73	5.63	9.80	37.59	12.43

Excludes benefit prescriptions dispensed by hospitals and miscellaneous services.

\* Includes patient contribution where applicable.

† Includes Australian Capital Territory.

‡ Includes Northern Territory.

TABLE 46. PHARMACEUTICAL BENEFITS

DRUGS DISPENSED BY CHEMISTS—1970-71

Therapeutic category	Percentage of total expenditure	Percentage of total prescriptions	Therapeutic category	Percentage of total expenditure	Percentage of total prescriptions
	%	%		%	%
Analgesics	8.18	8.41	Eye drops	1.43	1.90
Antacids	2.35	3.43	Gastro intestinal sedatives	0.86	1.03
Anti-cholinergics	2.29	1.54	Genito-urinary infections—		
Anti-convulsants	1.32	0.87	Drugs acting on	3.09	1.80
Anti-depressants	3.48	2.45	Heart—Drugs acting on	1.71	1.94
Anti-diabetics	1.89	1.00	Iron preparations	1.09	1.16
Anti-histamines	5.32	6.37	Parkinsons—Drugs used for	0.72	0.49
Blood vessels—Drugs acting on	8.64	5.07	Penicillins	9.57	8.00
Broad spectrum antibiotics	12.06	9.34	Sedatives and hypnotics	3.80	7.78
Bronchial spasm-preparations	3.38	2.81	Sera vaccines	0.64	1.00
Corticosteroids	1.49	0.92	Sulphonamides	0.70	1.14
Diuretics	7.17	4.62	Tranquillisers	3.01	2.07
Expectorants and cough suppressants	1.12	2.91	Water and electrolyte replacement	1.53	1.87
			Other drugs	13.16	20.08

Excludes benefit prescriptions dispensed by hospitals and miscellaneous services.

TABLE 47. PHARMACEUTICAL BENEFITS

NUMBER OF PHARMACEUTICAL CHEMISTS AND MEDICAL PRACTITIONERS DISPENSING PHARMACEUTICAL BENEFITS PRESCRIPTIONS—1949-50 TO 1970-71

A. *Pharmaceutical Chemists* approved under Section 90 of the *National Health Act* 1953-1968 for the purpose of supplying pharmaceutical benefits.B. *Medical Practitioners* approved under Section 92 of the *National Health Act* 1953-1968 for the purpose of supplying pharmaceutical benefits in areas in which there are no other pharmaceutical services available.

As at 30 June	New South Wales*		Victoria		Queensland		South Australia†		Western Australia		Tasmania		Commonwealth	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1950	1,200	2	1,038	6	285	3	265	27	202	12	90	..	3,080	50
1951	1,252	25	1,054	6	332	4	292	30	208	12	93	7	3,231	84
1952	1,323	26	1,070	7	348	5	305	29	212	12	95	8	3,353	87
1953	1,368	29	1,102	8	388	5	329	24	221	10	94	10	3,502	86
1954	1,452	31	1,170	8	437	6	368	25	232	11	95	11	3,754	92
1955	1,519	32	1,206	5	476	7	384	20	243	12	95	12	3,923	88
1956	1,574	31	1,245	6	520	8	396	20	261	11	97	11	4,093	87
1957	1,615	27	1,284	7	554	8	403	19	270	12	101	11	4,227	84
1958	1,681	28	1,299	7	571	8	424	18	282	12	111	11	4,368	84
1959	1,763	30	1,348	6	603	9	433	16	292	11	113	12	4,552	84
1960	1,818	29	1,383	6	645	9	436	17	296	10	118	12	4,696	83
1961	1,877	34	1,402	6	676	7	449	14	311	7	123	12	4,838	80
1962	1,933	36	1,414	6	696	6	459	13	312	6	127	11	4,941	78
1963	2,008	32	1,445	6	721	7	470	14	325	7	131	10	5,100	76
1964	2,065	31	1,482	7	750	6	474	12	338	8	134	12	5,243	76
1965	2,101	32	1,520	7	775	5	487	10	354	8	138	12	5,375	74
1966	2,140	33	1,545	6	805	6	507	9	363	5	141	12	5,501	71
1967	2,204	34	1,583	5	818	4	520	9	370	5	143	13	5,638	70
1968	2,228	30	1,602	3	843	5	527	9	382	5	146	14	5,728	66
1969	2,254	32	1,616	5	866	4	536	7	387	5	147	13	5,806	66
1970	2,268	31	1,628	5	893	6	539	6	398	5	150	14	5,876	67
1971	2,277	31	1,633	4	909	6	534	6	406	4	153	14	5,912	65

\* Includes Australian Capital Territory.

† Includes Northern Territory.

