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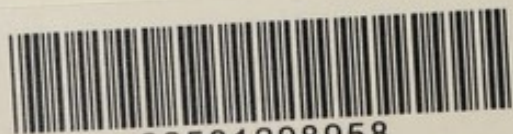
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# THE ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH 1972-73

AUSTRALIAN DEPARTMENT OF HEALTH





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AUSTRALIAN DEPARTMENT OF HEALTH

**Annual Report  
Director-General  
of Health  
1972-73**



AUSTRALIAN GOVERNMENT PUBLISHING SERVICE  
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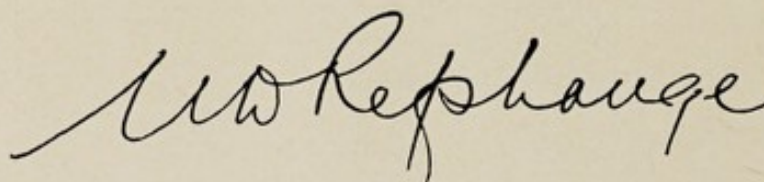
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*The Hon. D. N. Everingham, M.P.  
Minister for Health  
Parliament House  
Canberra.*

*I present herewith my report of the activities  
of the Australian Department of Health  
for the year ended 30 June 1973.*

A handwritten signature in dark ink, reading 'W D Refshauge'. The signature is fluid and cursive, with the first name 'W D' written in a stylized, connected manner.

*W. D. Refshauge  
Director-General of Health  
September 1973  
Canberra, A.C.T.*



# Introduction

The year 1972-73 was a time of change and fresh challenge for the Department. A detailed examination by the new Government of traditional Departmental roles resulted in new administrative arrangements which entailed the loss of some old Health responsibilities and the acquisition of a number of new ones. The Health Insurance and Benefits Division, which in recent years had played such a dominant role in Departmental affairs, was transferred to the new Department of Social Security, while the National Fitness Section became part of the new Department of Tourism and Recreation.

Several new areas of responsibility—which are, I believe, more in keeping with the formal and traditional view of 'health'—were then given to the Department. Among these new areas, two are of major importance—Aboriginal Health and Dental Services. They have necessitated the establishment of additional Branches within Central Office.

## *Aboriginal health*

Aboriginal health has, of course, been of concern to the Department for many years. But practical responsibility for matters relating to it has been shared by a variety of agencies, both State and Federal, and some non-Government bodies as well. Even in the Northern Territory, where this Department is responsible for public health matters generally, certain aspects of Aboriginal health services were not under our control before the beginning of 1973.

In an attempt to knit together the current fragmented approach and to provide some uniformity in methods of tackling Aboriginal health problems, a National Plan was prepared which aims within ten years to raise the health standards of Aborigines to the levels enjoyed by their fellow Australians.

It is envisaged that this Department, through the new Aboriginal Health Branch and in consultation and co-operation with Federal and State Departments and other expert bodies, will provide a central advisory service on measures needed to achieve the aim of the National Plan, and thus stimulate a uniform, national approach to the subject. An important aspect of this consultation and co-operation is the very close relationship which has already been established with the Department of Aboriginal Affairs. That Department has itself established an Aboriginal Health Section to ensure that programs being developed for Aboriginal advancement in general will take full account of health aspects, and vice versa.

Aborigines will, of course, be invited to participate actively in all phases of implementation of the Plan.

Coincidentally with these new developments, the Department assumed full responsibility for Aboriginal health in the Northern Territory as from 1 January 1973, when it was given the task of providing services on



Aboriginal settlements and of supervising subsidised health services on pastoral properties. A new system of care has been devised in the Territory to cope with the expanded responsibilities.

### *Dental services*

The other major new role for the Department, relating to dental care, is a direct result of the Government's concern over poor dental health in the community, particularly among children.

The Department, through its new Dental Services Branch, will supervise Federal grants to the States for the development of a unified school dental service which will eventually offer free dental care to all children under fifteen years of age. School dental clinics are to be established, together with more training institutions for dental therapists who will staff the clinics under the supervision of dentists. The New Zealand Government has kindly consented to train 100 therapists, pending the development of more Australian training institutions.

### *Occupational health*

Another new involvement for the Department in the new financial year will be in the field of occupational health. Federal Cabinet gave approval in March for the establishment of an Occupational Health Branch which is to survey the present limited services provided for Australian Government employees, report on the need for a comprehensive service to cover all such employees, and develop procedures for the introduction of an occupational health service throughout the Government.

### *Statistics*

Reflecting these new areas of interest and the general change of emphasis for the Department are the statistical tables in this report. The Department's prime concern is now the improvement of all facets of community health and, in line with overseas trends, we are endeavouring to illustrate this concern statistically by the use of 'health indicators'. The statistical appendix has been expanded, principally by including a section on these indicators which endeavours to bring together some of the more significant statistical series measuring Australia's current standard of health and historical trends in those series.

No set of tables has yet been developed to indicate fully the levels of health in a community. Perhaps in the course of time such a set will be evolved. In the meantime, this is a first attempt to provide a broader perspective of the level of health of the Australian community, and it is hoped that the tables will form the basis for development of more comprehensive reporting in future years.

The tables, prepared by the Department's Central Statistical Unit, have been derived mainly from Bureau of Census and Statistics publications. One of the difficulties encountered in preparing some of the tables is the lack of uniformity between States, which makes it difficult to reach an Australian aggregate and to make valid comparisons between the States. The Department is helping to co-ordinate activities with a view to improving this comparability.

### *Quarantine*

In the more traditional areas of the Department's work, the year brought a further general expansion of activity. In the Quarantine Service, for instance, the introduction of lower international air fares and the growing



popularity of round-trip cruises to neighbouring countries increased the number of travellers entering Australia, necessitating increased vigilance against the introduction of exotic human and plant diseases.

The problems engendered by the speed of modern international jet travel—problems shared by every quarantine service in the world—were highlighted sharply during the year with Australia's worst cholera episode of the century. Forty-one cases occurred among passengers who ate infected food taken aboard a jet aircraft en route from London to Sydney, and who had scattered to destinations throughout Australia before their symptoms appeared. The emergency procedures instituted by the Quarantine Service, in co-operation with State authorities, were highly successful and no secondary cases occurred. However, legislation concerning International Certificates of Vaccination was tightened and other procedures were examined and improved in the light of the experience gained.

The occurrence of smallpox cases during the year in Britain and Japan—both countries on direct air routes to Australia—also served as a reminder that quarantine vigilance cannot be relaxed while such diseases still exist in the world.

Australia was again kept free of exotic animal disease during the year, and the Animal Quarantine Branch is to be congratulated on its efforts. Relaxation of regulations covering the import of cats and dogs was recommended. The list of countries from which these animals may be imported was extended to include Papua New Guinea, Hawaii, Fiji and Norfolk Island, all of them rabies-free areas. The Branch also developed plans for the establishment of a high security animal quarantine station on an off-shore island, and three possible locations—Christmas, Norfolk and Cocos Islands—were examined. A final decision is expected early in the new financial year.

The problems of the Plant Quarantine Branch in keeping the country free of plant diseases were compounded during the year by the increasing use of container transport, and new methods of fumigation were investigated. A continuing survey showed that the rust fungus *Puccinia chondrillina*—the first fungus to be introduced to Australia as a biological control agent—has had spectacular success in controlling skeleton weed, with resultant increased yields of wheat in areas which were formerly badly infested.

### Public health

In the public health field, a variety of investigations was carried out during the year by committees of the National Health and Medical Research Council, assisted by officers of the Public Health Branch. For instance, the growing awareness of the effects of methylmercury on certain population groups prompted a continuing investigation into the effects of mercury and other metals on seafoods. A booklet, *Methylmercury in Fish—Effects on Human Health*, was prepared and widely distributed, while Council approved a grant of \$16,500 for a survey on the consequences of methylmercury ingestion from fish in selected population groups.

A public warning was issued in December 1972 of a possible health hazard associated with the use of certain types of imported pottery and chinaware utensils which have a high content of leachable lead in their glazes. The N.H. & M.R.C. had previously considered this problem after an investigation by its Occupational Health Committee, and had made recommendations concerning the sale and labelling of such utensils and the storage of acidic foods and beverages in them. The public warning was



issued after the Department had been advised that quantities of imported crockery with high lead content in the glaze were on sale throughout Australia.

A further pesticides residue survey began during the year to determine whether there has been any change in the levels of hexachlorobenzene (HCB), dieldrin and mercury in foodstuffs since an earlier survey in 1970.

### *Anti-smoking program*

The Department became more deeply involved in behaviour-based health problems during the year, particularly cigarette smoking, and a major anti-smoking campaign, foreshadowed in last year's report, was launched. The \$500,000 program involved a national advertising campaign in all media and an extensive printing program of educational material, together with support for health education bodies in the States. In addition, the first stage of a new national survey of the smoking habits and attitudes of schoolchildren was carried out. The same schools used in an earlier survey in 1968 were visited again, but the sampling was extended this time to students in the seventeen to eighteen years age group.

Although it has not been possible to measure with any accuracy the effect of the campaign, it is felt that significant progress has been made in attempts to influence community attitudes towards smoking. Impetus was given to the campaign by enforcement throughout Australia of the printing of health warnings on cigarette packets, and by the decision to follow all television and radio cigarette commercials with a health warning.

The campaign assumes even greater importance when it is realised that, on present trends, deaths from lung cancer can soon be expected to exceed those from traffic accidents.

### *Tuberculosis*

The campaign against tuberculosis continued throughout the year, with only a relatively small reduction in the numbers of new cases discovered. The 1,475 new cases notified in 1972 were only seven fewer than notifications in 1971—a decline in notification rate of 0.5 per cent compared to a decline of 13.4 per cent in 1971 over 1970. Two States, Tasmania and Western Australia, and both the Northern Territory and the A.C.T. recorded increases in new cases. In the Northern Territory, this reflected more vigorous case-finding measures by mass chest X-ray surveys, but no special reasons for the increase were apparent in the other areas.

The figures indicate the need for continued caution in assessing the extent of tuberculosis control achieved in Australia. It is obviously prudent while awaiting more definite signs of its defeat to maintain the present firm grip on the disease, and guard against an upsurge in a largely non-immune population through premature relaxation.

### *Adverse drug reactions*

The Department's computer is now used for processing reports of suspected adverse reaction to drugs. The reports, received from doctors, hospitals, dentists, pharmacists and drug companies, are collated and analysed by the computer for the Australian Drug Evaluation Committee and its sub-committees. The use of the computer is facilitating Australia's contribution to the international drug monitoring program of the World Health Organisation.



### *International narcotics control*

During the year, Australia was represented with full membership status for the first time on the United Nations Commission on Narcotic Drugs—the functional body of the U.N. Economic and Social Council which deals with international drug control. An officer of the Department, together with officers from the Departments of Customs and Excise and Foreign Affairs, represented Australia at the twenty-fifth session of the Commission, held in Geneva in January 1973.

In achieving membership of the Commission, Australia indicated its readiness to fulfil its international obligations in the field of drug abuse control, and to pursue an active role in international efforts to combat drug abuse and to control drug trafficking. The Commission placed renewed emphasis on the importance of education, treatment and rehabilitation as essential measures in effective drug control.

### *Pharmaceutical benefits*

In the pharmaceutical benefits area, significant events included the removal of restrictions on the minor tranquilliser diazepam from 1 December 1972, and the listing of certain oral contraceptives as benefits from 1 February 1973. Initially, patients were able to obtain a prescription for one month's supply of oral contraceptives with five repeats, but the Government later amended this to two months' supply with two repeats. The anticipated cost of listing oral contraceptives for the full 1973-74 year is \$8.3 million.

The total cost of providing benefits for the 1972-73 year, including the patient contribution on general benefit prescriptions, was \$226.3 million—an increase of \$17.5 million over 1971-72. This was the first full year of operation of the increased patient contribution (for people other than pensioners and Subsidised Health Benefits Plan beneficiaries) and contributions rose by \$13.2 million during the year. Consequently, although the cost of benefits in this category rose by \$10.5 million to \$136.1 million, Government expenditure fell by \$2.6 million to \$87.4 million.

This reduction was, to a degree, offset by increases arising from the first full year's operation of an increase of seven cents per prescription in chemists' dispensing fees, together with payment of a three cents special allowance on all ready-prepared prescriptions, and a fifty cents allowance per prescription for ready-prepared drugs of addiction dispensed as benefits. These payments to chemists, together with a greater utilisation of more expensive drugs, resulted in an increase in the average cost per prescription from \$2.46 to \$2.59. This, combined with a rise in the average number of prescriptions per head from 5.62 to 5.71, produced an average cost per head of \$14.78 for combined general and pensioner benefits, compared with \$13.82 in 1971-72.

Expenditure on drugs provided in public hospitals and through miscellaneous services rose by \$0.9 million to \$32.1 million. The comparatively low increase, however, arose from a delay in lodgment of claims by some instrumentalities.

During the year the Pharmaceutical Benefits Advisory Committee began to assume a more public role by undertaking to inform the medical profession of the reasons for some of its recommendations. The first instance of this was a letter from the Chairman on the forthcoming deletion of certain preparations which were available as benefits to pensioners only. This type of letter is an acknowledgment of the realisation—particularly when a widely-used benefit is being removed—that the medical practitioner should be informed in advance so he can adjust the treatment of his patients. It also provides the practitioner with authoritative information about the use of a



drug which might not otherwise be readily available to him. It is expected that similar letters will be sent from time to time in the future.

Plans are also being made to produce a journal which will provide a regular flow of information for medical practitioners on developments in chemotherapy and related matters.

### *Family planning*

Following a Government decision to give financial support to family planning services in Australia, the Department began administering grants to approved bodies from 1 April 1973. The Family Planning Association is receiving \$200,000 a year and the National Catholic Welfare Committee \$100,000 a year, while additional grants totalling \$50,000 are available for other voluntary organisations in the field.

### *Mental health*

The Department will also be involved in the administration of grants for State community mental health care programs. It was announced in May this year that the Federal Government would provide up to \$7.5 million during 1973-74 to assist the States with capital costs of approved additional facilities for alcoholics, drug dependants and the mentally ill provided outside of mental hospitals for community services, including both non-residential and hostel facilities. The money will also be used for grants to voluntary organisations involved in alcoholism and drug dependency, and to provide, under certain conditions, direct subsidies to local governments for the proportion of their community welfare expenditure specifically devoted to mental health, alcoholism and drug dependency.

### *Medical research*

The activities of the National Health and Medical Research Council continued to expand during the year, and more than ninety committees and sub-committees are now required to cope with the Council's broad spectrum of activities.

During the 1973-75 triennium, a total of \$13.5 million has been made available to the Council for medical research projects. During the current year, grants have been made for a number of specific areas of research, including causes of mental and physical disablement, drug abuse and addiction including alcoholism, respiratory diseases, and prevention and treatment of arthritis. Special overseas travelling fellowships were awarded in the fields of epidemiology, psychiatric research and clinical pharmacology.

### *Northern Territory Health*

The changing face of the Northern Territory is being reflected in a changing emphasis in the provision of services by the Department's Northern Territory Medical Service. The rapidly-growing population is maturing in outlook and identifying with the Territory, showing greater interest in civic affairs and a desire to participate in determining the Territory's future.

This new community interest was evidenced by the establishment of a committee of inquiry which examined the problems, as well as the shortcomings, of the Territory's health services in great detail. Many of the recommendations of the report, which was tabled in the Legislative Council in August 1972, have already been implemented. A number of the major recommendations of the Gibb Committee, which was set up in 1970



to examine ways of improving the application of social, economic and educational policies towards Aborigines on pastoral properties in the Territory, have also been adopted by the Federal Government.

As mentioned earlier, the Department assumed responsibility at the beginning of 1973 for health services on Aboriginal settlements and pastoral properties. Following this, a complete review of rural health services was undertaken, leading to a major reorganisation and expansion which will upgrade the total preventive and curative programs. Much thought has been given to ways and means of reducing Aboriginal infant mortality and morbidity and generally raising the standard of Aboriginal health. An expanded staff structure was approved to allow the Department to meet its growing responsibilities.

Other events of significance during the year included the accreditation of Darwin Hospital by the learned colleges for post-graduate studies in surgery, anaesthetics, obstetrics and gynaecology, paediatrics and general practice, while the Director of Health became a member of the Territory's Legislative Council as an official Government representative.

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

In the Australian Capital Territory, preparations for the Territory's first community health centres highlighted the year's activities. Against a backdrop of continuing public health care and education, A.C.T. Health Services planned and arranged construction of centres in the Canberra suburbs of Melba and Scullin, while detailed planning began for a number of other health centres, including two larger regional centres to be commissioned in mid-1974. It was decided that the Melba centre would be staffed by salaried doctors and the Scullin centre by doctors working on a fee-for-service basis—an experimental approach which will allow realistic comparisons to be made of the two systems.

Despite some controversy, the Melba and Scullin projects advanced quickly, with much public support, and the Melba centre was opened as the new financial year began. The Scullin centre opened some five weeks later. There was much active community participation in planning, particularly of the Melba centre where a joint community and staff committee met regularly in the months prior to completion.

In the area of hospital development, most of stage one of the Woden Valley Hospital—Canberra's second major hospital—was completed and handed over for occupation during the year. Initial planning was started for the extension of the podium area of Canberra Community Hospital, while tenders were called for construction of the first stage of a central hospital services complex.

### *National Hospitals and Health Services Commission*

The Department lent assistance with staff and resources to the Interim Committee of the National Hospitals and Health Services Commission, the body being established by the Government to recommend allocations of capital and operating funds to develop and maintain health care delivery systems throughout Australia.

It is envisaged that the Department will continue to work closely with the Commission and will, in fact, be given the role of implementing and administering the allocation of funds recommended by the Commission, and



of monitoring the progress and assessing the success of projects funded. Two Departmental officers are members of the Interim Committee, under the chairmanship of Dr Sidney Sax.

*A tribute*

Finally, I would like to pay tribute to those former staff members who were transferred during the year to other Departments following the change in administrative arrangements. Collectively they had given many years of loyal and efficient service to this Department and I would like to place on public record my appreciation of and gratitude for that service.

# Pharmaceutical Benefits

The Pharmaceutical Benefits Scheme continued to expand during the year, both in relation to the drugs and medicinal preparations available as benefits and in the utilisation of the scheme by the public. Major changes included the listing of certain oral contraceptives as benefits from 1 February this year, and the removal of restrictions on the minor tranquilliser diazepam from 1 December 1972.

## *The cost of the scheme*

The total cost of providing benefits in 1972-73, including the patients' contribution on prescriptions supplied to people other than eligible pensioners and their dependants, was \$226.3 million. This represented an increase of \$17.5 million or 8.4 per cent over the 1971-72 figure, and compared with an increase of \$24.1 million or 13 per cent in 1971-72 over the previous year.

Increased costs were distributed as follows:

	<i>Increase in 1971-72 over 1970-71</i>	<i>Increase in 1972-73 over 1971-72</i>
	<i>\$'000</i>	<i>\$'000</i>
Government expenditure		
Prescription benefits available to the general public	1,885	— 2,630
Benefits provided in public hospitals and through miscellaneous services	4,284	860
Pensioner pharmaceutical services	6,824	6,134
Total increased Government expenditure	12,993	4,364
Increased patient contribution on prescriptions supplied to the general public	11,083	13,174
Total increased costs	24,076	17,538

An amount of \$703,416, accrued in 1971-72, included in 1972-73 cost and expenditure figures, is excluded in calculating the average cost per prescription and the cost of groups of drugs.

## *General pharmaceutical benefits*

The increased patient contribution was in operation for a full year for the first time, and because of this Government expenditure fell by \$2.6 million to \$87.4 million as compared with 1971-72. However, total costs, which include the patient contribution, rose by \$10.5 million to \$136.1 million. This increase



reflected the effect of a 16 cents increase in the average cost per prescription to \$2.76.

The first full twelve months' operation of the additional seven cents per prescription in the dispensing fee, and the payment of a special allowance of three cents on all ready-prepared prescriptions, added significantly to the average cost. The effects for the year of these measures and of other factors contributing measurably to rising costs are listed below:

	<i>Cost increase in 1972-73</i>
	\$
Increase of seven cents per prescription in the dispensing fee	3,632,000
Payment of a three cents special allowance on each ready-prepared prescription	1,486,000
Growth in population	1,688,000
Changes in the list of benefits	2,399,000

Details of the main movements in the pattern of prescribing general benefits are given in the following table:

#### GENERAL PHARMACEUTICAL PRESCRIPTION BENEFITS

Table of Drug Usage — Selected Groups, Ready-Prepared Items

<i>Drug Group</i>	<i>1972-73</i>		<i>Variation from 1971-72</i>			
	<i>Prescription</i>		<i>Prescription</i>			
	<i>Cost</i>	<i>Volume</i>	<i>Cost</i>	<i>%</i>	<i>Volume</i>	<i>%</i>
	<i>\$'000</i>	<i>'000</i>	<i>\$'000</i>		<i>'000</i>	
Penicillin	14,475	5,018	1,376	10.5	276	5.8
Drugs acting on blood vessels	10,152	2,201	393	4.0	- 37	- 1.6
Tetracyclines	9,658	3,502	370	4.0	- 58	- 1.6
Analgesics	9,348	3,362	825	9.7	147	4.6
Diuretics	8,405	2,394	878	11.7	192	8.7
Preparations for bronchial spasms	8,097	2,003	1,456	21.9	147	7.9
Tranquillisers	5,316	2,015	2,608	96.3	1,257	165.9
Antidepressants	4,760	1,854	- 301	- 6.0	248	15.5
Sedatives and hypnotics	2,530	2,046	- 410	- 13.9	- 425	- 17.2
Drugs acting on heart	2,806	694	919	48.7	45	6.9
Sulphonamides	2,635	1,034	1,087	70.2	258	33.3
Urinary antiseptics	1,901	521	- 451	- 19.2	- 24	- 4.4
Expectorants and cough suppressants	30	11	- 673	- 95.7	- 796	- 98.7



### *Pensioner pharmaceutical benefits*

As in 1971-72, the cost increase for benefit prescriptions supplied to pensioners and their dependants exceeded the increase in prescription volume. The first full year's experience of the additional seven cents per prescription dispensing fee and the three cents special allowance paid to chemists for ready-prepared benefits added to the cost. The effects of these and other factors which significantly affected costs have been assessed as follows:

	<i>Cost increase in 1972-73</i>
	\$
Increase of seven cents per prescription in the dispensing fee	1,909,000
Payment of a three cents special allowance on each ready-prepared prescription	753,000
Growth in population	2,572,000

The main changes in the pattern of prescribing pensioner pharmaceutical benefits are set out in the table below:

### PENSIONER PHARMACEUTICAL PRESCRIPTION BENEFITS

Table of Drug Usage — Selected Groups, Ready-Prepared Items

<i>Drug Group</i>	<i>1972-73</i>		<i>Variation from 1971-72</i>			
	<i>Prescription</i>		<i>Prescription</i>			
	<i>Cost</i>	<i>Volume</i>	<i>Cost</i>	<i>%</i>	<i>Volume</i>	<i>%</i>
	<i>\$'000</i>	<i>'000</i>	<i>\$'000</i>		<i>'000</i>	
Analgesics	7,270	3,603	859	13.4	172	5.0
Drugs acting on blood vessels	5,457	1,547	402	8.0	31	2.0
Diuretics	6,452	1,720	841	15.0	183	11.9
Preparations for bronchial spasms	1,747	630	334	23.7	72	13.0
Tranquillisers	4,595	1,554	275	6.4	289	22.8
Drugs acting on heart	2,077	847	432	26.2	14	1.7
Antacids	1,873	1,150	213	12.8	64	5.9
Water and electrolyte replacement	1,497	830	326	27.8	118	16.5
Anti-diabetics	1,393	377	124	9.7	4	1.1
Sulphonamides	488	196	185	61.0	45	29.7
Skin sedative applications	748	442	133	21.7	55	14.3

### *Public hospitals and miscellaneous services*

A further marked increase occurred in Government expenditure to reimburse the cost of drugs supplied through approved public hospitals and by miscellaneous services and associations — for example, Flying Doctor



Services, the Bush Nursing Association and the Colostomy and Ileostomy Associations. Expenditure rose by \$0.9 million or 2.8 per cent to \$32.1 million, compared with an annual rate of increase of 12.4 per cent experienced over the last ten years.

Of the total increase, \$0.7 million was attributable to drugs provided in public hospitals, which included \$251,217 for drugs provided in the Northern Territory. In previous years no provision was made under the National Welfare Fund for reimbursement of the cost of drugs supplied through Northern Territory public hospitals. An increase of \$176,182 in the cost of benefits provided through miscellaneous services mainly arose from the provision of haemodialysis fluid and normal saline, and increased payment to reimburse the Colostomy and Ileostomy Associations for benefits supplied to patients.

More detailed statistics relating to the provision of pharmaceutical benefits are in Tables 83-94 and Graphs 19-22 on pages 215-224.

### *Dispensing fees*

Under an agreement reached between the then Minister for Health and representatives of the Pharmacy Guild on 5 April 1972, the Joint Committee on Pharmaceutical Benefits Pricing Arrangements examined problems associated with the passing on to chemists of increased costs for drugs of addiction. It also looked at problems of the effect on chemists arising from the reduction in discounts allowed to wholesalers by manufacturers.

The Joint Committee recommended that for ready-prepared prescriptions for drugs of addiction dispensed on and after 1 July 1972, a special fee of fifty cents per prescription be paid. It further recommended in relation to the changes in terms of trade between manufacturers, wholesalers and retail chemists that a special payment of three cents per ready-prepared prescription be paid for prescriptions dispensed on and from 1 May 1972. Further it was recommended that, because of the fluidity of the latter situation, the position be reviewed during the last week of September and the first week of October 1972. The Government accepted these recommendations and the additional payments were implemented.

The review of the three cents payment was carried out as planned, but because the position was not then clear a further review was made in December 1972. The Joint Committee made recommendations based on these reviews to the Minister in June 1973 which the Government subsequently accepted. For ready-prepared prescriptions dispensed in October and November 1972 the special payment was increased to five cents per prescription and for December 1972 by a further one cent to six cents. As from 1 January 1973 the special payment was absorbed in new rates of dispensing fees.

The April 1972 agreement also provided that an enquiry into chemists' earnings, costs and profits be carried out for the financial year 1972-73 under the auspices of the Joint Committee. At the same time the then Government also expressed willingness to update the January 1972 levels of dispensing fees, using an agreed formula, as at 1 January 1973 while the enquiry was in progress. The enquiry proceeded throughout 1972-73, and at this stage information on financial trading results for the year has to be obtained to complete the collection of all necessary data. It is expected that the results of the enquiry will be available during the latter part of the March quarter of 1974. These will be used as the basis of new rates of remuneration, to be retrospective to 1 July 1973.



The formula for the updating of the January 1972 levels of dispensing fees as at 1 January 1973 was agreed on by the Joint Committee. Recommendations on the fee levels to operate from that date were made by the Joint Committee to the Minister in June 1973. The Government subsequently agreed to the Committee's recommendations and new rates—50 cents per prescription for ready-prepared items and 72 cents for extemporaneous preparations — were introduced for prescriptions dispensed on and from 1 January 1973.

### *Changes in listing*

The Pharmaceutical Benefits Advisory Committee recommended the listing of fifty-six new items during the year. In addition, forty-two new forms and strengths of existing benefits were included in the list. Seventy-five items were deleted from the list of ready-prepared items.

Perhaps the most significant additions to the list of benefits were certain oral contraceptive preparations which became available on 1 February 1973. From that date patients were able to obtain a prescription for one month's supply with five repeats. Subsequently the Government decided to amend this to prescriptions for two months' supply with two repeats.

A number of important changes were made in the restrictions on the prescribing of certain benefits. For instance, those previously applying to the oral forms of diazepam, a minor tranquilliser, were removed on and from 1 December 1972 and the items became available as general benefits. Restrictions were imposed on tetracosactrin and the paediatric forms of tetracycline, effective from 1 December 1972. In addition, on 1 August 1972 the allowable quantities of antidepressants were reduced after the Advisory Committee had received advice from medical experts. Manufacturers were also encouraged to package antidepressants in strip form rather than loose in containers, to lower the risks of accidental ingestion and poisonings.

### *Price negotiations*

The prices of drugs listed as pharmaceutical benefits are under constant examination by the Department. Negotiations with the pharmaceutical manufacturers play an important part in stabilising the costs of benefit items, particularly as manufacturing costs have continued to rise.

Negotiations carried out in 1972-73 on benefit items already listed achieved price reductions which are estimated to result in an annual saving of \$1,781,000 at present prescription volumes. In addition, price negotiations were conducted concerning items recommended by the Pharmaceutical Benefits Advisory Committee for listing as pharmaceutical benefits, and for currently-listed items for which the Committee has recommended changes in the listing. Had these negotiations not been conducted, it is estimated that additional expenditure of \$2,151,000 annually would have been incurred.

The Department has long recognised the desirability and the need to have cost information available when considering the reasonableness of prices for benefit items. Previous attempts to obtain such information from pharmaceutical manufacturers on a voluntary basis have not been very successful, particularly where patented drugs are concerned. The December 1972 revaluation of the Australian dollar and the various movements in overseas currencies, together with general upward movements in manufacturing costs, have combined to make judgments on the reasonableness of drug prices a difficult matter in the absence of detailed cost information. In order to obtain the necessary data, the Department has



introduced a *Costs Information* form on which manufacturers are being asked to submit the relevant information, particularly in cases where the manufacturer wishes to obtain the Department's agreement to an increase in price or where it is considered that he should be required to justify the current price.

### *Offences*

The Pharmaceutical Services State Committees of Inquiry considered 97 references during the year concerning the service or conduct of pharmacists approved to supply pharmaceutical benefits. Although the references related mainly to the alleged supply of benefits which failed to meet the required standards of dispensing, some concerned alleged breaches of the National Health Act and the relevant Regulations. As a result of the Committee's recommendations, 72 chemists were warned to exercise more care in dispensing and 45 were given Ministerial reprimands, eight of which were published in the Government Gazette. Four chemists were suspended for periods up to two months. In the remaining two cases finalised during the year, no further action was taken. Eleven cases remained unresolved at 30 June 1973 as compared with 37 cases carried over from 1971-72.

During the year the Medical Services State Committees of Inquiry considered three references for alleged offences by doctors relating to pharmaceutical benefits. Five cases unresolved in 1971-72 were finalised. Following the Committee's recommendations, \$1,637 was recovered. Four doctors received Ministerial reprimands, two of which were published in the Government Gazette. Four cases remained unfinalised at 30 June 1973. Court proceedings were started in connection with two chemists and four doctors. One chemist was fined for submitting false statements. The other cases are still before the courts.

### *Communication with medical profession*

During May this year the Pharmaceutical Benefits Advisory Committee sent a letter to all medical practitioners in Australia, advising them of the reasons for deleting from the benefits list certain preparations containing fixed combinations of short-acting barbiturates with analgesics, which were available as benefits for pensioners only. This was the first of a series of similar letters the Committee plans to send in the future to keep the medical profession informed of the reasons for its recommendations. This will give practitioners time to adjust the treatment of patients if necessary, as well as providing authoritative information about the use of drugs which might not otherwise be readily available to doctors.

Consideration is being given to producing a regular publication which would provide medical practitioners with information on developments in chemotherapy, the prescribing and use of existing drugs and medicinal preparations and similar subjects. It is hoped to begin publication during the 1973-74 financial year.



# Quarantine

The year was a memorable one for the Department's Quarantine Service, with the recording of Australia's worst cholera episode of the century. Forty-one cases occurred among passengers who had travelled on an aircraft from London and who ate infected food taken aboard en route. No secondary cases occurred, but the episode served as a sharp reminder of the problems posed by the speed of modern travel, and of the need for unceasing vigilance by quarantine authorities throughout the world.

In the animal quarantine sphere, investigations continued into the establishment of a high security quarantine station on an off-shore island, while the current requirements for importation of animals into Australia were reviewed.

Plant quarantine officers continued their ceaseless task of preventing the introduction of plant diseases and pests into the country, and expressed concern about the increase in deliberate concealment of prohibited material.

## HUMAN QUARANTINE

An ever-increasing number of travellers continued to enter Australia during the year, largely because of the popularity of round-trip cruises to neighbouring countries and because of the introduction of lower international air fares.

The number of ships cleared through quarantine in 1972-73 was 5,975 and aircraft 11,879, compared to 5,872 ships and 7,895 aircraft in 1971-72. The total number of passengers cleared for the year was 921,854, compared with 812,385 the previous year.

### *Cholera episode*

The cholera episode was believed to be the first on record where the disease had been introduced to another country through ingestion of infected food on an aircraft. It happened this way:

On 4 November 1972 an aircraft which had begun its flight in London and had called at Amsterdam, Bahrain, Kuala Lumpur and Singapore arrived in Sydney with 374 passengers. Two days later a passenger from the aircraft was admitted to an infectious diseases hospital with suspected cholera. The disease was confirmed on 7 November and the World Health Organisation was immediately notified.

The procedures which had been planned for such an emergency were put into action. Contact was made with all passengers on the aircraft, many of whom had left Sydney for other parts of Australia, including the Northern Territory. Forty-two of the passengers who had arrived on the plane in



Sydney were in transit to New Zealand and arrangements were made quickly to trace their movements and interview them. Three of this group subsequently developed cholera with one case unfortunately proving fatal. All passengers were traced and interviewed, and any with symptoms or signs suggesting cholera infection were admitted either to a quarantine station or to an infectious diseases hospital for exact diagnosis and treatment.

Pathological investigations were undertaken as a routine measure and it was later ascertained from laboratory tests that the organism responsible for the outbreak was *Vibrio Cholerae* El Tor, serotype Inaba. The cultures were forwarded to the Cholera Reference Laboratory in Calcutta for phage typing. The phage type was identical with cases subsequently confirmed in Bahrain.

Out of the 374 passengers on the aircraft, forty-one were confirmed as suffering from cholera during the eleven days subsequent to arrival. There were no secondary cases and, in consequence, Australia was not declared by the World Health Organisation as an area infected with cholera.

Investigations established that the episode was almost certainly due to contaminated food taken on the aircraft at Bahrain and served to economy class passengers only just before arrival at Kuala Lumpur. Confirmed cases of cholera were totally confined to these economy class passengers. Similar food was taken on another aircraft bound for London which called at Bahrain two hours before the aircraft bound for Australia was revictualled. Subsequently two cases of cholera were reported in London among passengers from that flight.