TABLE 48. PHARMACEUTICAL BENEFITS

NUMBER OF PRESCRIPTIONS AND COST OF MORE FREQUENTLY PRESCRIBED THERAPEUTIC GROUPS—1969-70 AND 1970-71

Therapeutic category	Year ended 30 June			
	1970		1971	
	Prescriptions	Cost*	Prescriptions	Cost*
	000's	\$'000	000's	\$'000
Analgesics . . . . .	5,248	10,997	6,017	12,849
Antacids . . . . .	2,294	3,353	2,457	3,694
Anti-cholinergics . . . . .	1,046	3,429	1,098	3,592
Anti-convulsants . . . . .	429	1,778	625	2,073
Anti-depressants . . . . .	676	2,455	1,750	5,460
Anti-diabetics . . . . .	695	2,651	712	2,947
Anti-histamines . . . . .	4,355	7,798	4,554	8,357
Blood vessels—Drugs acting on . . . . .	3,508	12,795	3,627	13,583
Broad spectrum antibiotics . . . . .	6,395	17,773	6,678	18,954
Bronchial spasm—preparations . . . . .	1,715	3,234	2,012	5,313
Corticosteroids . . . . .	236	1,346	658	2,343
Diuretics . . . . .	3,084	10,772	3,302	11,273
Expectorants and cough suppressants . . . . .	1,719	1,432	2,081	1,761
Eye drops . . . . .	1,287	2,077	1,358	2,245
Gastro intestinal sedatives . . . . .	701	1,295	737	1,357
Genito-urinary infections—Drugs acting on . . . . .	1,425	4,775	1,287	4,856
Heart—Drugs acting on . . . . .	1,345	2,418	1,386	2,693
Iron preparations . . . . .	1,309	1,493	1,478	1,720
Parkinsons—Drugs used for . . . . .	333	1,047	350	1,136
Penicillins . . . . .	4,958	11,292	5,724	15,045
Sedatives and hypnotics . . . . .	6,253	6,494	5,563	5,979
Sera vaccines . . . . .	758	1,255	714	998
Sulphonamides . . . . .	992	1,301	813	1,102
Tranquillisers . . . . .	1,165	3,708	1,480	4,726
Water and electrolyte replacement . . . . .	1,043	1,782	1,340	2,402

\* Cost includes the patient contribution on prescriptions available to the general public.  
Excludes benefit prescriptions dispensed by hospitals and miscellaneous services.

TABLE 49. TUBERCULOSIS

NUMBER OF ALLOWANCES, NOTIFICATIONS AND MORTALITY—1952 TO 1970

Year ended 31 December	No. of allowances current as at 31 December	Notifications			Deaths	
		No. pulmonary	No. all forms	All forms per 100,000 of population	No. all forms	All forms per 100,000 of population
1952 . . . . .	6,127	4,761	4,786	54.8	1,290	14.8
1953 . . . . .	5,696	4,787	4,979	55.9	974	10.9
1954 . . . . .	5,742	4,650	4,952	54.5	897	9.9
1955 . . . . .	5,029	4,360	4,602	49.4	729	7.8
1956 . . . . .	4,182	4,169	4,419	46.4	724	7.6
1957 . . . . .	3,326	3,762	4,035	41.4	585	6.0
1958 . . . . .	2,750	3,632	3,708	37.2	538	5.4
1959 . . . . .	2,503	3,160	3,582	35.2	549	5.4
1960 . . . . .	2,235	3,556	4,084	39.2	489	4.7
1961 . . . . .	2,017	3,239	3,570	34.0	447	4.3
1962 . . . . .	1,845	3,503	3,825	35.3	475	4.4
1963 . . . . .	1,796	3,574	3,883	35.2	440	4.0
1964 . . . . .	1,573	3,113	3,446	30.6	413	3.7
1965 . . . . .	1,378	2,624	2,903	25.3	294	2.6
1966 . . . . .	1,177	2,276	2,549	21.8	321	2.8
1967 . . . . .	1,009	2,005	2,293	19.2	275	2.3
1968 . . . . .	858	1,926	2,233	18.3	243	2.0
1969 . . . . .	625	1,570	1,823	14.6	213	1.7
1970 . . . . .	532	1,455	1,712	13.5	203	1.6

TABLE 50. TUBERCULOSIS

NUMBER OF ALLOWANCES, NOTIFICATIONS AND MORTALITY—BY STATES—YEAR ENDED 31 DÉCEMBER 1970

State	No. of allowances current as at 31 December	Notifications 1970			Deaths 1970	
		No. pulmonary	No. all forms	All forms per 100,000 of population	No. all forms	All forms per 100,000 of population
New South Wales . . . . .	177	558	644	13.9	65	1.4
Victoria . . . . .	120	347	421	12.1	48	1.4
Queensland . . . . .	118	253	273	15.0	37	2.0
South Australia . . . . .	57	119	147	12.5	16	1.4
Western Australia . . . . .	28	92	123	12.3	12	1.2
Tasmania . . . . .	32	38	45	11.4	12	3.0
Australian Capital Territory . . . . .	*	12	16	11.4	1	0.7
Northern Territory . . . . .	†	36	43	58.0	12	16.2
Commonwealth . . . . .	532	1,455	1,712	13.5	203	1.6

\* Included in New South Wales figure.

† Included in South Australia figure.

TABLE 51. TUBERCULOSIS

EXPENDITURE UNDER THE TUBERCULOSIS ACT—1951-52 to 1970-71

<i>Year ended 30 June</i>	<i>Capital reimbursements to States</i>	<i>Maintenance reimbursements to States</i>	<i>Allowances paid to sufferers by the Department of Social Services</i>	<i>Total</i>
	\$'000	\$'000	\$'000	\$'000
1952 . . .	1,290	4,229	3,555	9,074
1953 . . .	2,327	5,965	3,816	12,107
1954 . . .	2,591	7,478	3,753	13,822
1955 . . .	3,422	7,601	3,809	14,832
1956 . . .	3,495	8,101	3,380	14,976
1957 . . .	4,757	9,610	2,921	17,289
1958 . . .	4,257	9,138	2,509	15,905
1959 . . .	2,822	9,688	2,125	14,636
1960 . . .	1,458	8,753	2,051	12,262
1961 . . .	776	8,473	1,893	11,142
1962 . . .	756	8,800	1,746	11,302
1963 . . .	984	9,932	1,607	12,523
1964 . . .	598	10,669	1,593	12,861
1965 . . .	703	10,337	1,458	12,497
1966 . . .	689	13,577	1,286	15,552
1967 . . .	499	11,238	1,193	12,930
1968 . . .	780	11,508	1,091	13,380
1969 . . .	847	11,743	921	13,511
1970 . . .	593	10,882	771	12,246
1971 . . .	469	10,938*	659	12,067

Apparent minor errors in totals are due to rounding.

\* Includes an amount of \$341,315 payable through the Consolidated Revenue Fund.