As a result of the Australian incident, legislation was tightened concerning International Certificates of Vaccination against cholera required of travellers from overseas countries.

#### *Smallpox precautions*

In March this year, a laboratory attendant contracted a mild form of smallpox during the course of her duties at a London hospital. A married couple who later visited a patient in the ward where the laboratory attendant had been admitted subsequently developed smallpox and both died from the disease. Japan also notified a case of smallpox in April 1973 — a case imported from Bangladesh.

Because England and Japan are both countries on direct air routes to Australia, vigilance at first ports of arrival was increased until the outbreaks had subsided.

The cholera incident here and the occurrence of smallpox in England and Japan demonstrated that it is not possible to relax our precautions at the present time against the importation of exotic diseases into this country.

#### *Smallpox training*

Since 1949 it has been Departmental practice to send medical officers to India for two weeks' training in the clinical diagnosis of smallpox, and more than fifty departmental quarantine officers have received this instruction. In recent years, owing to the program of eradication of smallpox conducted by the World Health Organisation, there have been insufficient cases for training purposes. This year, however, a major outbreak occurred in Bangladesh and with the agreement of the Government of that country, arrangements were made for two teams of three quarantine officers to attend the infectious diseases hospital at Dacca for first-hand experience in diagnosis and treatment of smallpox cases.



## *Conferences*

The Quarantine Service was again represented at a number of meetings during the year to consider additional methods of facilitating the movements of overseas ships and aircraft. A representative also attended the Eighth Session of the International Civil Aviation Organisation held in Yugoslavia in March 1973, where standards and recommended practices relating to air travel were discussed.

## **ANIMAL QUARANTINE**

During the year the Animal Quarantine Branch undertook a review of the quarantine requirements for the importation of dogs and cats. Previously, dogs and cats could be imported only from New Zealand, the United Kingdom and Ireland, and from the latter two countries travel to Australia had to be by sea. The list of countries from which importations can take place has now been extended to include certain rabies-free countries in the Pacific area—Papua New Guinea, Hawaii, Fiji and Norfolk Island. In addition, importations from all approved countries can now take place by air. Prior approval to import is required and imported animals must undergo certain periods in quarantine and comply with certain residency qualifications in the country of origin.

The new importation requirements were designed also to remove certain anomalies and possible loopholes in the previous quarantine requirements which might, on occasion, have presented a risk of rabies entering Australia.

Quarantine conditions were also formulated to permit the importation of pigs and pig semen from Great Britain (England, Wales and Scotland) to satisfy a demand by pig breeders to import pedigree stock to enable them to infuse new bloodlines into existing stock. The importation of pigs from Great Britain had been prohibited since 1952 because of the risk of introducing disease, particularly swine fever and foot and mouth disease, but swine fever has now been eradicated from the country and the last outbreak of foot and mouth disease was in 1968. Unfortunately in December, before any importation of pigs or semen could take place, outbreaks of swine vesicular disease (a condition clinically similar to foot and mouth disease) occurred in England, and as a result of this all importations from Britain are presently in abeyance.

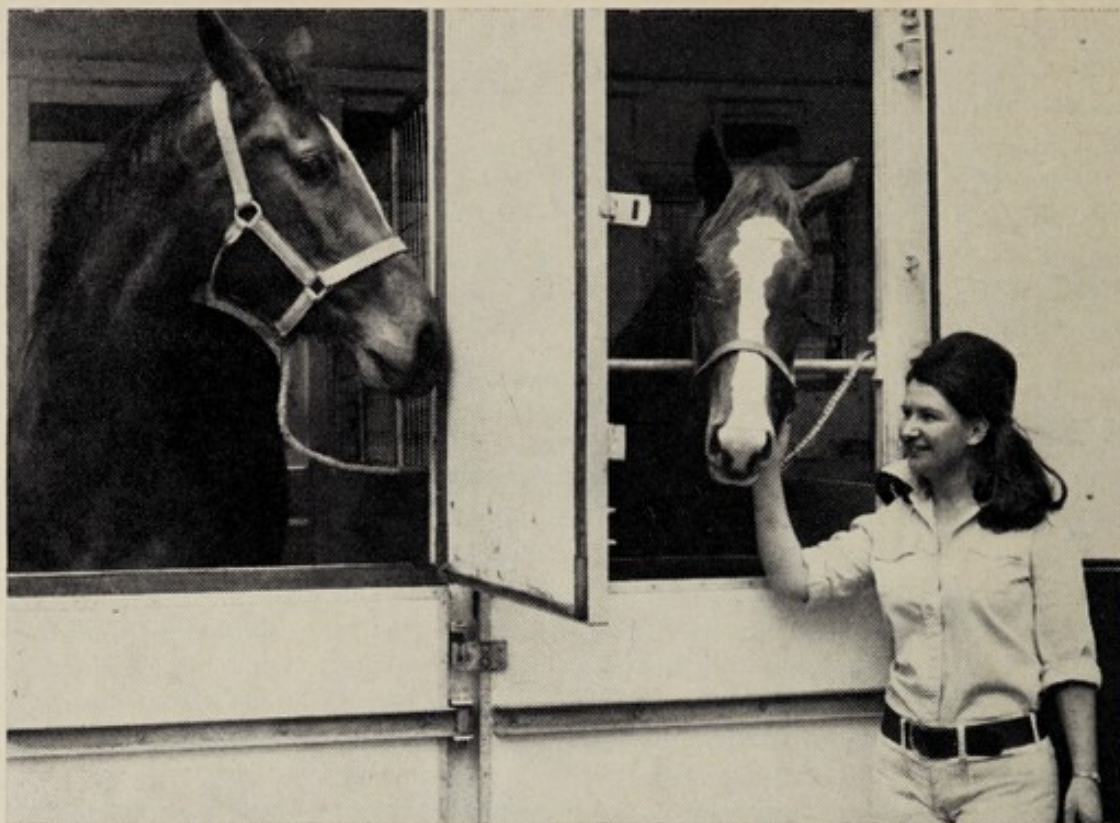
Amendments to the conditions for the importation of horses from the United Kingdom and Ireland have been made to permit importation to Australia by air, subject to certain conditions including travel by an approved route.

### *High security quarantine station*

Towards the end of 1971, proposals were formulated for the establishment of a high security animal quarantine station on an off-shore island. The station would enable imports of improved breeds of cattle, sheep, pigs and goats to be made without risk of introduction of exotic animal disease.

To ensure complete separation from the mainland of Australia, it was decided to locate the station on an off-shore Australian island, not less than 100 miles from the mainland and Tasmania. Three islands—Christmas, Cocos and Norfolk—have been surveyed to determine their suitability for the purpose.





*After a detailed investigation by the Animal Quarantine Branch, permission was given for horses to be transported from the United Kingdom by the container method. These two horses, part of a consignment of six racehorses, arrived in Sydney aboard the container vessel Discovery Bay in January—the first shipment by the new method. Departmental officers have found that the containers, constructed of aluminium and fitted with electric light, running water and forced ventilation, are much more satisfactory from a quarantine point of view than the wooden stalls used previously.*

The station has been designed to accommodate 200 adult cattle or an equivalent number of smaller species for periods of quarantine up to five or six months. The station will be staffed by Australian veterinary officers who will also be responsible for the oversight of health testing of livestock selected for importation through the station. Planning has reached the stage of consideration of the proposal by Parliament, and it is hoped that the station will be constructed and operative during 1975-76.

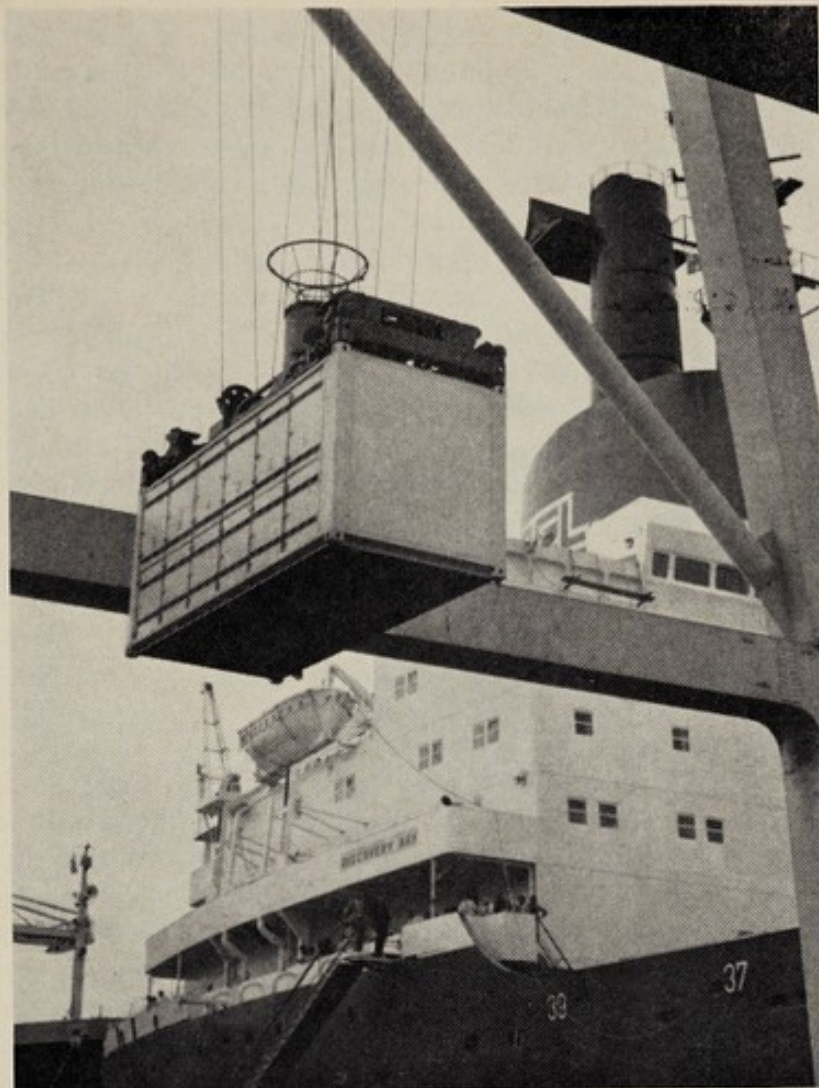
#### **Sydney animal quarantine station**

Australia has a number of animal quarantine stations located near capital city ports. These stations are used mainly, at present, for the quarantine holding of imported dogs and cats, and also for animals intended for export where an importing country stipulates such a requirement.

Arising out of recent neighbour complaint of the nuisance aspect at Abbotsford, the Sydney animal quarantine station is under investigation, and means of correction to noise level are being planned. Because of the factors involved, including the limited land available at this site and an increased demand for animal quarantine accommodation, alternative sites have been inspected in the environs of Sydney with a view to developing another animal quarantine station, initially with 200 dog kennels and fifty stables.



*The container carrying six British racehorses being lowered to the wharf from the Discovery Bay. Below, a farrier thoroughly cleans and disinfects the hooves of one of the horses before it is allowed to leave the wharf.*





### Overseas training

The Commonwealth has an arrangement to pay the return air fare of veterinary officers selected to go overseas to study or observe exotic diseases. Four officers travelled overseas under this plan during the year.

A senior veterinary officer of this Department and a principal veterinary research officer from Victoria attended the Ninth OIE-FAO Regional Conference on Epizootics held in Tokyo in November 1972; the principal veterinary research officer remained following the conference to investigate specific animal diseases, and returned to Australia in December 1972. In December and January, two experienced veterinary virologists, one from Western Australia and one from New South Wales, visited the United Kingdom to study a disease outbreak, initially reported as suspected foot and mouth disease but confirmed on laboratory examination as swine vesicular disease.

## PLANT QUARANTINE

The tempo and scope of plant quarantine activities increased during the year, largely because of the expansion in container cargo shipping from overseas and the growth of tourist traffic in the Pacific. The State Departments of Agriculture provided, as they have been doing for many years, a full and complete co-operative association in the task of preventing the introduction of plant diseases and pests into the country.

Staff are constantly intercepting exotic insect pests and prohibited plant material and there is concern about the increase in deliberate concealment of plant material. This has necessitated a more punitive policy, and as a result there is an increasing number of cases of infringement being brought before the Courts. Significant penalties are being imposed.

### Legislation

A proclamation was gazetted proclaiming Khapra beetle and two related *Trogoderma* species quarantinable diseases. Khapra beetle, regarded as a most serious pest of stored products, is not known to occur in Australia. The proclamation provides the necessary legislative power to declare any vessel or any place in which any quarantinable disease exists, or is suspected to exist, subject to rigid quarantine control.

### Peanut rust

*Puccinia arachidis*, or peanut rust, was first identified in Australia in April this year on peanuts growing on the Atherton Tableland in Queensland. At about the same time, the rust was also identified in the Northern Territory.

In 1967, *P. arachidis* was reported from Brunei, and in 1972 from India. In January 1973, it was reported for the first time in New Guinea in the Markham Valley. The distribution of the rust was previously confined to North, Central and South America and Mauritius. It is believed that the rust was introduced into Brunei on seed. Rust spores are readily wind-borne and it is possible that the disease spread to other countries in the South-East Asia region in this way. The wide dispersal of the first incidence in the Northern Territory and North Queensland at remote locations tends to confirm this theory.



In the United States, rust of peanuts occurs sporadically in the south and does not rank as a disease of significance. The situation in Australia may or may not be different. While this particular case may hopefully not be really significant, it does highlight the importance of attempting regional quarantine as, for example, through the efforts of the Plant Protection Committee for South-East Asia and the Pacific Regions.

#### *Giant African Snail*

The Giant African Snail, introduced to the Rabaul area of New Britain in 1942 by the Japanese as a food item, has spread from this area to ports of the mainland of New Guinea, including the Port Moresby Airport area. In January this year a single live specimen was found in the cargo hatch of a vessel trading between Sydney and Port Moresby.

The Giant Snail could be a very serious pest to plant growth if it became established in the more tropical parts of Australia and its eradication would be virtually impossible. Steps have been taken to intensify vigilance by ensuring that all vehicles, equipment and material entering Australia are thoroughly inspected by quarantine officers at ports where unloading of cargoes from Papua New Guinea is undertaken.

#### *Container transport*

The increasing use of container transport for the movement of goods into Australia continues to challenge the plant quarantine service. After careful preliminary investigations and trials, the in-transit fumigation of timber packaging in containers is being more widely adopted with full precautions. Investigations are proceeding on in-transit fumigation of containers carrying agricultural products.

The development of 'LASH' barge transport, which involves the discharge of floating containers with 370-ton capacity from the 'parent ship' standing off at the port, facilitates the movement of bulk cargo but presents a new set of problems to Plant Quarantine.

#### *Copra from New Guinea*

The increasing incidence of resistance to insecticides in stored products has necessitated a more rigid enforcement of quarantine for the common stored product insects associated with agricultural products. In this connection, it has been necessary for Australia to insist that copra and other agricultural products from Papua New Guinea must be free of all stored products before being released into Australia.

#### *Pelleted seed*

Techniques developed overseas in recent years, which allow individual seeds to be pelleted with materials to enable precision sowing and fertilising, has caused the Branch to carefully examine the principle that it must be possible to inspect fully all imported seed. Following a detailed study, a new set of principles has been determined whereby non-restricted flower and vegetable seeds may be imported as pelleted seed.

#### *Biological control agents*

Insects, formerly the only biological control agents, continue to dominate the applications for deliberate introductions. However, fungi, nematodes and virus are also now involved.

Following the introduction of the rust fungus *Puccinia chondrillina* in 1971



as a biological control agent for skeleton weed—the first time in Australia that a fungus had been introduced as a means of biological control—authoritative reports have indicated that a considerable control of the weed has occurred in eastern Australia. This has resulted in increased yields of wheat from areas which had been badly infested with skeleton weed.

A specific virus for the biological control of *Heliothis* in cotton has been approved for field release.

#### *Avocado disease survey — Norfolk Island*

During the year an officer of the Plant Quarantine Branch undertook a survey of the avocado trees on Norfolk Island, to ascertain whether the seed-borne virus disease sun blotch was present on Norfolk Island. The survey indicated that the disease was not present, and that other diseases which may be deleterious to avocados do not occur on the Island. This will permit Norfolk Island to export avocados to the mainland so long as the Island maintains effective quarantine measures.



*The Director-General, Sir William Refshauge (left), and the Assistant Director-General of the Plant Quarantine Branch, Mr J. R. Morschel (right), with the Director-General of the New South Wales Department of Agriculture, Mr R. M. Watts, at a plant quarantine house erected by the Health Department at the N.S.W. Biological and Chemical Research Institute at Rydalmere, near Sydney. Close co-operation on plant quarantine is maintained with all State Governments.*



### *Leafcutter bee*

Considerable interest has been shown in the possible introduction of the Leafcutter bee (*Megachile rotundata*) as a pollinator for lucerne seed production. After full and detailed investigation approval has been given for its field release.

### *Overseas aid*

Assistance is being given under the Colombo Plan for the supply of equipment at Indonesian ports of entry, and \$112,000 had been expended on this project to June 1973. Australian Plant Quarantine is providing expert assistance in supervision of installation of the equipment. Three Indonesian Plant Quarantine Officers were given on-the-job training in Australia. The Principal Plant Quarantine Officer (Entomology) visited Western Samoa in October 1972 and recommended means of improving the plant quarantine service.

### *Plant Quarantine Research Station*

It is expected that the Research Station being built in the Canberra suburb of Weston will be completed and ready for occupation in October 1973. This station will be the only one of its type in Australia.

### *Plant Quarantine Laboratory*

Among projects carried out at the Plant Quarantine Laboratory during the year were disease screening of apple varieties, including virus indexing; heat therapy treatment of vegetative material to eliminate plant disease; and plant virus indexing procedures. Advice was given by laboratory staff to State Plant Quarantine officers on glasshouse and screenhouse refinements, equipment, heating elements in fumigation chambers, modifications to heating and cooling of acrylic houses, and the achievement of high security in quarantine houses.

Some work was done on methods of infecting crop plants with disease of local origin so that research could be undertaken. Investigation on the use of heat to devitalise seed in small consignments of restricted seed was undertaken, together with the testing of herbicides for devitalisation of larger quantities of restricted seed.

### *Repositories for virus tested fruit varieties*

After many years of negotiation, the Australian Agricultural Council agreed to the establishment of National Repositories for virus-tested fruit varieties of grapes, citrus, pome and stone fruits. The responsibility of convening the national committee responsible for supervising the establishment and maintenance of these units at five proposed locations is with the Plant Quarantine Branch.

### *Publicity*

The Plant Quarantine publicity campaign sponsored by the Australian Agricultural Council and funded by the Federal and State Governments continued to be conducted by the Department of Health during the year.

The new film 'Travelling Garden', which was produced for viewing by migrants before they leave for Australia, has been distributed overseas. The first foreign language version is to be produced in Serbo-Croat. Displays at the Royal Shows in capital cities have been continued, and films on plant quarantine shown in association with the displays have attracted a great deal of public attention.



# Tuberculosis

The ability of tuberculosis to spread from person to person and maintain itself as a danger to public health is well known. Epidemics of tuberculosis are by no means rare and provide a constant reminder of the infectivity of the disease.

In Australia during 1972 two examples of tuberculosis infectivity occurred. Tasmania reported that ten of its forty-eight new cases were contacts of other cases notified during the year, with two of the so-called 'index' cases alone giving rise to seven other cases. One index case was a young man whose son, nephew and niece became active cases. The other index case was a man with extensive disease; an examination of his 282 workmates produced 142 positive tuberculin skin tests, and of these four were found to have active tuberculosis.

The other example occurred in South Australia. After a child attending a child-minding centre was found to have primary tuberculosis, investigations revealed a case of advanced active pulmonary tuberculosis in a staff member of the centre. Further investigations amongst others attending the centre revealed ten more cases of primary tuberculosis requiring treatment, and thirteen other children requiring preventive drug treatment. The skin test positivity rate was far in excess of that normally found in children of pre-school age.

There seems little doubt that the spectacular success so far of Australia's anti-tuberculosis campaign has been the discovery through vigorous case-finding measures — mainly community-wide chest X-ray surveys — of tuberculosis disease to break the chain of infection to unsuspecting contacts. The campaign continued with full vigour during the past year.

## *Control activity*

The 1,605 notifications in the calendar year 1972 of new cases of tuberculosis discovered and of old cases classified as cured but which again broke down with active disease should not be taken alone as a measure of the patient load being carried by control authorities. As at 31 December 1972, there were throughout Australia 4,199 people on active treatment for tuberculosis and a further 160,722 under regular surveillance against possible breakdown with tuberculosis. Of the 4,199 on active treatment, 388 were in hospital and 3,811 were under drug treatment in their homes. Of the 160,722 under regular surveillance, 44,542 were previously treated cases, 53,449 were contacts of diagnosed cases, and the remaining 62,731 were persons with pulmonary abnormalities prone to breakdown with frank tuberculosis.

The need to supervise home treatment, follow up contacts and keep other people at high risk of developing tuberculosis under regular surveillance has greatly increased the work of chest clinics over recent years. There has been a compensating saving in reduced hospitalisation and benefit to the patient and the public health through early discovery of disease development.



## Publications

A steady demand continued for publications on tuberculosis produced by the Department. This necessitated a reprinting during the year of the booklet entitled *The Tuberculin Test*. The publication *Treatment of Tuberculosis with Particular Reference to Chemotherapy* was revised and the third edition was printed and distributed. An important variation was the addition of the drugs rifampicin and ethambutol to those of isoniazid, streptomycin and para-aminosalicylic acid as first line drugs for the treatment of tuberculosis. This publication has been widely accepted by the Universities for use in teaching. Translations into French, German, Greek, Italian, Serbo-Croat and Spanish were obtained of the leaflets *Tuberculosis from A to Z for Patients* and *Tuberculosis Campaign*, and printing is proceeding.

The publication *Bacteriological Investigations for Mycobacteria including Drug Sensitivity Tests* was revised and the new edition, the fourth, is being printed. The title has been changed to *Procedures for the Laboratory Diagnosis of Mycobacterial Infection*. The sections dealing with the submission and methods of examination of specimens have been considerably varied and expanded, while a diagram illustrating the procedures in Niacin testing has been added.

## Mass X-ray surveys

The States and the National Tuberculosis Advisory Council reviewed mass X-ray programs during the year. As a result of similar reviews in earlier years, the minimum age for attendance has been increased and the interval between surveys extended.

However, 1972 saw the first major change in the program when Western Australia suspended community-wide X-ray surveys for a trial period of five years. Compulsory surveys will be used only in the event of a high incidence outbreak in a particular population group. The surveys in Western Australia had uncovered an average of only 14.75 cases of tuberculosis annually since 1968.

The probable reasons for these low yields were the success of repeated surveys in removing from the community the chronic low-grade infectious type of tuberculosis largely discovered by this method; the success of chest clinics in case-finding by regularly reviewing individuals at relatively high risk of developing the disease; and the fact that tuberculosis was not being discovered but was occurring amongst significant numbers of people who failed to attend surveys and could not be traced, and who were only diagnosed when symptoms developed.

Queensland is planning the establishment of a State-wide list of people at relatively high risk of developing tuberculosis who would continue to have routine chest X-rays after compulsory mass X-ray surveys were suspended. Under the proposal, people would be offered a self-reading skin test when they attended for X-ray. The result of the skin test would determine the need for them to have an X-ray on any future occasion. The success of the proposal will depend on reasonable community co-operation.

Victoria is in the process of reviewing the results of its country survey program and suspension of activity in low-yield areas will follow.

During 1972, 1.5 million people were examined in mass X-ray surveys throughout Australia. Altogether 295 active and probably active cases of tuberculosis were discovered at a rate of 0.19 cases per 1,000 examinations. This represented 23 per cent of the new cases discovered in the year.



### *Hospital beds*

A total of 6,245 beds — excluding beds in Repatriation Department institutions — was available for the treatment of tuberculosis throughout Australia during the national campaign. At 31 December 1972, only 1,170 beds remained specifically available for tuberculosis use if needed. Many of these beds were occupied by non-tuberculosis patients as the Department has never wished to see or encouraged hospitals to keep beds idle against possible use by tuberculosis patients.

The decline in bed requirements reflects the modern approach of treating tuberculosis out of hospital wherever possible, as well as illustrating the decline in new cases being discovered and the effectiveness of modern treatment drugs.

### *Conferences*

The VIIIth Eastern Region Tuberculosis Conference of the International Union Against Tuberculosis was held in Sydney from 30 October to 3 November 1972, in conjunction with the Sixth Australian Clinical Tuberculosis Conference. A total of 345 delegates and observers attended from twenty-one overseas countries and Australia. Included were representatives of the World Health Organisation and the International Union Against Tuberculosis. Under the Colombo Plan, Australia sponsored eight tuberculosis workers who also undertook a study tour of tuberculosis facilities in Queensland, New South Wales and Victoria. Three departmental



*Delegates to the VIIIth Eastern Region Conference of the International Union Against Tuberculosis in Sydney included Sister (Dr) Mary Aquinas, from Hong Kong, and Mr Harold Tolhurst, of the Anti-Tuberculosis Association of N.S.W.*



officers contributed significantly to the planning, running and scientific work of the conference.

The scientific program included a review of the world tuberculosis problem, with special reference to the situation in countries of the Eastern Region of the International Union, including Australia and its Asian and Pacific neighbours; discussions on social and cultural barriers to treatment; modern methods of case finding; tuberculosis in children; the role of the nurse; planning and delivery of a national tuberculosis program within the total health service; chemotherapy and the practical delivery of treatment programs; community participation in tuberculosis control; B.C.G. programs; bacteriology; and the role of voluntary bodies.

### *Project works*

The only major capital tuberculosis project in progress during the year was the building of a new Divisional Headquarters and Chest Clinic in Adelaide, to which the Federal Government is contributing \$558,448. The building work is scheduled for completion during 1973.

### *Medical examination of migrants*

Reference was made in the previous report to the Tuberculosis Division's work of checking medical documents of applicants seeking settlement in Australia. In addition to this, many thousands of applicants are medically cleared by Australian medical officers stationed at Migration Centres at overseas posts. Twenty-six full-time salaried medical officers are attached to thirteen overseas posts in the United Kingdom, Europe and the Middle East. Except for those in the United Kingdom, these officers are on the staff of the Department of Immigration but carry out their duties under the guidance of the Department of Health.

Their work forms part of the migrant selection procedure and is highly important both for the migrant himself and for Australia. It is vital to ensure that the migrant is without physical or mental handicap that could make it difficult for him to settle happily in a strange land and cope with the stresses and strains of migration. The procedures must ensure also that public health in Australia is safeguarded against the introduction of serious disease such as tuberculosis and hereditary disorders which pass on to future generations.

There are many indications that the medical checking of intending settlers has been efficient. The higher rate of tuberculosis which has been reported from time to time in migrants does not mean that active tuberculosis has escaped the medical screening. It results from breakdown with disease of people who in earlier life were in close contact with tuberculosis sufferers, and were more heavily seeded than their Australian counterparts. It is from this breakdown of earlier infection that practically all the newly-discovered tuberculosis is occurring in Australia today.

### *Sources of case discovery*

Hospitals, both general and chest, were the most productive source of discovery of new cases of active pulmonary tuberculosis notified in Australia in 1972 — 364 cases, representing 26.5 per cent of the total notifications, were discovered in hospitals. The next most productive case-finding means were chest clinics which discovered 324 cases, or 23.6 per cent of the total, while mass chest X-ray surveys discovered 316 cases or 23 per cent. In the Northern Territory, 54.5 per cent of notifications were discovered by mass X-ray survey, while in Victoria the figure was 30.2 per cent.



# Therapeutic Substances

The workload of the Therapeutic Substances Branch increased several fold during the year in most areas of activity. With the proposed controls over all forms of advertising of therapeutic goods — agreed to by Australian Health Ministers at their conference in April this year — this workload will be further accentuated, and a full review of the Branch's establishment is in progress to provide the necessary staff capacity.

A considerable backlog of new drug applications has accumulated. This is due not only to an increase in the number of submissions, but also to the inadequacies in the data submitted by pharmaceutical companies, which frequently necessitate repeated requests for additional essential information on which to assess the quality, safety and efficacy of the product.

In an endeavour to reduce delays in processing of applications and to accommodate requests from several companies for more detailed and specific guidelines, a review of the existing Departmental requirements has been undertaken. A two-day symposium to discuss the revised guidelines was held in December 1972, and was attended by representatives from the majority of pharmaceutical companies. All aspects covering quality, safety, efficacy and product literature were discussed and several working parties were established to examine contentious issues further.

The revision is now near completion and a new document should come into effect by the end of 1973. It will detail the format and information required, together with guidelines on the type and extent of studies needed to support clinical trials and general marketing of a new drug for use in man. In an endeavour to attain uniformity with other countries exercising similar controls over new drugs, information was obtained from appropriate overseas authorities, whose co-operation was most appreciated.

## *Drug Evaluation Committee activities*

During 1972-73, 157 applications for general marketing and seventy-nine applications for clinical trials were received for consideration. These figures are reflected in the continuing high level of activity of the Australian Drug Evaluation Committee.

Systemic contraceptives remained under close scrutiny during the year. The progestogens contained in such products available in Australia are the subject of ongoing long term toxicity studies of seven years duration in dogs and ten years duration in monkeys, with interim reports required each three months for evaluation. Because of reports that mammary nodules had appeared in beagle bitches dosed with megestrol acetate, and because of the results of other animal studies, systemic contraceptive formulations containing megestrol acetate were withdrawn from the market in Australia, except for fertility control in a very small proportion of women suffering from several conditions aggravated by other systemic contraceptives. An application for general marketing of an injectable depot progestogen containing contraceptive



was rejected because of the development of malignant tumours in test animals.

The Committee has been aware for some time of problems of bioavailability indicated by variable patient response to different brands of the same formulation or to different batches of the same brand of formulation. Studies on the problem are continuing in Australia, in common with many other countries around the world. It was considered necessary to issue warning statements about this aspect of levodopa and digoxin formulations during the year.

Several important resolutions on matters of policy were made recently by the Committee, the first of which concerned fixed combinations of therapeutic substances. While the Committee generally was not in favour of such combinations, it indicated that it would not adopt an inflexible attitude against them. A combination would be appropriate when the added ingredient enhanced the effectiveness of the main active ingredient, or when an added ingredient minimised the potential for abuse of the main active ingredient. Further, more than one drug should not be used when one is all that is needed; the combination should satisfy the needs of an identifiable patient population; there should be no incompatibility between the components; and the dose of each component should be appropriate for the intended patients.

Another resolution requires pharmaceutical companies sponsoring the clinical investigational use of therapeutic goods to divulge all unfavourable information about a drug to prospective trialists. Further, the protocol of all clinical trials, together with the information about the drug to be supplied to a medical practitioner, must be submitted to the Department as part of the application for approval to conduct the trials.

Previous reports have referred to the increasing emphasis placed by the Committee on the requirement to demonstrate efficacy, in addition to safety, in considering applications for the distribution of new drugs. This has focussed attention on the fact that, although a new drug has been shown to be reasonably safe and efficacious, it may be no better and less safe than a drug already marketed for the same indications. Members of the Committee discussed this situation with the Minister for Health who directed that, in view of the complexities involved, studies on comparative efficacy and safety of new drugs with established products should not necessarily be mandatory in all cases, and it would be left to the discretion of the Committee to determine when the need exists. Similarly, if information comes to hand on established products which questions their continued availability on the market, the Committee should examine each situation on its merits and request comparative studies if necessary.

#### *Adverse drug reactions and congenital abnormalities*

The Branch services two sub-committees of the Australian Drug Evaluation Committee — the Adverse Drug Reactions Advisory Committee and the Congenital Abnormalities Sub-committee. This latter body was established in July 1972 following the episode concerning the anti-depressant drug Imipramine in March of that year. Membership comprises a physician, a pharmacologist, a paediatrician, an obstetrician, a teratologist, an epidemiologist and a representative of the Australian Drug Evaluation Committee. All members are eminent in their respective fields, and experts in other areas are co-opted as required.

The Sub-committee has met six times and has examined such matters as



the possible role of anticonvulsant agents and the ingestion of blight-affected potatoes in the causation of congenital abnormalities. Evaluation of the latter problem culminated in the publication of a statement by the Committee in the *Medical Journal of Australia* of 18 November 1972, warning that women who are or may become pregnant should avoid eating diseased, damaged or green potatoes. A press statement was also released by the Minister to allay public concern.

The possible causal relationship between anticonvulsant medication during pregnancy and congenital abnormalities, which has been the subject of continuing research both locally and overseas, was highlighted in January 1973 following a report by Melbourne doctors of several suspected cases (Loughman, P. M., et al, *The Lancet*, 1973, 1: 70-72). Following a detailed review of available data, a press statement was issued by the Drug Evaluation Committee advising that while there appeared to be an increased incidence of congenital abnormalities in babies born to epileptic mothers, the risk for the individual mother with epilepsy was extremely small. The Committee considered the case implicating anticonvulsant medication as unproven, and recommended that epileptic patients should continue to be treated throughout pregnancy with the most effective available therapy, pending further research to determine the role of therapeutic, environmental, genetic or other factors.

Priority was given by the Sub-committee to the development of a system for the monitoring of congenital abnormalities in Australia and identification of possible causative agents. Discussions with local research workers, instrumentalities and organisations are proceeding satisfactorily and liaison with international organisations in this field has been initiated. The Chairman of the Sub-committee attended the WHO Consultation on Congenital Malformations Reporting, held in Geneva in July 1972.

The Adverse Drug Reactions Advisory Committee was likewise very active during 1972-73. Significant developments included the application of computer facilities to the processing of adverse drug reaction reports, negotiations to stimulate reporting from a more representative sample of the medical and allied professions within Australia, and increased feedback activities.

The utilisation of automatic data processing methods from January 1973 has enabled more rapid analysis and dissemination of data within Australia, as well as more effective participation in the international drug monitoring program sponsored by WHO. The rise in the reporting level during the 1972 calendar year is most gratifying (see Table 115 on page 238).

Further substantial increases are expected throughout 1973 as a result of co-operation by pharmacists in the reporting of suspected adverse reactions to non-prescription drugs; negotiations with the pharmaceutical industry on the reporting of suspected adverse reactions to new drugs observed during clinical trials and in the immediate post-marketing period; the entry of the intensive hospital monitoring program at the Austin Hospital, Heidelberg, into a primary operational phase; and discussions with specialist medical organisations and the dental profession regarding more active participation by members.