TABLE 52. TUBERCULOSIS

EXPENDITURE UNDER THE TUBERCULOSIS ACT—BY STATES—1970-71

<i>State</i>	<i>Capital reimbursements to States</i>	<i>Maintenance reimbursements to States</i>	<i>Allowances paid to sufferers by the Department of Social Services</i>	<i>Total</i>
	\$'000	\$'000	\$'000	\$'000
New South Wales* . . .	143	4,256	231	4,630
Victoria . . .	151	3,142	158	3,452
Queensland . . .	55	1,742	131	1,928
South Australia† . . .	108	582	78	768
Western Australia . . .	12	835	30	877
Tasmania . . .	..	380	32	412
Commonwealth . . .	469	10,938‡	659	12,067

Apparent minor errors in totals are due to rounding.

\* Includes the Australian Capital Territory.

† Includes the Northern Territory.

‡ Includes an amount of \$341,315 payable through the Consolidated Revenue Fund.

TABLE 53. TUBERCULOSIS

RESULTS OF MASS X-RAY SURVEYS—BY STATES—YEAR ENDED 31 DECEMBER 1970

<i>State</i>	<i>No. examined</i>	<i>No. active and probably active T.B. cases</i>	<i>Rate per 1,000 examined</i>
New South Wales . . . .	530,886	100	0.19
Victoria . . . . .	671,914	119	0.18
Queensland . . . . .	199,361	39	0.20
South Australia . . . . .	92,947	16	0.17
Western Australia . . . . .	77,645	9	0.12
Tasmania . . . . .	81,063	24	0.30
Northern Territory . . . . .	25,864	16	0.62
Commonwealth . . . . .	1,679,680	323	0.19

TABLE 54. PUBLIC HEALTH

NOTIFIABLE DISEASES: NUMBER OF CASES NOTIFIED (RELATES ONLY TO DISEASES NOTIFIABLE IN ALL STATES AND TERRITORIES)—1966 to 1970\*

<i>Disease</i>	<i>Year ended 31 December</i>				
	<i>1966</i>	<i>1967</i>	<i>1968</i>	<i>1969</i>	<i>1970</i>
Anthrax . . . . .	..	2	3	1	..
Brucellosis . . . . .	73	61	154	136	137
Cholera . . . . .	..	..	..	4	..
Diphtheria . . . . .	8	46	29	31	75
Gonorrhoea . . . . .	9,036	9,388	9,932	9,648	9,562
Infectious hepatitis . . . . .	8,577	11,316	8,123	7,450	7,571
Leprosy . . . . .	44	68	73	61	67
Leptospirosis . . . . .	79	117	113	69	72
Paratyphoid fever . . . . .	3	6	6	13	1
Poliomyelitis . . . . .	1	1	3	1	1
Syphilis . . . . .	798	955	840	1,072	947
Tetanus . . . . .	38	29	18	19	21
Tuberculosis . . . . .	2,549	2,293	2,233	1,823	1,712
Typhoid . . . . .	21	33	79	34	19
Typhus (all forms) . . . . .	6	7	7	3	5

.. No cases.

\* The figures shown in this table are the number of cases notified by individual medical practitioners to State Health Departments.

No cases of plague, smallpox or yellow fever were notified.

TABLE 55. PUBLIC HEALTH

DISEASES NOTIFIED IN THE STATES AND TERRITORIES OF AUSTRALIA—YEAR ENDED 31 DECEMBER 1970

<i>Disease</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>A.C.T.</i>	<i>N.T.</i>
Acute rheumatism . . . . .	*	9	42	1	*	..	..	4
Amoebiasis . . . . .	*	2	13	5	4	..	..	..
Ancylostomiasis . . . . .	*	1	2	..	3	..	..	88
Anthrax . . . . .	..	..	..	..	..	..	..	..
Brucellosis . . . . .	22	106	7	..	2	..	..	..
Diarrhoea, infantile . . . . .	509	*	113	37	*	*	38	41
Diphtheria . . . . .	..	68	1	3	2	1	..	..
Dysentery, bacillary . . . . .	*	91	65	30	256	5	5	92
Encephalitis . . . . .	33	17	12	5	..	..	9	..
Gonorrhoea . . . . .	3,497	2,078	1,576	650	1,186	75	52	448
Hydatid . . . . .	18	9	1	..	..	9	..	..
Hepatitis, infective . . . . .	2,851	2,401	1,000	485	166	318	121	229
Hepatitis, serum . . . . .	*	..	*	..	..	..	..	..
Leprosy . . . . .	..	..	1	1	53	..	..	12
Leptospirosis . . . . .	19	2	50	..	1	..	..	..
Malaria . . . . .	70	46	71	5	12	3	9	18
Ornithosis . . . . .	3	..	1	..	..	..	..	..
Paratyphoid . . . . .	..	..	..	..	1	..	..	..
Poliomyelitis . . . . .	1	..	..	..	..	..	..	..
Puerperal fever . . . . .	*	5	9	..	2	..	..	..
Q fever . . . . .	33	1	106	*	*	*	*	*
Rubella . . . . .	*	824	72	223	*	*	5	10
Salmonella infection . . . . .	*	225	*	226	152	12	14	35
Scarlet fever . . . . .	*	221	75	44	27	*	16	..
Shigella . . . . .	..	1	*	160	..	1	..	56
Syphilis . . . . .	448	73	163	75	159	7	7	15
Tetanus . . . . .	7	6	4	2	..	2	..	..
Trachoma . . . . .	*	..	*	4	*	*	..	..
Tuberculosis . . . . .	644	421	273	147	123	45	16	43
Typhoid fever . . . . .	5	10	2	1	1	..	..	..
Typhus (all forms) . . . . .	3	..	2	..	..	..	..	..

\* Not notifiable. .. No cases.

The figures shown in this table are the number of cases notified by individual medical practitioners to State Health Departments.

No cases of cholera, plague, smallpox, epidemic typhus or yellow fever were notified.