The Committee is conscious of the demands on the time of busy practitioners and of the need to ensure that the sample of reports reviewed remains representative, and simplification of the standard report form is currently under consideration. The feasibility of monitoring drug intake and



morbidity due to suspected adverse reactions in a representative Australian community is also being investigated.

Feedback to the local medical profession has been intensified in the form of distribution to individual doctors of the third edition of the book *Report of Adverse Drug Reactions*, which contains a cumulative summary of all reports received by the Registry since 1964. Other important communications included warning statements on bismuth subgallate and local anaesthetics containing catecholamines. The former, published in the *Medical Journal of Australia* on 5 May 1973 (page 912), drew attention to the reported development of a characteristic neurological syndrome in a number of patients with ileostomies and colostomies, ingesting bismuth subgallate as part of their normal routine. Details of similar cases were requested and intensive investigations are proceeding both locally and overseas.

Reports from the United Kingdom of cardiovascular reactions due to local anaesthetics containing high concentrations of noradrenaline were publicised by the Committee in the *Australian Dental Journal* of June 1973 (page 193), and questionnaires were sent to all members of the Australian Dental Association and appropriate University departments and hospitals seeking comment on the continued availability of certain local anaesthetic preparations on the Australian market.

Limited distribution of the *Adverse Drug Reactions Bulletin*, which details reactions of interest reported to the Registry and in the medical literature, has continued on a trial basis. Because of its enthusiastic reception, circulation to all medical practitioners during the next financial year is envisaged.

#### *Standard of therapeutic goods and related activities*

The previous report indicated that the National Therapeutic Goods Committee, which comprises representatives of the State and Federal Health Departments, has established a Sub-committee on Advertising to formulate draft proposals covering all aspects of advertising of prescription and non-prescription drugs and therapeutic appliances. The proposals included a requirement for the provision of specific patient information notes for certain groups of products.

The proposals were put to the Australian Health Ministers Conference in April 1973. Ministers agreed with them in principle and decided that the Committee should discuss them with the medical and allied professions, the pharmaceutical industry and other interested bodies.

The proposed controls provide that 'no person shall advertise any goods for therapeutic use in a manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character, value, composition, merit or safety'. Information should be presented in a balanced and unbiased manner. To be effective, these proposals will need to be incorporated into appropriate Federal and State legislation. Without such controls the benefits from evaluating and testing therapeutic goods are limited. Discussions with interested bodies are still in progress.

To complement the new drug evaluation scheme, a number of therapeutic goods from regular commercial shipments have been examined for packaging, labelling and conformity to standard on importation into Australia. The analysis of samples from these shipments is conducted by the Analytical Laboratories of the Department of Science in the various States to avoid undue delays to importers. The following table shows the number of samples examined by the Laboratories for the year ended 30 June 1973 (examination



of other categories of therapeutic goods is conducted by the National Biological Standards Laboratory):

State	No. of samples	
	Passed	Failed
New South Wales	67	7
Victoria	53	4
Queensland	5	2
South Australia	34	9
Western Australia	—	—
Tasmania	—	—

### *Drugs of Dependence Section*

The National Drug Education Program completed its second full year of operations during 1972-73 — a year which was characterised by an increase in demands for publications and informative material for distribution by all State and Territory health authorities engaged in the program. All publications produced by the National Drug Information Service were reprinted, and a revised and enlarged edition of the handbook *The Use and Abuse of Drugs* was to be available for distribution early in the new financial year. The *Technical Information Bulletin*, which covers current local and overseas developments in the field of drug dependence, was published every six weeks and the numbers of copies of each issue raised from 3,000 to 4,000.

During the year another film, *Drugs and the Law*, was completed and introduced into the education program. The film deals with the use of illicit drugs and the consequences this can entail from a legal point of view. It depicts situations and attitudes relating to drug abusers and the law and provides material for subsequent discussion. A pamphlet detailing the possible penalties for various offences of trafficking in or possession of illicit drugs in all Australian States and Territories was also produced to accompany the film. *Drugs and The Law* is intended for the sixteen to twenty years age group from all levels of society. Production began also of a further film depicting a drug abuse problem which can occur in middle-aged people.

The Department supported two surveys on drug-taking behaviour among Australians. The first, carried out in two Sydney suburbs, consisted of interviews with 1,200 individuals from randomly-selected households in the two areas. The second survey was in two parts and consisted of questionnaires presented to 4,000 young people and 697 members of a known drug sub-culture in Melbourne. Results of both surveys have been published in *Technical Information Bulletins*.

The Drugs of Dependence Monitoring System is now in its fourth year of operations. It disseminates to State Health Departments and the Department of Customs and Excise details of manufacture, formulation, imports, exports and sales of certain drugs to the wholesale and ingoing retail levels. Drugs included in the system are those covered by the Single Convention on Narcotic Drugs 1961, and those listed in Schedule II of the Convention on Psychotropic Substances 1971.

The system continues to operate effectively in minimising the risks of lawfully-produced drugs being diverted to illicit use. During the past year two major modifications were introduced to the system. Firstly, to detect



illegal diversions of drugs in transit, inward and outward movement reports — other than those to the retail, institutional or practitioner level — are automatically verified. When the consignee fails to report receipt of a consignment, or when the quantity reported received differs from the quantity reported supplied, attention is drawn to the discrepancy and the circumstances investigated.

Secondly, reports are produced showing high volume purchases from wholesale sources by individual retail pharmacies, hospitals, medical practitioners, etc. When the total quantity of a substance or preparation purchased over a nominated period exceeds a predetermined maximum level, a report is produced which identifies the purchaser and lists the details of the transactions concerned. The system also enables detection of breaches of regulations which may not otherwise have been noticed, and instils a greater awareness among people handling drugs of the need for maximum diligence.



# Public Health

Throughout the year, the Public Health Branch again investigated and provided information on a wide range of public health matters. Areas of activity include communicable diseases, environmental health, family planning, food and nutrition, health advertising, nursing, smoking and toxicology.

## *Communicable diseases*

The Branch continued to act as an agency for the collection and dissemination of statistics on notifiable diseases throughout Australia. These statistics were again given wide circulation in Australia and overseas.

The incidence of venereal disease, both gonorrhoea and syphilis, continued to rise during the year. Notifications of gonorrhoea increased from 10,539 cases in 1971 to 11,037 cases in 1972, and syphilis from 1,077 cases to 1,217 cases in the same period. The Branch will liaise closely with the newly formed National Health and Medical Research Council ad hoc Committee on Venereal Disease, the activities of which will include the preparation of a handbook on the diagnosis, treatment and overall management of venereal disease in Australia.

Notifications of infective hepatitis followed the trend seen in recent years towards an apparent decline in incidence, with 6,118 cases in 1972 compared to 7,509 cases the previous year. However, the rising incidence and general awareness of serum hepatitis noted in 1971—when there were seventy-two cases—continued in 1972 with ninety cases being recorded.

The episode of cholera which occurred in November last year, when there were forty-one cases, represented the first notifications of the disease since 1969.

The increase in the incidence of diphtheria and poliomyelitis during 1972 underlined the need for more strict observance of the immunisation schedules for infants and children. During the year the Public Health Branch provided secretariat facilities for the Communicable Diseases Committee of the N.H. & M.R.C. and assisted in the preparation of a comprehensive document on immunisation procedures. This will be published by the N.H. & M.R.C. in booklet form and circulated to all members of the medical profession.

## *Environmental health*

The role of the Environmental Health Section continued to expand. In addition to its present secretarial functions for N.H. & M.R.C. committees, the Section provided the secretariat for additional specialist sub-committees established by Council. The sub-committees were formed to investigate the effect on health of industrial noise, community noise and lead in air from all sources, including motor vehicle emissions.

The Section also assumed responsibility for liaison between the Department and other ministerial councils concerned with environmental matters which have health implications—such as the Australian Environment Council and





*A public warning was issued in December 1972 of a possible health hazard associated with certain types of imported pottery with high lead content in the glaze. Efforts to detect the pottery concerned involved co-operation with the Department of Customs and Excise and the Australian Government Analytical Laboratories, which are part of the Department of Science. In this photograph, a technical officer with the N.S.W. Regional Office of the Analytical Laboratories pours a solution of acetic acid into a pottery sample as part of a test to determine the leachable lead content.*

the Australian Water Resources Council — and also State environment authorities. It was active, too, in providing briefing material for Australian representatives to meetings held under the auspices of the Environment Committee of the Organisation for Economic Co-operation and Development.

#### *Occupational health*

In March 1973 Federal Cabinet gave approval for the Department to establish an Occupational Health Branch. The initial tasks to be undertaken



by the Branch include action to rationalise and co-ordinate the existing limited services already being provided within the Federal service, to the Postmaster-General's Department and the Departments of Civil Aviation, Health and Supply; to survey and report on the need for a comprehensive occupational health service to cover all Australian Government employees; and to organise the development of policies and procedures for the introduction of such a service.

The main objectives of the proposed occupational health service are to protect employees against health hazards arising out of their work, to assign employees to jobs for which they are best suited, to adapt jobs to the health needs of employees and to provide means necessary for the highest possible degree of physical, mental and social well-being.

An establishment proposal requesting positions to undertake the initial work is currently being considered by the Public Service Board.

### *Family planning*

Following the Government's decision to extend financial support to family planning services, grants were approved to the Family Planning Association of Australia and to a national body representing the Catholic family planning centres. An additional grant was also approved for other voluntary organisations which are actively involved in the provision of family planning services but are unable to affiliate with either of the two major organisations.

Considerable emphasis has been placed on the view that organisations should develop services for the provision of family planning advice to Aborigines, including the training of suitable personnel to allow for the expansion of such services.

### *Food standards*

During the year senior officers of the Public Health Branch continued to attend international meetings of the joint FAO/WHO Food Standards Program as members of the Australian delegation. These meetings included the Ninth Session of the Codex Alimentarius Commission and sessions of subsidiary committees on food additives, food hygiene, pesticide residues, foods for special dietary uses and food labelling.

The N.H. & M.R.C. approved the Food Standards Committee's recommendations for three new standards and sixty-eight amendments to existing standards.

A survey of the microbiological status of a number of foods, as proposed by the Food Microbiology Sub-committee of Council, was also initiated. The classes of food to be involved include ready-to-eat 'take-away' foods, processed meats, infant foods, imitation cream and cold mix custards.

### *Health advertising*

The Director-General of Health has the responsibility, under the *Broadcasting and Television Act 1942-71*, for approving advertisements on radio and television for proprietary medicines and for approving the text of talks on medical subjects. To assist the media in the preparation of scripts, a *Guide to Advertising of Proprietary Medicines and Therapeutic Appliances* is available.

The total number of scripts submitted for approval during the year fell in comparison with the previous twelve-month period. Details of approvals for the past five years are given in Table 142 on page 253.



It will be noted that the percentage of scripts approved dropped back to about the level of 1970-71. This occurred despite an increase in the number of advertising representatives who availed themselves of the opportunity to hold prior discussions with the Department before recording their advertisements.

### *National Poisons Service*

The National Poisons Service developed from a recommendation of the Forty-seventh Session of the N.H. & M.R.C. in 1959 that a Government Poisons Register be compiled. The original project has grown to the wider concept of a Service which covers other aspects of the prevention and treatment of poisoning. The Service is responsible for the publication of the *National Poisons Register Manual*, which includes monographs on toxic substances and information on the toxic aspects of the many chemical preparations used in everyday life.

During the year, the Service continued to provide technical advice to doctors and hospitals on cases of poisoning. A review is being made of the content and future format of the *National Poisons Register Manual*, in view of the increasing number of entries being made. The manual is distributed to State and Territory health authorities for further distribution at their discretion.

The Service receives reports of poisoning cases in Australia and Papua New Guinea, and analyses them for the determination of trends of poisoning. For the calendar year 1972, 8,153 poisoning cases were reported to the Service, compared with 7,995 in 1971 and 8,191 in 1970.

### *Nursing*

The updating of information on many aspects of nursing in Australia and overseas continued to occupy an important position in the work of the Nursing Section. Projects under way at the moment include the amending of details of post-basic nursing courses available in Australia, and the investigation of overseas training programs.

During the year, thirty-five new nominations were received from overseas-sponsored students wanting to undertake nursing courses in Australia under international training schemes. Of these, eight began courses early this year. In addition, fourteen students who were nominated in previous years are presently undergoing training. The majority of the trainees are undertaking postgraduate diploma courses at the College of Nursing and the New South Wales College of Paramedical Studies, or specialist post-basic courses in coronary and intensive care nursing and midwifery. Liaison has been maintained with the Departments of Immigration, Foreign Affairs, Education and Social Security, and information has been given on many aspects of nurses' education, training and registration.

The ad hoc Sub-committee of the Nursing (Standing) Committee, which was set up to consider the role of the nurse in Australia, has completed its task, and its report was accepted by the N.H. & M.R.C. in May this year. Council approved the distribution of the research document, a bibliography and an accompanying report prepared by Miss Ruth White, the research officer appointed by the Sub-committee.

### *Nutrition*

The Nutrition Section continued to provide secretarial services and documentation for meetings of the Nutrition Committee of the N.H. & M.R.C.



It was also involved with the Pesticides Residue Survey and with the anthropometric survey commissioned by Council. The register of commercial foods suitable for inclusion in therapeutic diets was kept continuously up to date, while publication of the bi-monthly *Food and Nutrition Notes and Reviews* continued. A number of briefs, lectures and articles dealing with nutrition were prepared.

Two reports were written on the nutrition of Aboriginal people living in Collarenebri, New South Wales, and in central Australia following surveys in the two areas by the Nutrition Section. Evidence from the surveys indicated that the mother is the key point in child-rearing and that in child-care programs prime emphasis must be placed on the mother.

Dietary surveys and blood examinations revealed that the diets of a significant number of young Aboriginal children, and especially of Aboriginal women, living at Collarenebri and Walgett are sub-optimal. The least satisfactory nutrient was ascorbic acid (vitamin C), but evidence from blood analysis suggested that intakes of thiamine, pyridoxine, riboflavin and folic acid were also unsatisfactory in the women, and probably also vitamin A and vitamin E in the young children. Although the population available for study was small, sufficient evidence was obtained to show that the nutritional condition of the Aboriginal women studied was unsatisfactory in a number of ways and could have an adverse effect not only on their own health, but also on the health of their newborn and suckling infants.

#### *Pesticides and agricultural chemicals*

Officers of the Branch maintained close liaison with Government departments and industry concerned with pesticides and agricultural chemicals. In addition, the Branch was represented at meetings of various committees, including the Technical Committee on Agricultural Chemicals, the Technical Committee on Veterinary Drugs, the Pesticides Sub-committee, and the Co-ordinating Committee on Pesticides convened by the Department of Primary Industry. The Branch also serviced relevant committees of the N.H. & M.R.C.

Publication of the bi-annual Pesticides Review, which contains abstracts of published material on legislation, toxicology and pharmacology, continued and some 550 copies of each issue were distributed in Australia and overseas to government authorities and other organisations. The Branch is also responsible for the publication of *Pesticides—Synonyms and Chemical Names*, which has been found to be of considerable use to personnel working in this field.

#### *Pesticides Residue Survey*

The Seventy-fifth Session of the N.H. & M.R.C. in November 1972 recommended that this Department and the State Departments of Health should co-operate in a survey of the residues of hexachlorobenzene (HCB), dieldrin and mercury in selected foods which form part of the normal Australian diet. Council further recommended that a grant of \$4,000 be made for the purchase, cooking and air freighting of food samples for the survey.

The survey aims to determine whether there has been any change in the levels of the three substances since an earlier survey was conducted in 1970. Sampling, which began in February, will cover each State capital city on a seasonable basis, with the last purchases to be made on 18 October this year. The items are being cooked at the Home Science Section of the



*The face which became a symbol of the National Warning Against Smoking Campaign. This school-girl model was featured in both television and press advertising to emphasise the message 'Please do not smoke.' Below, the interior of an anti-smoking display caravan used by the New South Wales Health Commission. The display was financed with Federal funds as part of the national anti-smoking campaign.*





East Sydney Technical College, while the analyses are being carried out in the laboratories of the Australian Government Analyst.

The report of the survey should be ready for presentation at the Seventy-eighth Session of Council in the first half of 1974.

### *Smoking and health*

Reference was made in the 1971-72 report to a national education campaign to warn people of the hazards of smoking. This campaign was launched in September 1972 after Federal and State health education experts had agreed upon its design.

A national opinion poll taken one month prior to the start of the campaign showed that smokers were already in the minority in the community. The campaign has made extensive use of advertising on television and radio and in the press. Two publications, one for adults entitled *Is it Worth the Risk?* and a second for children entitled *Why Don't Elephants Smoke?* were printed, and nearly one million copies of each have been distributed.

In order to reach the significant target audience of young schoolchildren, material has been prepared for use in schools, and is currently being evaluated in three States. Stage one of a new N.H. & M.R.C. survey of the smoking habits and attitudes of schoolchildren was conducted between 26 February and 4 May this year. Results are now being evaluated prior to stage two of the survey, which will comprise a more detailed questionnaire for selected groups.

Legislation for compulsory health warnings on all cigarette packets has been enacted in all States, following the early lead given by the Federal Government which introduced warnings in the A.C.T. and the Northern Territory from 1 January this year. The Government has also ordered the removal of all advertisements for cigarettes and tobacco from public places in the A.C.T.

The gradual elimination of all forms of promotion of smoking, coupled with increased education programs, is seen as the method most likely to succeed in greatly reducing this health hazard.



# Aboriginal Health

A significant change in the structure of the Department during the year was the creation of an Aboriginal Health Branch. It may be useful, in this first report of the infant Branch's activities, to detail some of the background matters which contributed to the decision to form the Branch.

## *Present responsibility*

At present, the responsibility for Aboriginal health care belongs to a variety of bodies — Departments of Health, Aboriginal Affairs and Welfare in both Federal and State spheres, statutory commissions, and a variety of smaller non-profit organisations, some of which are associated with academic institutions.

The Federal Government is directly responsible, through this Department, for the provision of health services in the Northern Territory, as well as the Australian Capital Territory and Norfolk Island. In recent years the Government and the Northern Territory Legislative Council have been active in progressively removing all discriminatory legislation from the relevant Acts and Ordinances (for this reason it should be noted that existing forms of health and welfare benefits and assistance received by the Aborigines are no longer readily identifiable). On 1 January 1973 this Department took over from the former Department of the Interior responsibility for health matters on Government Aboriginal settlements and pastoral property communities in the Territory.

## *1967 referendum*

A Federal referendum in May 1967 led to the repeal of Section 127 of the Constitution which provided that, in reckoning numbers for census purposes, Aborigines should not be counted. It also led to the deletion of the words 'other than the Aboriginal race in any State' from Section 51 (XXVI) of the Constitution, which relates to the power of the Federal Parliament to make laws with respect to any race. The Federal Government was deeply committed to helping the Aborigines to achieve equal rights and opportunities with all other Australians and to share fully in Australian community life, while at the same time preserving and developing their distinctive culture, languages, traditions and arts.

Following the election last December, the new Government immediately gave high priority to the taking of positive steps to mitigate the problems of Aboriginal health throughout Australia. The Government also emphasised its concern to ensure that everything possible was done to raise the standard of health of all Aboriginal people, and not just those in the Federal Territories.

## *National Plan*

As a first step towards this objective, the Minister for Health approved, in principle, a National Plan which required this Department to launch an



immediate campaign 'to raise the standard of health of the Aborigines of Australia to the levels enjoyed by their fellow Australians'.

The campaign is to be planned and co-ordinated in stages with the Government aiming to achieve its goal at the end of ten years. In particular, it is intended to lower the infant and child mortality and morbidity rates; improve the state of infant and child nutrition; eliminate growth retardation; and eradicate infectious and chronic diseases including leprosy, trachoma, tuberculosis, gastro-enteritis, and respiratory and ear conditions.

The Aboriginal health problem is for the first time being tackled on a national footing, and the implementation of the National Plan is now being carefully worked out in close liaison with other Federal Departments, including the Departments of Aboriginal Affairs and Education, in co-operation with certain State authorities, and in consultation with expert advisory bodies and interested parties. The active participation of the Aborigines themselves is considered essential for the successful implementation of the Plan, and will be strongly encouraged.

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

In a further significant development, it was decided to create an Aboriginal Health Committee within the National Health and Medical Research Council, to act as a national advisory body on the health problems of Aborigines. The Committee, which includes Aboriginal members, recommended at the Council meeting in May 1973 the formation of a Medical Research in Aborigines Sub-committee. Council approved the recommendation.

#### *Formation of new Branch*

Following Ministerial approval for the formation of an Aboriginal Health Branch within the Department and subsequent agreement by the Public Service Board to the proposed structure of the Branch, several senior positions are at present being filled. It is planned that the Branch will provide a comprehensive nationally-oriented advisory service to the States and Territories on measures needed for the permanent improvement of Aboriginal health throughout Australia.

This will include the design and undertaking of health surveys to assist in identifying areas most in need of special assistance and the active promotion of these surveys on a national basis where appropriate; the provision of a consultative service to the States and Territories for the treatment and control of diseases which are of special significance in the Aboriginal population; the provision of advice to the States and Territories on all aspects of health education and health manpower training programs for Aborigines; and the assessment and evaluation of health projects for which Federal funds are sought. Field inspections will be undertaken as necessary and the progress of approved projects will be continually oversighted.

The Branch is also to establish and maintain liaison with the States and Territories and other local and overseas authorities concerned with the health of Aborigines and similar people; undertake a survey of research projects previously undertaken and currently being undertaken relating to Aboriginal health, and assess and determine the status of planned projects; provide the Secretariat for the Federal-State Conference on Aboriginal Health Services and the Aboriginal Health Committee of the N.H. & M.R.C.; and establish and maintain a comprehensive register of information



on all aspects of Aboriginal health, including developments regarding similar community groups overseas, and collate and analyse such information and disseminate it to the States and Territories.

A very close working relationship has been established with the Department of Aboriginal Affairs to ensure that all efforts made are closely co-ordinated and achieve maximum effectiveness.

### *Statistics*

It may be appropriate here to point out that, until recently, this Department was the only health authority which made public any figures relating to Aboriginal health, and in particular infant mortality. This was largely responsible for public awareness of, and interest in, the problem. Because these figures were the only ones available, public criticism has been almost entirely directed towards the Northern Territory. But it is obviously not the only area in Australia where high infant mortality rates exist among Aborigines.

### *Northern Territory program*

Since the Department assumed responsibility for health services on settlements in the Northern Territory at the beginning of 1973, a program of permanent improvement of health facilities on settlements and in other Aboriginal communities has been drawn up. High priority is being given to providing facilities in areas of urgent need. Further details of the program are given in the Northern Territory Health chapter.



# Dental Services

A Dental Services Branch was created during the year within the National Health Division. Its major function is the implementation, development and co-ordination of the new Australian School Dental Services Scheme, but its work also includes a wide range of general dental matters.

The establishment of the Branch reflects the Government's concern at the poor standard of dental health in the community, particularly amongst children, and its desire to raise this standard and increase public awareness of the importance of dental care.

## *Australian School Dental Services Scheme*

Under the scheme, the Australian Government will provide substantial grants to the States to develop a school dental service in accordance with agreed principles so as to ensure a unified service throughout Australia. When fully developed, the service will offer free dental care to all children under fifteen years of age. The aim is to cover all primary school children by 1980, and then to expand the service to cover pre-school children and secondary school pupils under fifteen years of age.

In co-operation with the States, approximately 3,000 school dental clinics will be established throughout Australia in addition to mobile surgeries which will serve the smaller schools. The service will be staffed basically by dental therapists working under the general direction and control of dentists. Dental health education, which is regarded as an integral part of dental care, will be provided by the service to all school children.

## *Training*

It will be necessary to establish at least fifteen dental therapist training institutions to provide for the training of 600 therapists each year. The long-term aim is to have some 4,000 therapists in the service, together with supporting staff. Already proposals for the development of three training schools have been approved. The development of the Australian School Dental Service will require a substantial number of dentists, and it is currently intended to arrange for the provision of cadetships in dentistry.

In order to facilitate the rapid development of the service, agreement was reached with the New Zealand Government whereby one hundred Australian students will be trained as dental therapists in New Zealand training colleges, pending the development of Australian training schools. Twenty-six of these students began their training in March this year and the remainder will go in September 1973 and March 1974. This involves continuing liaison with the New Zealand authorities.

## *Financial arrangements*

Under agreed financial arrangements, the Australian Government will meet the entire approved capital and operational costs of training facilities





*The Minister for Health, Dr D. N. Everingham (left), and the Director of the Division of Dental Health in New Zealand, Mr R. Logan, pictured with Tasmanian girls Daphne Procter, of Montrose, and Rowena Bellamy, of Lauderdale—two of the party of 26 Australian trainee dental therapists who flew to New Zealand in March for training. The New Zealand Government has agreed to train 100 Australian therapists, pending the construction of more training schools in Australia.*

for therapists, the entire approved costs of building and equipping the school dental clinics, and three-quarters of approved operational costs of the field service. Three-quarters of the operational costs of approved existing school dental services will be met by the Government after 30 June 1973.

A major function of the Branch is the co-ordination of the financial aspects of the scheme, including discussions with States regarding the various proposals.

#### *Advisory Committee*

A conference of Federal, State and Territorial officers was held in Canberra in March to discuss the school dental scheme. Since then all States have accepted the Government's formal offer of support and will develop their school dental services along agreed lines.

In order to facilitate the most effective development and co-ordination of the school dental service, an advisory body, the Australian Dental Services Advisory Committee, was established with representation from the States,



the Territories and the Australian Dental Association. The first meeting of this Committee, which will advise the Australian Minister for Health on all aspects of the school service, was held in Canberra on 25 May 1973. The Branch will provide full secretarial support for this body and for its four specialist sub-committees.

#### *Other functions*

Other functions in relation to the school dental service include the compilation and maintenance of a central schedule of dental therapists, liaison with States regarding dental health education material and methods, investigations into the feasibility of providing standardised clinics and equipment, and, most importantly, the establishment of a clinical evaluation system.

Other functions of the Branch involve the handling of a wide range of general dental matters including advice to Australian Government Departments and instrumentalities, and advice on dental claims, fees and compensation.



# National Biological Standards Laboratory

The reorganising of the National Biological Standards Laboratory for greater efficiency in a program of developing standards for therapeutic goods continued during 1972-73.

The Therapeutic Goods Standards Committee met twice during the year and is now actively engaged upon its work. This Committee provides advice to the Minister on matters of principle and policy, and accords priorities for a balanced program in the development of standards of therapeutic goods for human and veterinary use.

A secretariat is being established within the N.B.S.L. administration to support the work of the Committee by way of preparation of standards and background papers containing reviews and research.

The Committee has given priority to the development of standards of a general nature with the widest applicability. Matters such as labelling, sterilisation and sterility tests relating to all categories of therapeutic goods, general standards for classes of pharmaceutical products such as tablets, capsules and injections, and general standards for vaccines and immunosera are currently under consideration. Sub-committees and working parties have been appointed to consider oral formulations, tablets, capsules, bioavailability of drugs, instrumentation, sterility, contamination of veterinary avian vaccines, Marek's Disease vaccine, infectious bronchitis vaccine, *Salmonella pullorum* antigens and tuberculins. Some forty meetings of committees and working parties have taken place during the year to consider standards and related matters. This has placed considerable strain on available resources.

Monographs of the European Pharmacopoeia have been introduced into the British Pharmacopoeia. These standards were evaluated and deemed suitable for Australian circumstances. Following the proclamation of the Addendum 1971 of the British Pharmacopoeia, such monographs as it contains are now mandatory standards in Australia.

As in the previous year, the redeployment of the Laboratory's resources has occasioned a slightly lower rate of product testing than in the past. Extensive consultation and collaboration with the pharmaceutical and biological sections of industry continued, in order that standards should be practicable as well as of a high quality.

## *Inspection unit*

The inspection of pharmaceutical companies with officers of State Health Departments continued during the year. Visits were made to 208 companies to assess compliance with the Australian Code of Good Manufacturing Practice. As in the previous year, fourteen companies submitted building plans for advice before starting construction of or alterations to premises. A review of the inspection reports shows a continuing general increased compliance with the Code, although there is still concern with inadequate



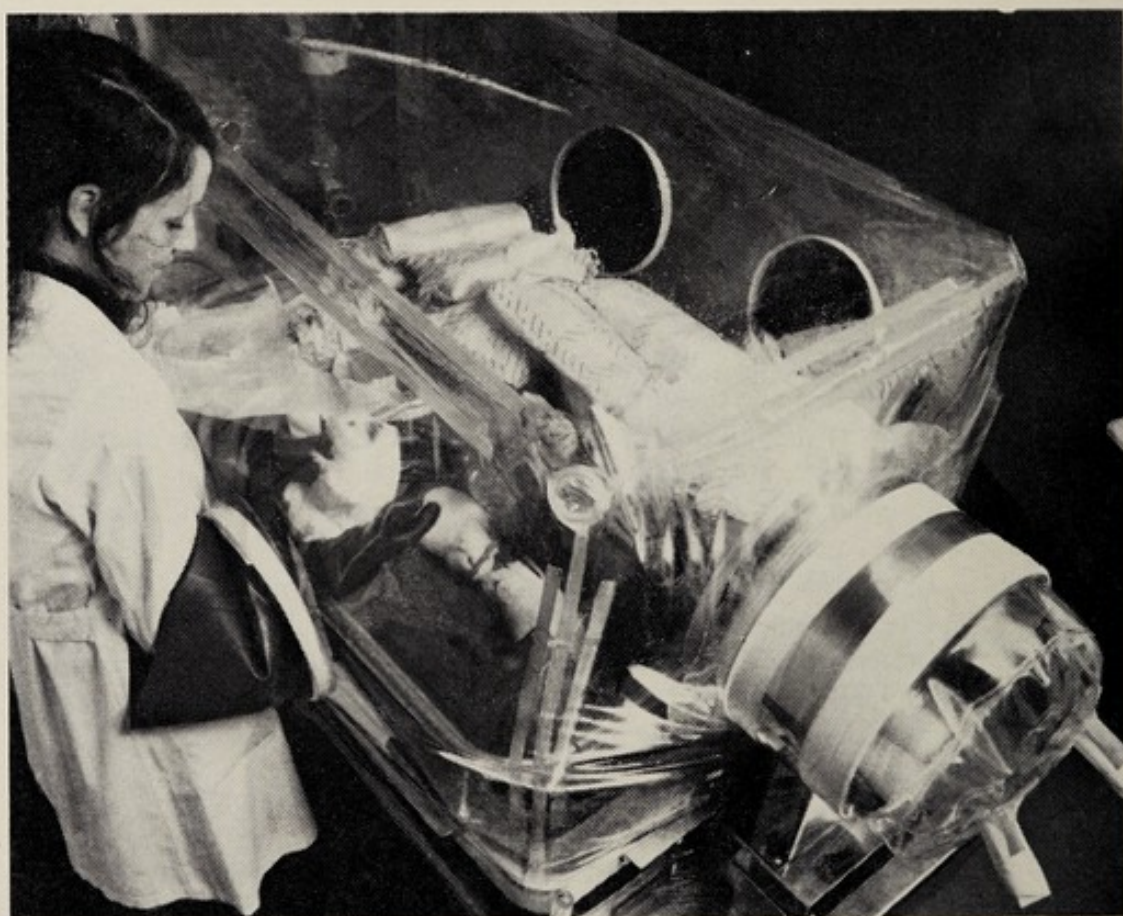
quality control in certain areas. Any significant deviations in the standard of goods found by testing were investigated by inspection in the factory to determine the cause.

A draft Code of Good Manufacturing Practice for Veterinary Biologicals was prepared and preliminary discussions on the provisions of the draft were held with representatives of the industry. There is little uniformity in the production of biologicals and the preparation of this Code presented many difficulties.

The inspectors gave three lectures to scientific meetings of personnel from the pharmaceutical and cosmetic industries. A comprehensive two-week training course was organised for two inspectors from the New Zealand Department of Health.

### *Animal breeding*

The supply of experimental laboratory animals continued without serious interruption. The Duncan Hartley/Olac strain of guinea pigs was introduced and is progressively replacing previous stock. A pilot scale project in the sophisticated area of the breeding and maintenance of axenic and gnotobiotic animals (that is, germ-free animals whose microbial flora are restricted to certain known micro-organisms) was jointly carried out with the Bacterial Products Laboratory. The appointment of a new staff member shortly will allow this project to expand and permit completion of the design of a specific pathogen-free animal house.



*Special gauntlets enable technical assistant Mrs Sue Blake to handle animals in a Trexler type plastic isolator at the animal breeding section of the National Biological Standards Laboratory in Canberra. The animals are bred germ-free in the isolator and live in a sterile atmosphere.*



### *Bacterial Products Laboratory*

Construction of the Brucella Vaccine Testing Laboratory in Canberra has begun and the building should be ready for occupation by May 1974. The animal breeding section of the building will house the first specified pathogen-free guinea pig colony in Australia. The colony will be backed up by a small nucleus of gnotobiotic guinea pigs maintained in plastic isolators.

During the past year the techniques for maintenance of animals in isolators were developed. Germ-free guinea pig foetuses have been obtained by Caesarian section from pregnant guinea pigs. These germ-free guinea pigs have been reassociated with known non-pathogenic micro-organisms and transferred to plastic isolators where they have been hand-reared by aseptic techniques on special foods developed for the purpose. A small colony of germ-free mice has also been maintained in plastic isolators for the past twelve months.

During the year, an increasing proportion of the Laboratory's effort was devoted to writing standards for bacterial products. A draft standard for *Salmonella pullorum* diagnostic antigens was approved by the Therapeutic Goods Standards Committee. A draft standard for tuberculins has been prepared and is at the sub-committee stage. To enable the preparation of this standard, the Commonwealth Serum Laboratories and the Bacterial Products Laboratory carried out a collaborative assay of a batch of Old Tuberculin to establish its potency for use as the Australian Reference Preparation. Routine testing of commercial samples of tuberculin has now commenced.

Primary seed cultures of the two *Salmonella pullorum* strains used in pullorum antigens were prepared and are ready for distribution to manufacturers. The production of monospecific, mixed, standard and variant antisera which are required to standardise *Salmonella pullorum* antigens is well advanced. These materials will also be available for distribution to the manufacturers within the next few months. The feasibility of preparing freeze-dried reference antigens is being investigated.