TABLE 56. PUBLIC HEALTH

RADIO AND TELEVISION SCRIPTS ON MEDICAL MATTERS EXAMINED—1968-69 TO 1970-71

<i>Type of script</i>	<i>Number examined</i>	<i>Approved</i>		<i>Approved as amended</i>		<i>Rejected</i>	
		<i>Number</i>	<i>Per cent</i>	<i>Number</i>	<i>Per cent</i>	<i>Number</i>	<i>Per cent</i>
			%		%		%
Radio—							
1968-69 . . .	805	363	45.1	372	46.2	70	8.7
1969-70 . . .	649	214	33.0	375	57.8	60	9.3
1970-71 . . .	689	321	46.6	316	45.9	52	7.6
Television—							
1968-69 . . .	238	143	60.1	80	33.6	15	6.3
1969-70 . . .	300	113	37.7	166	55.2	21	7.0
1970-71 . . .	183	94	51.4	88	48.1	1	0.5
Total—							
1968-69 . . .	1,043	506	48.5	452	43.3	85	8.2
1969-70 . . .	949	327	34.5	541	57.1	81	8.5
1970-71 . . .	872	415	47.5	404	46.3	53	6.1

TABLE 57. QUARANTINE

VESSELS BOARDED AND CLEARED—BY STATES—1970-71

<i>State</i>	<i>Surface</i>			<i>Air</i>		
	<i>Vessels</i>	<i>Crew</i>	<i>Passengers</i>	<i>Vessels</i>	<i>Crew</i>	<i>Passengers</i>
New South Wales . . .	1,481	80,327	54,620	4,148	48,191	337,612
Victoria . . . . .	402	21,017	16,943	372	7,113	43,320
Queensland . . . . .	1,218	58,818	12,202	340	3,431	25,916
South Australia . . . . .	284	12,452	2,839	12	110	142
Western Australia . . . . .	2,141	110,066	94,624	963	10,484	85,642
Tasmania . . . . .	375	9,684	81	..	..	..
Northern Territory . . . . .	332	10,268	2,434	2,292	17,096	141,040
Commonwealth . . . . .	6,233	302,632	183,743	8,127	86,425	633,672

TABLE 58. QUARANTINE

INFECTIOUS DISEASES ON OVERSEAS VESSELS ARRIVING  
IN AUSTRALIA—1970-71

<i>Disease</i>	<i>No. of cases</i>
Chickenpox . . . . .	54
Gastro enteritis . . . . .	1
Glandular fever . . . . .	2
Herpes . . . . .	1
Infectious dermatitis . . . . .	1
Infectious hepatitis . . . . .	22
Influenza . . . . .	5
Leprosy . . . . .	1
Measles . . . . .	223
Mumps . . . . .	23
Rubella . . . . .	9
Tuberculosis . . . . .	2
Venereal disease . . . . .	218
Total . . . . .	562

TABLE 59. QUARANTINE

ANIMAL IMPORTATIONS SUBJECT TO QUARANTINE—1970-71

<i>Type</i>	<i>Number</i>
Cattle—from New Zealand . . . . .	1,471
Horses—from United Kingdom . . . . .	175
from New Zealand . . . . .	964
Dogs and cats—from New Zealand . . . . .	644
Pigs—from New Zealand . . . . .	9
Small laboratory animals for scientific institutions . . . . .	3,682
Monkeys from Malaysia for Commonwealth Serum Laboratories . . . . .	300
Animals for permanent quarantine in registered zoological gardens and circuses . . . . .	111
Total . . . . .	7,356

TABLE 60. NORTHERN TERRITORY HEALTH  
AERIAL MEDICAL SERVICE—1970-71

	<i>Darwin</i>	<i>Alice Springs</i>	<i>Total</i>
Routine flights—Doves . . . . .	231	232	463
Emergency flights—Doves . . . . .	292	110	402
Emergency flights—R.F.D.S. . . . .	..	273	273
Ferry flights . . . . .	2	2	4
Mercy flights . . . . .	3	..	3
Charter flights . . . . .	44	..	44
Charter boat . . . . .	..	..	..
Hours flown—Dove . . . . .	2,028.45	1,065.95	3,094.40
Miles flown—Dove . . . . .	279,438	148,120	427,558
Landings made—Dove . . . . .	1,474	915	2,389
Radio medical consultations* . . . . .	1,615	1,401	3,016
Patients carried—			
Dove . . . . .	1,085	708	1,793
R.F.D.S. . . . .	..	423	423
Charter diversion . . . . .	59	..	59
Commercial . . . . .	1,307	24	1,331

\* Excludes radio telephone consultations.

TABLE 61. NORTHERN TERRITORY HEALTH  
HEALTH SERVICES PROVIDED AT MAIN NORTHERN TERRITORY HOSPITALS—1970-71

	<i>Darwin</i>	<i>Alice Springs</i>	<i>Tennant Creek</i>	<i>Katherine</i>	<i>Gove</i>
No. of bed days . . . . .	115,950	69,601	6,785	17,762	1,066
No. of admissions . . . . .	10,031	4,624	975	1,815	322
Average daily no. of inpatients . . . . .	318	191	19	49	2
No. of births . . . . .	1,424	523	52	160	1
No. of deaths in hospital . . . . .	118	141	30	8	2
No. of postmortem examinations . . . . .	151	68	26	24	..
No. of major operations . . . . .	1,365	359	..	30	..
No. of minor operations . . . . .	3,032	1,231	275	221	86
No. of outpatient attendances . . . . .	111,008	33,722	16,814	15,704	14,784
Dispensaries—					
Prescriptions dispensed . . . . .	131,471	90,387*	11,365	36,653	..
Average no. of prescriptions dispensed per working day . . . . .	497.99	342.37	43.05	138.84	..
X-ray Department—†					
No. of exposures . . . . .	59,382	18,035	3,273	4,838	849
Ambulance Services—					
No. of trips . . . . .	2,328	653	190	309	..
No. of patients carried . . . . .	2,445	822	195	299	..
No. of miles travelled . . . . .	19,580	32,078	18,812	15,433	..
Physiotherapy Department—†					
No. of patients . . . . .	4,131	1,207	..	..	..
No. of treatments . . . . .	20,326	6,718	..	..	..