The majority of pharmaceuticals designed for topical and oral application need not be sterile. However, a number of incidents in overseas countries has demonstrated the need for limits on the number and type of micro-organisms permissible in non-sterile pharmaceuticals. Samples of Australian pharmaceutical preparations are being examined for microbial contamination. On the basis of the results, limits of microbial contamination for non-sterile preparations will be proposed.

The larger proportion of the routine tests continued to be carried out on veterinary clostridial vaccines. An upward trend in the quality of the products examined became apparent this year. It is now considered that many of the official test methods specified need revision, and a number of projects to investigate alternative methods have begun.

### *Pharmacology Laboratory*

There was an increase in the number of therapeutic goods of biological origin required to be evaluated for manufacturing methods and quality control. The number of drugs evaluated on the basis of pre-clinical pharmacological studies and toxicity was comparable to that of last year. This included initial new drug submissions, additional material to complete submissions, and obligatory periodic submissions by manufacturers following the marketing of a drug. The review of data from companies carrying out long-term studies of oral and systemic contraceptives continued.



The number and diversity of samples tested increased markedly over the previous year. Additional use was made of alternative tests to examine the same parameters to validate the interpretation of pharmacopoeial methods.

The Pharmacology Laboratory, with other sections, has turned to writing standards. So far, this has largely involved the collection of relevant data and comparative experiments to validate new methods of analysis. Considerable effort was devoted to the use of a 'coagulometer' as an alternative means of determining the end point in the British Pharmacopoeia assay of heparin. This work is nearly finished. An improved assay for protamine sulphate was developed using the same instrument. A considerable amount of developmental work has arisen from the need to have assays for enzymes and polypeptides not previously used in Australia. A test for the cardiotoxicity of certain intravenous infusions is being worked up.

The accommodation used by the Pharmacology Laboratory is now overcrowded and plans for a new laboratory have been prepared.

#### *Pharmaceutical Chemistry Laboratory*

This Laboratory also concentrated on the preparation of standards for therapeutic goods. Automation of laboratory techniques continued in order to expedite developmental and routine work. Refinements in the measurement of particulate matter in intravenous fluids were introduced and appropriate modifications made to the standard. A survey of intravenous fluids currently being sold in Australia shows that nearly all brands now meet the proposed limits.

The statistical study of uniformity of tablet weight reported last year has been completed and is now being extended. An improved test for uniformity of weight will be incorporated in future standards.

Alternative 'official' or 'generic' names used for drugs in different countries present difficulties in formulating statutory labelling requirements. It has been Australian policy to accept overseas names in a particular order of preference. To depart radically from the present practice would present problems, but a reasonably uniform approach to the use of drug names is necessary, and a comprehensive file of names of drugs used in Australia is being compiled, with cross-references to the names used in the principal drug-producing countries.

The number of complaints received about pharmaceutical products has increased, probably from a greater general awareness of the Laboratory's activities rather than from a deterioration in the quality of drugs. Seventy-six complaints required analysis and investigation of samples. The studies revealed that most of the complaints were related to deterioration of the preparations and improper storage.

Studies on the special problems relating to drug release (bioavailability) and the content of active ingredient of individual tablets were conducted. The work involves the determination of the rate of release of the active principle from the tablet by means of a dissolution apparatus and methods by which the amount of drug in each tablet can be determined. This work is laborious, time-consuming and, when tablets contain only microgram quantities of active ingredient, is often at the limits of sensitivity and precision of current methods. Automation of procedures is most desirable. The use of high pressure liquid-liquid chromatography is being investigated as the most promising technique for this, but the study is hampered by the unreliability of presently available equipment.



Evaluation of the chemistry and quality control aspects of new drug applications and pharmaceutical products for listing as pharmaceutical benefits continued as a major function of the work of the Section.

### *Antibiotics Laboratory*

During the year, activities of this Laboratory continued to be directed chiefly towards the testing of samples of antibiotics and sterile products. A program of testing antibiotics for veterinary use in Australia was begun and will probably be completed in the next year, at which time it is hoped that virtually all antibiotic products known to be available in Australia will have been examined. The establishment of a chemical testing unit within the Antibiotics Laboratory has proved valuable. The trend is towards inclusion of more chemical tests and more sophisticated techniques in the statutory standards for antibiotics. These powerful chemical techniques help to solve problems encountered in the course of the sample testing program.

The resources of the sterility testing laboratory were utilised as previously for the sterility testing of all types of injectables and eye preparations, and for surveillance of imported pre-sterilised hypodermic equipment. Importation of several of the poorest quality brands of hypodermic equipment has ceased as a result of the Laboratory's activities. The standard of antibiotics for human use and sterile products appears to be improving, while the situation regarding veterinary antibiotics still causes some concern because a proportion of these are of variable and generally lower quality.

The Laboratory participated in a collaborative assay of a proposed International Reference Preparation of Neomycin Sulphate to be established by the World Health Organisation. The Laboratory continued to evaluate the chemistry and quality control aspects of new antibiotic products for marketing or listing as pharmaceutical benefits.

### *Viral Products Section*

Two main lines of activity, complementary to each other, were given high priority during the year. One was the development of standards for vaccines for use in the control of virus diseases of poultry. The other was the continuation and expansion of a long-term program of research and development needed to solve many of the problems which impede the manufacture of new and improved vaccines for the poultry industry. This program is in accord with a recommendation of the Therapeutic Goods Standards Committee that the formulation of standards for vaccines should begin at an early stage while the vaccine is being developed, and that standards should specify relevant aspects of the manufacturing procedure and quality controls.

Accordingly, a more accurate modified assay for Turkey herpes virus in vaccines being developed against Marek's Disease has been worked up by the Section. This is being used in the evaluation of batches of vaccine employed in collaborative laboratory and field trials being carried out with the N.S.W. Department of Agriculture, vaccine manufacturers and poultry producers. The technique appears to be an improvement on methods used elsewhere in the world.

As indicated in last year's report, a program to produce a specified pathogen-free poultry flock is under way. Special isolators for the flock have been constructed and proven effective, and special cages for housing individual fowls developed. Using these facilities, the selection and testing of birds which are free from specified pathogens and which have special genetic



characteristics, making them suitable for use in vaccine testing and research on the leucosis complex of viruses, has begun.

In addition to Marek's Disease, work on standards for infectious bronchitis vaccine has started, and work on infectious laryngotracheitis vaccine is nearing completion. Standards for all three vaccines will soon be considered by sub-committees. The co-ordinated program of development of these vaccines is serving as a prototype for solving problems common to many other viral vaccines.

As a prototype for reaching solutions to such problems, as well as for the use of specific pathogen-free biological media for the preparation and testing of vaccines, the definition and parameters of seed lot systems and the general problem of extraneous microbial contamination is being examined. A working party, drawn from members of the three avian vaccine sub-committees, has met twice to consider these general specifications, and draft standards are at an advanced stage. Organ culture techniques developed by the Section have been improved and are being used to study interactions between the herpes virus carrier state and the secretory immune system in fowls.

The number of viral vaccines tested this year rose by 36 per cent. The assessment of protocols of manufacture and quality control for large batches of imported vaccines remained at about the same level.

Staff of the Section assisted in the inspection and evaluation of a number of industrial facilities including an evaluation of the methods of production and testing of influenza sub-unit vaccine, a new tetanus production laboratory, a new virus production unit, and a high security facility for work on blue tongue virus, all at the Commonwealth Serum Laboratories. Laboratory personnel made an initial evaluation of the problem of disinfecting jet aircraft and joined a working party of experts to consider the resulting proposals.



# Acoustic Laboratories

Among highlights of the year's activities at the Acoustic Laboratories were the introduction in April of a new bodyworn hearing aid, the Calaid C; the acquisition of a very fast and powerful mini-computer, the Interdata Model 80; and the introduction of a new hearing testing technique called electric response audiometry.

The Calaid C, designed for people with minimum to severe hearing loss, replaces the Calaid T which was first issued by the laboratories in 1956. It is of more modern styling, is cheaper to produce and maintain, and has more facilities than the superseded Calaid T. More than 1,000 of these new aids have already been distributed to branch laboratories for issue.

The computer will be used for all projects requiring on-line data recording and processing. However, its main application will be in the field of ultrasonic visualisation, where it will lead to the acquisition of a greater amount of diagnostic information and also to improved examination of moving anatomical structures, such as the foetus and heart.



*A young patient of the Acoustic Laboratories being tested by a new technique called electric response audiometry. It is used to assess the hearing of infants or others who are unable or unwilling to respond reliably to other hearing tests.*



With the introduction of electric response audiometry, the field laboratories are now particularly well equipped for providing accurate hearing assessments and hearing aid fittings for very young children and others who cannot be tested by conventional audiometry.

## SERVICES AND DEVELOPMENT

### *Audiology and psychology*

The demand for audiological services continued to grow during the year, with a 9.2 per cent increase over the previous year. In April of this year the laboratories fitted their one hundred thousandth aid since their inception.

Two new types of hearing tests were introduced into the field laboratories. One of these, electric response audiometry (mentioned above), is used to assess the hearing of infants or others who are unable or unwilling to respond reliably to other hearing tests. The determination of hearing acuity using this technique is based on the occurrence of changes in the electrical activity of the brain following the presentation of sound. The detection of significant changes requires the use of a complex array of equipment, including an averaging computer. The equipment was installed in each of the six capital city laboratories in September 1972.

The other test, conditioned response audiometry, is a technique for testing the hearing of infants. It involves conditioning a child to respond to a series of sounds by rewarding him with the sight of an illuminated, animated puppet. The technique has been used successfully for some time in three of the field laboratories and was generally introduced during the year. Special equipment designed by the laboratories has now been installed in all field laboratories.

The Audiology Development Section continued to study new methods of selection and fitting of hearing aids, the most effective use of aids and the measurement of performance of aids when being worn. On the basis of this research and of the extensive measurements made by the Engineering Development Section, a very detailed manual on technical characteristics of and audiological considerations for fitting bodyworn hearing aids was prepared and issued to staff members. This was planned to coincide with the introduction of the new bodyworn aid, the Calaid C.

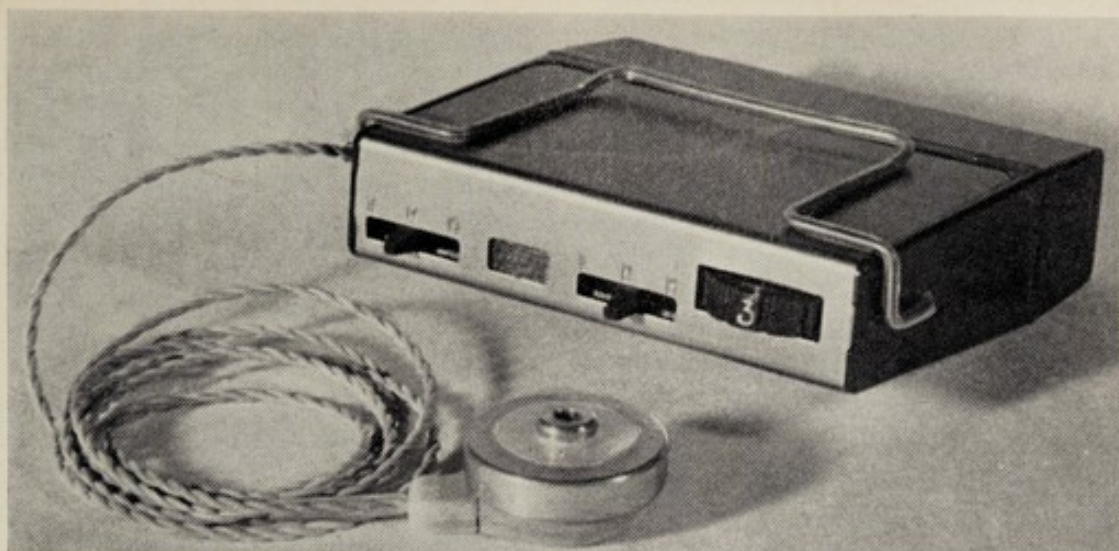
### *Engineering*

Design details were completed for the first behind-the-ear hearing aid to be issued by C.A.L. This aid features the latest developments in transducers and electronic components, and emphasises ease of maintenance, durability and economy of operation.

Two models of the new bodyworn hearing aid, the Calaid C, were introduced at the end of April 1973, replacing the two low-powered models of the Calaid T. The remaining two models of the Calaid T, the high-powered versions, will be phased out by the end of this calendar year.

A contract was finalised for the development by a commercial firm of the first Australian-designed Class B integrated circuit. This circuit could be used in most models of our hearing aids and will improve battery consumption and lessen distortion in these aids. Evaluation by these laboratories of





*The Calaid C, a new bodyworn hearing aid introduced by the Acoustic Laboratories in April 1973. It replaces the Calaid T which had been in service since 1956.*

available integrated circuits indicated that none of them would give the performance that is planned for this Australian-designed circuit.

A new-type electronic noise-level detector was developed to obtain long-term statistical data relating to ambient noise. This instrument records the data on film at regular intervals and can be left unattended in measurement locations for long periods of time. The instrument is being used to survey noise exposures in the localities around various schools for an investigation of the effects of noise on children's hearing, which is being undertaken by the Psychoacoustics Section. It will also be important for future studies of environmental noise.

#### *Noise investigations and acoustical advice*

The laboratories continued to provide professional assistance and advice on problems connected with noise and hearing conservation for the Armed Services, Federal Government Departments and instrumentalities. This advisory work included an investigation for the Army of the noise and blast from the Army Artillery and Shooting Ranges adjacent to the Upper Ross River district in Townsville. Complex noise recording and analysis techniques were used to obtain assessment of the propagation characteristics of the noise and its potential for causing complaints.

Another important project was the development of an earplug that selectively attenuates impulse noise, such as gunfire, relative to speech. A field trial of the earplug was carried out recently at the Naval Gunnery Range, West Head, Victoria. It is hoped to obtain a differential of attenuation exceeding 10dB, which will effectively reduce the possibility of ear damage from loud impulse sounds while still permitting reasonable communication.

## **RESEARCH**

### *Audiology*

A procedure for determining percentage loss of hearing was derived, partly from the results of an investigation of the relationship between auditory

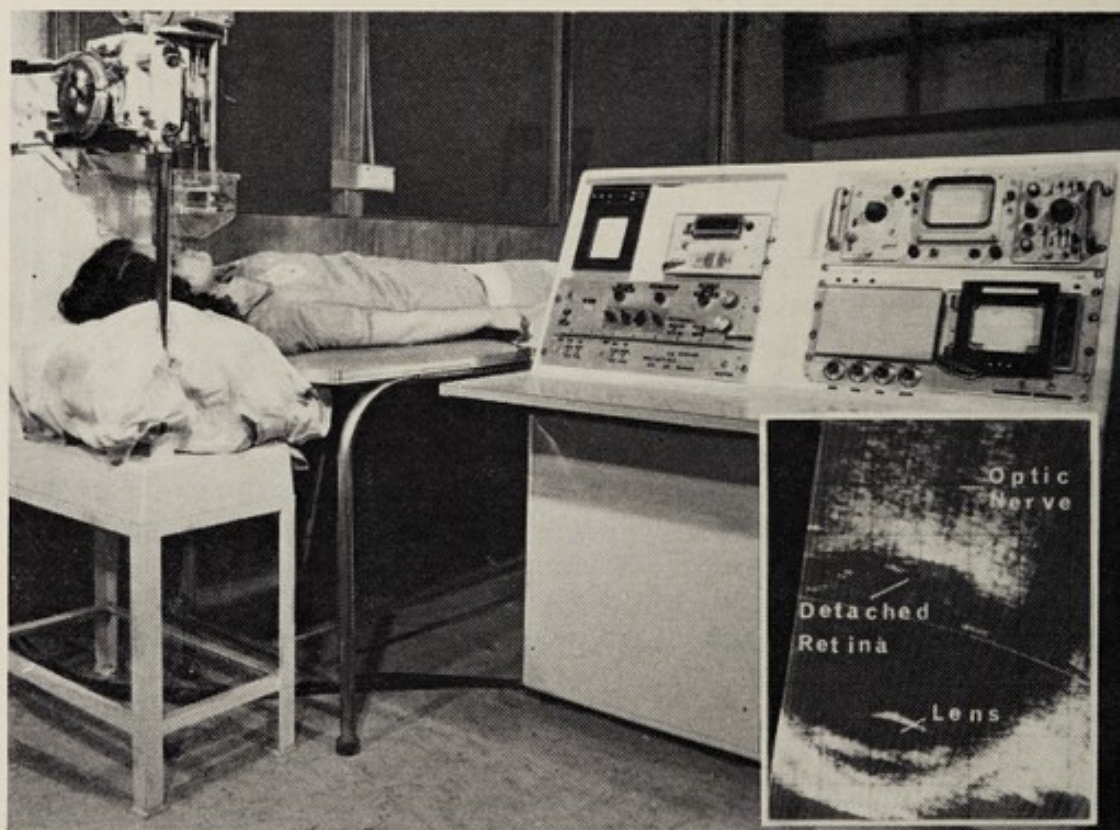


threshold acuity and the reception of everyday speech in quiet and noise, and partly from the results of overseas studies. A very high correlation was found between the percentage hearing losses of 282 ex-servicemen when determined by this method, and their scores on a questionnaire relating to hearing difficulties experienced in a variety of everyday situations. It was concluded that the procedure provides a satisfactory method of determining loss of hearing in everyday life.