\* Does not include aerial medical and medical kits as in previous years.

† Inpatients and outpatients.

During 1970-71 there were 4,440 outpatient attendances at Batchelor daily clinic and 1,187 outpatient attendances at Batchelor doctors' clinic.

TABLE 62. NORTHERN TERRITORY HEALTH

DENTAL SERVICES PROVIDED IN THE NORTHERN TERRITORY—1970-71

	<i>Darwin Dental Clinic</i>	<i>Nightcliff Dental Clinic</i>	<i>Aerial Mobile— Darwin based</i>	<i>Overland Mobile— Darwin based</i>	<i>Alice Springs Clinic— Mobile</i>	<i>Gove Dental Clinic</i>
Examinations . . . . .	1,728	907	2,231	1,139	921	549
Extractions . . . . .	3,200	1,622	1,250	600	1,368	973
Silicates . . . . .	1,253	771	57	289	497	285
Amalgam . . . . .	4,896	3,458	1,780	1,017	2,415	1,143
Inlays . . . . .	91	60	2	6	25	10
Crowns . . . . .	48	29	..	7	23	4
Bridges . . . . .	26	3	..	..	..	..
Dressings . . . . .	1,506	959	94	151	821	339
X-rays . . . . .	1,945	715	1	206	839	368
G.A.'s hospital . . . . .	73	2	..	2	48	1
Root treatment . . . . .	474	265	1	40	143	24
Scale and clean . . . . .	216	133	14	38	103	163
Peridontal treatment . . . . .	37	3	..	..	..	32
Orthodontist . . . . .	720	78	..	..	495	1
Oral surgery . . . . .	45	8	19	10	14	19
Jaw fracture . . . . .	49	..	1	..	6	1
Consultations . . . . .	12	520	..	57	491	101
Other treatments . . . . .	3,680	1,474	191	139	908	744
Dentures—Full . . . . .	171	39	6	31	62	49
Partial . . . . .	100	72	8	20	70	41
Repair . . . . .	625	167	..	57	248	55
Reline . . . . .	57	25	6	9	30	10
Impressions . . . . .	1,172	346	20	154	412	268
<i>Patients treated</i>						
Aboriginal adults . . . . .	317	37	1,092	28	168	405
Non-Aboriginal adults . . . . .	9,126	3,909	39	1,373	3,613	2,750
Children—Aboriginal . . . . .	110	15	1,307	90	52	91
Other . . . . .	6,418	4,971	65	1,047	3,436	495
Ethnic group not known . . . . .	..	..	146	..	..	..
Exempt* . . . . .	376	226	87	16	307	55
Total patients treated . . . . .	16,347	9,158	2,736	2,554	7,576	3,796

\* Figures shown relate only to non-aboriginal patients.

TABLE 63. AUSTRALIAN CAPITAL TERRITORY HEALTH

LICENCES ISSUED UNDER THE PUBLIC HEALTH ORDINANCE—YEAR ENDED 31 DECEMBER 1970

Barber shops . . . . .	104	Meat vendors . . . . .	94
Eating houses . . . . .	109	Milk distributors . . . . .	87
Boarding houses . . . . .	68	Milk vendors . . . . .	239
Ice cream vendors . . . . .	5	Prepared meat vendors . . . . .	275

TABLE 64. AUSTRALIAN CAPITAL TERRITORY HEALTH  
REGISTRATIONS GRANTED—1970-71

Type	Number	Type	Number
Medical Practitioners . . . . .	71	Pharmacists . . . . .	23
Dental Practitioners . . . . .	13	Optometrists . . . . .	..
Nurses . . . . .	343	Veterinary Surgeons . . . . .	1
Nursing Aides . . . . .	63		

TABLE 65. AUSTRALIAN CAPITAL TERRITORY HEALTH  
SAMPLES COLLECTED BY HEALTH INSPECTION SECTION—1970-71

	For bacteriological examination	For chemical examination
Milk . . . . .	1,358	763
Cream . . . . .	249	186
Meat . . . . .	..	28
Other foods . . . . .	361	45
Water—City supply . . . . .	1,601	175
Swimming pools . . . . .	138	11
Picnic resorts and other supplies . . . . .	500	146
Fluoride . . . . .	..	981
Sewerage . . . . .	110	15
Lake Burley Griffin and Molongo River . . . . .	303	..

TABLE 66. AUSTRALIAN CAPITAL TERRITORY HEALTH  
SCHOOL MEDICAL SERVICE EXAMINATIONS—1969-70 AND 1970-71

	Year ended 30 June	
	1970 Number of children	1971 Number of children
No. examined . . . . .	16,956	19,610
Defects notified—		
Vision . . . . .	621	718
Squint . . . . .	55	50
Hearing . . . . .	365	263
Severe dental caries . . . . .	62	11
Psychological and emotional . . . . .	123	72
Speech . . . . .	42	56
All others . . . . .	225	317
Referrals—		
Child Guidance Clinic . . . . .	127	99
Educational Clinic . . . . .	13	14
Commonwealth Acoustic Laboratory . . . . .	178	112
Parent interviews . . . . .	1,854	1,480

TABLE 67. NATIONAL FITNESS

ALLOCATION OF COMMONWEALTH NATIONAL FITNESS GRANTS—1970-71

<i>Item</i>	\$
State National Fitness Council . . . . .	270,308
State Education Departments . . . . .	34,000
Universities . . . . .	24,800
Australian Recreation Leadership Training Course . . . . .	6,600
Total allocation to State agencies . . . . .	335,708
Central administration . . . . .	6,792
Australian Capital Territory grant . . . . .	7,500
Capital works . . . . .	66,000
Total allocation . . . . .	416,000

TABLE 68. NATIONAL FITNESS

ALLOCATIONS TO STATE AGENCIES—1970-71

<i>Item</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
	\$	\$	\$	\$	\$	\$	\$
National Fitness Councils—							
Wages, salaries, allowances, over- time and services not otherwise provided for . . . . .	14,213	14,213	11,952	11,952	11,952	11,706	75,988
Services to associated groups, in- cluding leader training . . . . .	15,745	15,745	11,952	11,952	11,952	11,706	79,052
Grants to voluntary youth organisations . . . . .	3,034	3,034	2,680	2,680	2,680	1,564	15,672
Subsidies to local national fitness committees . . . . .	4,572	4,572	3,986	3,986	3,986	2,356	23,458
Services to sports organisations . . . . .	1,476	1,476	908	908	908	610	6,286
Development of camps and hostels . . . . .	13,942	13,942	10,522	10,522	10,522	10,402	69,852
Total National Fitness Councils . . . . .	52,982	52,982	42,000	42,000	42,000	38,344	270,308
Education Departments . . . . .	5,668	5,668	5,666	5,666	5,666	5,666	34,000
Universities . . . . .	4,000	4,200	4,200	4,200	4,200	4,000	24,800
Allocations to State Agencies . . . . .	62,650	62,850	51,866	51,866	51,866	48,010	329,108

TABLE 69. COMMONWEALTH MEDICAL OFFICERS

NUMBER OF CLINICAL EXAMINATIONS BY COMMONWEALTH MEDICAL OFFICERS—BY STATES—1970-71

<i>State</i>	<i>Departments</i>	<i>Seamen</i>	<i>Pensioners</i>	<i>Others</i>	<i>Total</i>
New South Wales . . . . .	24,965	1,386	5,913	31	32,295
Victoria . . . . .	19,861	409	4,272	77	24,619
Queensland . . . . .	6,358	238	1,933	..	8,529
South Australia . . . . .	5,099	63	1,929	2	7,093
Western Australia . . . . .	3,683	401	1,671	1	5,756
Tasmania . . . . .	878	38	452	37	1,405
Australian Capital Territory . . . . .	10,907	..	..	..	10,907
Northern Territory . . . . .	2,135	7	88	1,118	3,348
Commonwealth . . . . .	73,886	2,542	16,258	1,266	93,952

TABLE 70. COMMONWEALTH MEDICAL OFFICERS

NUMBER OF VACCINATIONS BY COMMONWEALTH MEDICAL OFFICERS—BY STATES—1970-71

<i>State</i>	<i>Smallpox</i>	<i>Yellow Fever</i>	<i>Cholera and combined cholera and typhoid</i>	<i>Typhoid and T.A.B.</i>	<i>Tetanus</i>	<i>Plague</i>	<i>Influenza</i>
New South Wales . . . . .	105,125	2,070	73,663	2,321	346	94	1,132
Victoria . . . . .	19,469	1,197	26,770	5,341	58	37	3,354
Queensland . . . . .	7,632	275	9,875	1,942	99	15	1,251
South Australia . . . . .	4,850	379	4,980	1,478	77	5	4,181
Western Australia . . . . .	5,039	385	9,162	855	15	..	2,131
Tasmania . . . . .	1,701	56	2,727	13	18	..	752
Australian Capital Territory . . . . .	4,649	135	7,590	4,416	297	142	60
Northern Territory . . . . .	3,961	68	8,573	3,144	1,120	64	953
Commonwealth . . . . .	152,426	4,565	143,340	19,510	2,030	357	13,814

TABLE 71. COMMONWEALTH HEALTH LABORATORIES

NUMBER OF PATHOLOGY EXAMINATIONS AND LABORATORY TESTS PERFORMED AND NUMBER OF PATIENT REQUESTS—1970-71.

(a) Health Laboratory	No. of examinations and tests	No. of patient requests
Albury . . . . .	83,839	26,609
Alice Springs . . . . .	42,850	13,426
Bendigo . . . . .	121,374	47,654
Cairns . . . . .	238,171	102,046
Darwin . . . . .	179,772	58,767
Hobart . . . . .	124,375	44,261
Kalgoorlie . . . . .	26,235	13,031
Launceston . . . . .	51,241	19,027
Port Pirie . . . . .	17,600	13,267
Rockhampton . . . . .	267,439	105,945
Toowoomba . . . . .	199,574	79,850
Townsville . . . . .	235,961	85,682
Total . . . . .	1,588,431	609,565

In addition to normal diagnostic pathology work, Health Laboratories undertake laboratory work of a public health nature—for example, bacteriological analysis of water. Serological examination of local donor blood is also undertaken on behalf of the Red Cross Blood Transfusion Service. Figures relating to this additional work are included in the statistics presented in (a) above.

(b) Health Laboratory	No. of Nuffield Points*	No. of Patients
Canberra . . . . .	1,114,095	201,181
Lismore . . . . .	370,397	68,239
Tamworth . . . . .	443,408	64,891
Total . . . . .	1,927,900	334,311

\* The number of examinations and tests carried out at the Canberra, Lismore and Tamworth Health Laboratories are not available for inclusion in this year's report. The figures for these laboratories are based on the Nuffield Points work-measurement scheme and are not necessarily comparable with the statistics shown in (a) for the other Health Laboratories (*see text*).

TABLE 72. NATIONAL BIOLOGICAL STANDARDS LABORATORY  
SUMMARY OF ALL SAMPLES EXAMINED—1970-71

<i>Type</i>	<i>No. examined</i>	<i>Failures</i>	<i>Percentage of failures</i>
For Department of Health—			%
Products on the Pharmaceutical Benefits list . . . . .	1,193	191	16.0
Products recommended by the Pharmaceutical Benefits Advisory Committee . . . . .	75	15	20.0
New brands of existing Pharmaceutical Benefits . . . . .	125	22	17.6
Veterinary products—			
Viral vaccines . . . . .	14	1	7.1
Veterinary antibiotics . . . . .	41	7	17.1
Veterinary vaccines . . . . .	34	19	55.9
Miscellaneous . . . . .	42	12	28.6
For other Commonwealth Departments* . . . . .	301	64	21.3
Miscellaneous drug samples† . . . . .	88	20	22.7
Dressings . . . . .	72	26	36.1
Medical equipment‡ . . . . .	227	..	..
Total . . . . .	2,110	367	17.4

\* Includes 102 samples examined and 10 failures also shown elsewhere.

† Samples of products about which complaints have been received, samples taken prior to granting authorities to import subject to Customs (Prohibited Imports) Regulations and samples tested on behalf of other authorities.

‡ Number of batches tested.

TABLE 73. NATIONAL BIOLOGICAL STANDARDS LABORATORY  
REASONS FOR FAILURE AS PERCENTAGE OF TOTAL FAILURES—1970-71

<i>Reason</i>	<i>Products for human use*</i>	<i>Products for veterinary use†</i>
	%	%
Safety, contamination or misidentification . . . . .	0.6	..
Sterility . . . . .	1.5	18.5
Potency . . . . .	21.8	74.1
Disintegration . . . . .	10.0	..
Uniformity of weight . . . . .	10.0	..
Acidity or alkalinity . . . . .	0.3	..
Loss on drying . . . . .	4.7	..
Container content . . . . .	2.4	..
Miscellaneous (e.g. colouring, physical appearance) . . . . .	7.9	..
Particulate matter . . . . .	1.9	..
Labelling . . . . .	41.2	22.2
Dressings (various reasons other than sterility)‡ . . . . .	7.7	..

\* Twenty-eight samples failed for two or more reasons.

† Four samples failed for two or more reasons.

‡ Depending on types of dressing, up to twenty-six tests, such as absorbency, ash content, threads per inch, fluorescence, fabric construction, etc., may be applied.

TABLE 74. NATIONAL BIOLOGICAL STANDARDS LABORATORY

SAFETY TESTS PERFORMED—1970-71

Type	No. examined	Failed	Indeterminable
Sterility . . . . .	804	10	27
Histamine-like substances . . . . .	56	..	..
Toxicity . . . . .	204	..	..
Pyrogens . . . . .	213	..	..
Disposable medical equipment . . . . .	227	..	..
Viral vaccine identity and safety testing . . . . .	115	..	..

TABLE 75. COMMONWEALTH ACOUSTIC LABORATORIES

CASES EXAMINED—1970-71

New cases attending laboratories	N.S.W.*	Vic.	Qld.	S.A.†	W.A.	Tas.	Aust.
Pensioners . . . . .	3,437	1,967	1,555	979	660	309	8,907
Repatriation . . . . .	2,402	1,469	773	517	584	140	5,885
Persons under 21 years . . . . .	2,582	1,695	3,370	838	846	469	9,800
Armed Forces (Serving) . . . . .	385	90	257	108	104	38	982
Commonwealth Departments . . . . .	178	150	125	98	164	4	719
State Departments . . . . .	..	..	309	..	..	..	309
Miscellaneous . . . . .	..	53	577	133	132	96	991
Total . . . . .	8,984	5,424	6,966	2,673	2,490	1,056	27,593
Civil Aviation referrals . . . . .	372	308	196	97	174	19	1,166

\* Includes Australian Capital Territory.

† Includes Northern Territory.

TABLE 76. COMMONWEALTH ACOUSTIC LABORATORIES

CALAID HEARING AIDS FITTED—1970-71

Calalids fitted	N.S.W.*	Vic.	Qld	S.A.†	W.A.	Tas.	Aust.
Pensioners . . . . .	3,205	1,948	1,387	998	662	297	8,497
Repatriation . . . . .	1,457	613	446	455	332	159	3,462
Persons under 21 years . . . . .	732	483	316	314	121	69	2,035
Armed Forces (Serving) . . . . .	7	6	1	3	3	..	20
Commonwealth Departments . . . . .	8	4	5	4	2	..	23
Total . . . . .	5,409	3,054	2,155	1,774	1,120	525	14,037

\* Includes Australian Capital Territory.

† Includes Northern Territory.

TABLE 77. COMMONWEALTH ACOUSTIC LABORATORIES

CALAID HEARING AIDS ON LOAN AT 30 JUNE 1971

<i>Calaid on loan</i>	<i>N.S.W.*</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.†</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
Pensioners . . . . .	9,505	6,151	4,675	2,783	2,344	1,032	26,490
Repatriation . . . . .	7,800	5,890	3,003	2,419	2,302	852	22,266
Persons under 21 years . . . . .	3,153	3,607	2,203	1,438	757	461	11,619
Armed Forces (Serving) . . . . .	44	43	15	18	7	1	128
Commonwealth Departments . . . . .	1,098	43	25	460	273	8	1,907
Miscellaneous . . . . .	1	..	..	..	..	..	1
Total . . . . .	21,601	15,734	9,921	7,118	5,683	2,354	62,411

\* Includes Australian Capital Territory.

† Includes Northern Territory.

TABLE 78. COMMONWEALTH X-RAY AND RADIUM LABORATORY

EXPENDITURE FROM THE NATIONAL WELFARE FUND ON RADIO-ISOTOPES FOR MEDICAL PURPOSES—1955-56 TO 1970-71

<i>Year ended 30 June</i>	<i>Expenditure</i>	<i>Year ended 30 June</i>	<i>Expenditure</i>
	\$		\$
1956 . . . . .	6,172	1964 . . . . .	55,874
1957 . . . . .	13,900	1965 . . . . .	67,942
1958 . . . . .	15,954	1966 . . . . .	81,755
1959 . . . . .	21,382	1967 . . . . .	132,201
1960 . . . . .	19,368	1968 . . . . .	154,764
1961 . . . . .	27,736	1969 . . . . .	257,277
1962 . . . . .	28,988	1970 . . . . .	410,144
1963 . . . . .	35,936	1971 . . . . .	630,265

TABLE 79. NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL

GRANTS MADE FROM THE MEDICAL RESEARCH ENDOWMENT FUND—1970-71\*

<i>Universities, institutions and hospitals</i>	<i>Salaries, graduate research workers</i>	<i>Research scholarship stipends</i>		<i>Technical assistance and main- tenance expenses</i>	<i>Equipment</i>	<i>Travelling fellow- ships</i>	<i>Miscel- laneous grants</i>	<i>Total</i>
		<i>Under- graduate</i>	<i>Post- graduate</i>					
	\$	\$	\$	\$	\$	\$	\$	\$
Universities—								
Sydney . . . . .	115,101	3,960	36,025	73,558	45,633	..	185	274,462
New South Wales . . . . .	47,167	990	16,500	50,254	27,469	..	171	142,551
Melbourne . . . . .	175,530	3,300	64,285	246,437	46,262	..	1,063	536,877
Monash . . . . .	113,658	3,960	70,700	117,211	11,148	7,897	53	† 324,627
Queensland . . . . .	50,540	2,310	17,600	63,394	32,319	..	1,199	167,362
Adelaide . . . . .	40,767	1,320	34,800	53,335	2,100	..	812	133,134
Western Australia . . . . .	63,780	1,320	6,100	55,230	20,374	..	1,208	148,012
Tasmania . . . . .	5,530	660	..	8,756	1,300	..	..	16,246
Australian National University . . . . .	..	..	..	..	..	12,329	..	12,329
Total . . . . .	612,073	17,820	246,010	668,175	186,605	20,226	4,691	1,755,600
Institutes and hospitals—								
New South Wales . . . . .	80,479	..	5,400	52,431	12,998	2,799	7,749	161,856
Victoria . . . . .	196,952	..	41,300	205,281	..	15,190	157	‡ 458,880
Queensland . . . . .	4,000	..	..	7,425	..	4,707	2,707	18,839
South Australia . . . . .	..	..	6,100	3,800	11,671	..	..	21,571
Western Australia . . . . .	2,400	..	..	4,750	..	2,612	..	9,762
Tasmania . . . . .	..	..	..	710	..	3,034	..	3,744
Australian Capital Territory . . . . .	3,605	..	..	500	3,500	..	..	7,605
Total . . . . .	287,436	..	52,800	274,897	28,169	28,342	10,613	682,257
Grand total . . . . .	899,509	17,820	298,810	943,072	214,774	48,568	15,304	2,437,857

\* Recommended by the 70th Session of Council, April 1970 and 71st Session, October 1970 for use in 1970-71.

† Including a special grant of \$71,596 awarded to Professor J. Bornstein, Department of Biochemistry, Monash University.

‡ Including grants totalling \$322,355 to the Walter and Eliza Hall Institute of Medical Research, Melbourne.

TABLE 80. COMMONWEALTH GRANTS

ALLOCATION OF COMMONWEALTH GRANTS—1961-62 TO 1970-71

<i>Year ended 30 June</i>	<i>Red Cross Blood Transfusion Service</i>	<i>Home Nursing Subsidy Scheme</i>	<i>Milk for School Children</i>	<i>Mental Health Institutions</i>
	\$'000	\$'000	\$'000	\$'000
1962 . . . . .	349	215	7,483	1,648
1963 . . . . .	369	289	7,454	1,590
1964 . . . . .	402	372	7,775	1,595
1965 . . . . .	435	465	8,059	2,504
1966 . . . . .	490	546	8,493	4,539
1967 . . . . .	974*	664	9,021	4,973
1968 . . . . .	656	765	9,831	4,242
1969 . . . . .	765	933	10,053	4,678
1970 . . . . .	754	1,094	10,051	5,478
1971 . . . . .	885	1,450	10,160	4,199

\* The figure for this year reflects an alteration in accounting procedures during 1966-67, when annual payments were replaced by quarterly payments. The grant relates to expenditure incurred by the Society during the period 1 July 1965 to 31 March 1967.

TABLE 81. COMMONWEALTH GRANTS

ALLOCATION OF COMMONWEALTH GRANTS—BY STATES—1970-71

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>A.C.T.</i>	<i>N.T.</i>	<i>Aust.</i>
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Home Nursing Subsidy Scheme . . . . .	422	484	194	70	247	33	..	..	1,450
Red Cross Blood Transfusion Service . . . . .	197	251	170	124	79	24	17	23	885
Nursing Homes-Capital Grants . . . . .	..	..	..	..	337	..	..	..	337
Mental Health Institutions—Capital Grants . . . . .	1,414	798	464	909	395	219	..	..	4,199

TABLE 82. COMMONWEALTH GRANTS

MILK FOR SCHOOL CHILDREN—BY STATES—1970-71

<i>State</i>	<i>No. of schools under scheme</i>	<i>No. of children participating</i>	<i>Commonwealth grant 1970-71</i>
		000's	\$'000
New South Wales . . . . .	2,901	662	3,485
Victoria . . . . .	3,373	450	2,345
Queensland . . . . .	1,687	247	1,692
South Australia . . . . .	928	142	892
Western Australia . . . . .	1,008	143	835
Tasmania . . . . .	361	61	671
Australian Capital Territory . . . . .	71	18	126
Northern Territory . . . . .	128	14	115
Commonwealth . . . . .	10,457	1,737	10,160

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