### *Psychoacoustics*

Further work was done, with the assistance of the Noise and Audiology-Psychology Services Sections, on an investigation of the effect of urban noise on hearing. Two hundred and ninety fifth and sixth class children from six State primary schools underwent comprehensive ear, nose and throat examination, auditory impedance and hearing testing. In addition, a medical history of each child was obtained from the parents in an extensive program of home interviewing. It is expected that the testing will be completed during July 1973.

The study of the effects of prolonged exposure to noise from armoured vehicles was completed. The necessary audiometric equipment was set up under canvas in an area near Holsworthy, New South Wales, and 1,596 Bekesy audiograms, excluding training audiograms, were taken in a nine-day test period and in six separate experiments. A seventh experiment was carried out to determine the effect of sleep interruption and time of day on hearing threshold. Relatively small temporary auditory threshold shifts due



*An eye echoscope designed by the Acoustic Laboratories, which is to undergo clinical trials at the Royal Prince Alfred Hospital in Sydney. The echoscope is designed to detect abnormalities and diseases in the eye and the surrounding area. It produces pictures of the eye similar to that shown in the inset photograph.*



to noise were ascertained whenever use of the armoured vehicles involved frequent or lengthy stops with the engine idling. Shorter periods of continued running at speed gave rise to substantial threshold shifts. This finding agrees with previous data obtained by these laboratories.

Research into the measurement of sound attenuation of ear protectors has led to the development of procedures for calculating attenuation to octave bands of noise from measurements of pure tone attenuation at third octave levels. The new method is much more accurate than the standard methods presently used.

#### *Ultrasonics — physiology*

An evaluation of the long-term effectiveness of the round window ultrasonic treatment of Meniere's disease in thirty-eight patients over a three-year period has shown that the treatment has relieved attacks of vertigo in twenty-nine patients (75 per cent) and that preoperative hearing has remained unchanged in thirty-one patients (80 per cent). This compares quite favourably with results obtained from use of other methods of treatment for this condition.

Further work was done on the investigation of the mechanism of functional changes caused by ultrasonic irradiation of the inner ear by studying its effects on the cochlear microphonics of guinea pigs.

#### *Ultrasonics — medical applications*

Continuous progress has been made with the use of ultrasonic diagnostic cross-sectional visualisation techniques in the examination of the abdomen, eye, breast and heart. A major report was prepared on the application of the technique in obstetrical and gynaecological examination, and a research program was formulated with several hospitals for studying the application of the technique in the diagnosis of abnormalities in the early foetus.

A new multi-element scanner at present under development should allow rapid examination of patients while giving optimum resolution throughout the whole examining plane. Several patents have been taken out on various aspects of its design.

The original eye echoscope has been replaced by the Mark 2 instrument, which allows more detailed examination of the eye. Significant developments have been made in the clinical application of the breast echoscope and a number of centres in Sydney are now referring patients to the breast clinic at the Royal North Shore Hospital.

The computer which has been installed is being used in the development of a number of concepts relating to the use of digital processing techniques for improving the results of current procedures and for measuring other acoustic parameters of tissue. The resultant new methods should lead to a further increase in the diagnostic information available from ultrasonic visualisation.

#### *Standards*

Staff members continued their active participation in work connected with Australian standards. An extensive series of computer calculations was undertaken to predict the distribution of hearing impairment in a hypothetical population of workers subject to various industrial noise exposures. The definition of impairment itself was a variable in the calculations. The results provided the basis for the laboratories' comments on relevant parts of the Standards Association of Australia Draft Code of Practice for Hearing Conservation.



# Radiation Laboratory

During the year, the Radiation Laboratory continued to provide advisory services in the physical aspects of medical radiology, including radiotherapy, and the physical and chemical aspects of nuclear medicine.

The Laboratory maintains standards for the precise measurement of ionising radiations and of radioactive substances; procures and distributes all radiopharmaceuticals used in Australia for diagnostic investigations and treatment of patients; maintains a surveillance of levels of radioactivity in the Australian environment; and provides a consultative service on the protection of people against ionising radiations, laser radiation and microwave radiation.

## *Radiopharmaceuticals*

The Laboratory is the central procurement authority for the purchase and distribution of all radiopharmaceuticals used in Australia for medical diagnosis or treatment. Of the 13,558 shipments of radiopharmaceuticals procured for medical use, 12,058 (89 per cent) were obtained from the Australian Atomic Energy Commission and the remainder were imported from Belgium, France, Holland, India, Israel, Italy, Sweden, United Kingdom, U.S.A. and West Germany. The shipments included 25 different radionuclides in many forms.

Radiopharmaceuticals for medical purposes are issued free of charge, the cost being borne by the National Welfare Fund. Expenditure from this Fund for these radiopharmaceuticals is shown in Table 126 on page 244.

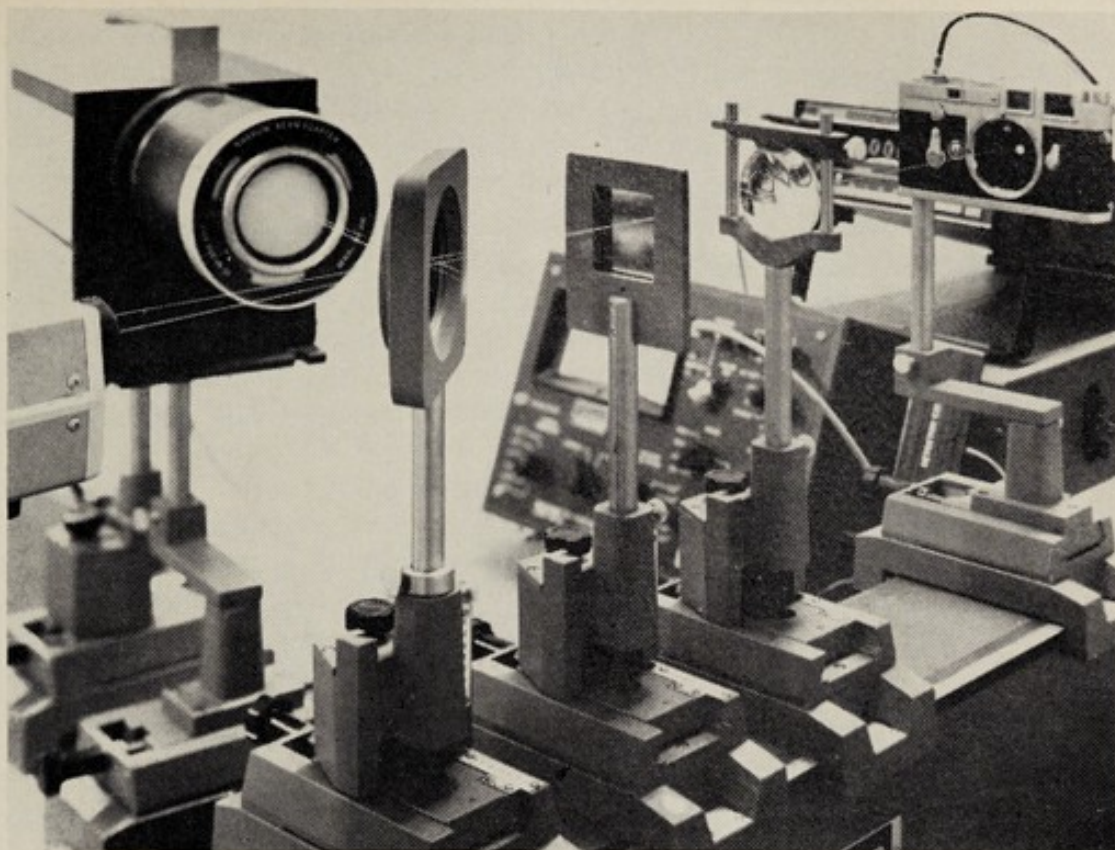
Radiopharmaceuticals of short half-life for use in Australia are prepared by the Australian Atomic Energy Commission. Such short-lived materials clearly cannot be imported economically because of the high rate of loss by radioactive decay. Fluorine-18 (half-life 1.83 hours) was for a time prepared by the Australian Atomic Energy Commission, but the Commission has discontinued routine production of this material in favour of a longer-lived substance, technetium-99m stannous polyphosphate, which is a successful substitute for fluorine-18 as a bone-scanning agent. The Laboratory is at present developing yet another technetium-99m compound, known as EHDP, which is expected to be an improvement on the polyphosphate material. Toxicity studies are proceeding.

Other Laboratory activities included the preparation of technetium-99m-labelled sulphur colloid for daily supply to Melbourne users (for liver scanning), while the regular preparation of technetium-99m-labelled macroaggregated ferrous hydroxide (for lung scanning) is being developed.

## *Protection against radiations*

The Laboratory provides technical advice to Federal authorities about protection against ionising and non-ionising radiations; it also co-operates with State authorities upon request. The hazards associated with the mining





*Investigation of the hazards of exposure to laser radiation is an important function of the Radiation Laboratory. Here, the camera at right is recording details of the cross-section of a narrow beam of light from the laser on the extreme left. A radiometer (top left) measures the beam power 'sampled' from the main beam by a beam-splitter.*

and milling of uranium ores, including the assessment of the associated radon-222, have received particular attention.

The facilities for the measurement of microwave radiation have been extended and refined, and measurements over a wide range of frequencies are now possible. Instruments for the measurement of microwaves have been calibrated and their performance studied. The monitoring of domestic microwave ovens has continued, and measurements have been made on radar and microwave equipment operated by the Services.

The use of lasers is increasing and as lasers may present hazards to the user and to the public, methods for evaluating these hazards are being developed; this work includes studies of beam divergence and the distribution of energy in the beam. The present facilities, which permit measurements in the visible region of the spectrum, are being extended to include measurements in the infrared region.

#### *Film-badge monitoring service*

The doses received by people working with ionising radiations are usually small but such doses should be measured and recorded. One means of assessing the dose received under actual working conditions is for each person to wear a small plastic 'badge' which contains a special kind of photographic film. The exposure of the film to ionising radiation causes darkening of the film and the degree of darkening is a measure of the dose received. A film-badge service has been operated by the laboratory since 1929.



In 1972-73, 79,550 films were assessed and reported on. The number of centres registered with the film-badge service is 1,776.

The film-badge service has also issued small thermoluminescent dosimeters which are worn on the fingers of those radiation workers who, from the nature of their work, may receive excessive doses to their fingers.

### *Radium and radon*

Australia's stock of radium is maintained at the Laboratory and is issued to approved hospitals as required. Some of this radium is used to produce radon, and a radon service has been provided for many years. The possibility of replacing radon by a radionuclide of equivalent therapeutic properties is being investigated.

### *Diagnostic radiology*

Government departments and instrumentalities have frequently requested the services of the Laboratory on physical aspects of diagnostic radiology. The planning of X-ray departments, preparation of specifications for equipment and examination of tenders have been an important part of this work. Particular assistance has been given in the planning of new hospitals



*The quality of radiopharmaceuticals used in Australia is monitored at the Radiation Laboratory. Here a radiochromatogram scanner is used to measure the radiochemical purity of a preparation.*



in the Federal Territories—for example, the Woden Valley Hospital and the Belconnen Health Complex in the A.C.T., and the Casuarina Hospital in the Northern Territory. State authorities have also made use of these services.

### *Radiation dosimetry*

The equipment used for the measurement of X-rays has been improved by the modification of the existing equipment and addition of new components. The measurement of gamma radiation has received detailed study as part of the design and manufacture, in the Laboratory, of a 'cavity chamber' suitable for this specialised work.

Work has continued on the survey being undertaken for the National Health and Medical Research Council 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 of radioactive substances. This survey is a major undertaking which must necessarily continue for many months before adequate data is obtained to allow reliable values of genetic and bone marrow doses to be calculated.

### *National standards*

Under the *Weights and Measures (National Standards) Act*, the C.S.I.R.O. in 1965 appointed the Director of the Laboratory as its agent to maintain national standards for the measurement of X-rays and of radionuclides.

During 1972-73, attention was given to relating the fundamental data used in the precise measurement of X-rays to other Australian national standards. The equipment and methods used for the precise measurement of radionuclides have been improved, and two more radionuclides have been added to the list of those which can be standardised, bringing the total to twenty-three. An intercomparison of standard preparations of technetium-99m was made between this laboratory and the Australian Atomic Energy Commission, with satisfactory agreement. Investigations on the development of additional types of measuring equipment are in progress.

### *Environmental radiation*

The program of monitoring radioactive materials in the Australian environment has continued. In addition to the routine monitoring of long-lived radionuclides resulting from fallout from past nuclear weapons tests, a program of monitoring short-lived radionuclides was undertaken during the French series of tests in 1972. In 1972-73 4,669 samples were processed and the results passed to the National Radiation Advisory Committee through the Atomic Weapons Tests Safety Committee.

Satisfactory checks of the radiochemical procedures used were carried out by means of standardised samples supplied by the International Atomic Energy Agency. Regular calibrations of the electronic equipment used have been made using reference standards prepared in the Laboratory.

The whole-body monitor is being used more frequently as more medical specialists become aware of its usefulness in identifying and estimating the activities of traces of gamma-emitting radionuclides in their patients. In addition to its direct medical applications, the whole-body monitor has been used to assess the average activity of caesium-137 in samples of the local population, to check for radioactive contamination some of those who work with radiopharmaceuticals, and to detect and identify impurities in radiopharmaceuticals.



# Bureau of Dental Standards

This has been a busy year for the Bureau of Dental Standards, both in Australia and abroad. Bureau officers travelled widely overseas, while at home the Bureau continued its program of evaluating products available to the dentist, and of examining materials, instruments and equipment on behalf of the Standards Association of Australia and other bodies.

## *Australian dental standards*

Through the Dental Standards Committee of the Standards Association, considerable progress was made during the year in the formulation and publication of specifications recognised by the profession and the trade. The following standards—based on work carried out at the Bureau and taking cognisance of overseas specifications and drafts—were published:

- AS 1093 Dental rotary instruments — dimensions of shanks and chuck fittings;
  - AS 1097 Dental duplicating material;
  - AS 1185 Elastomeric impression material;
  - AS 1186 Dental zinc phosphate cement (revision of AS T3);
  - AS 1240 Orthodontic latex elastic bands;
  - AS 1264 Dental single-use cartridge hypodermic needles (sterile);
  - AS 1282 Dental alginate impression material (revision of AS T15);
  - AS 1453 Dental modelling waxes (revision of AS T17); and
  - AS 1254 Dental silicate and silicophosphate cement (revision of AS T8).
- Assistance was also given in the preparation of two surgical standards:
- AS 1207 Metal surgical implants; and
  - AS 1208 The use of plastics for surgical implants.

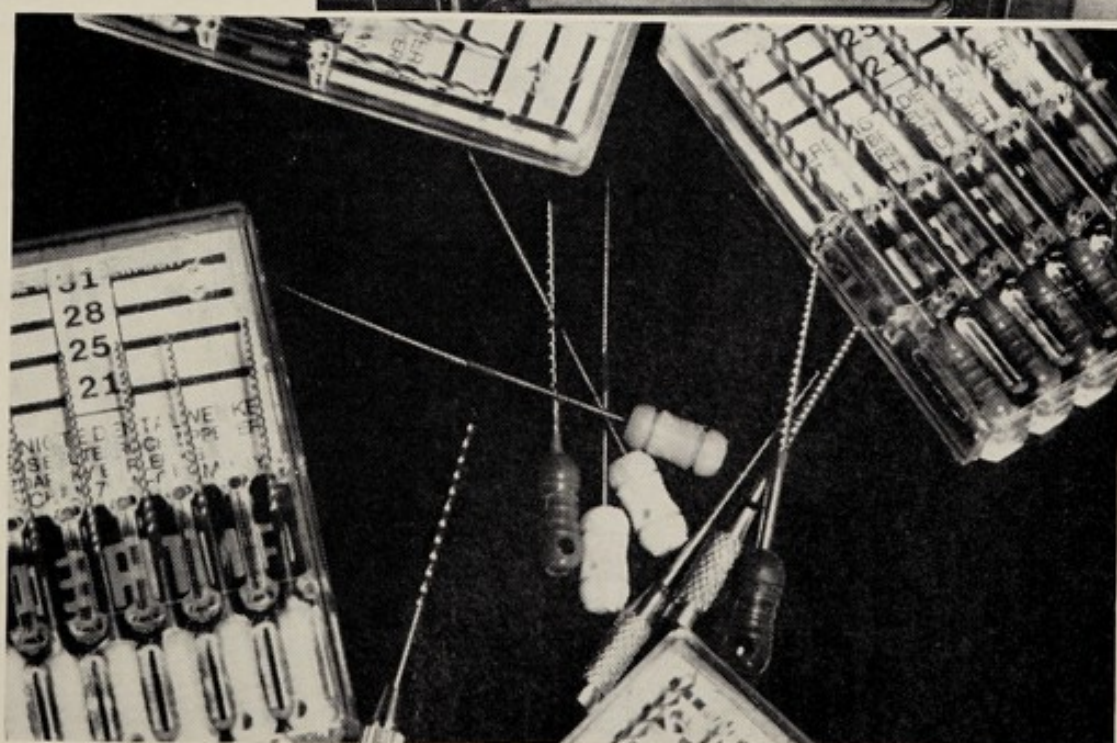
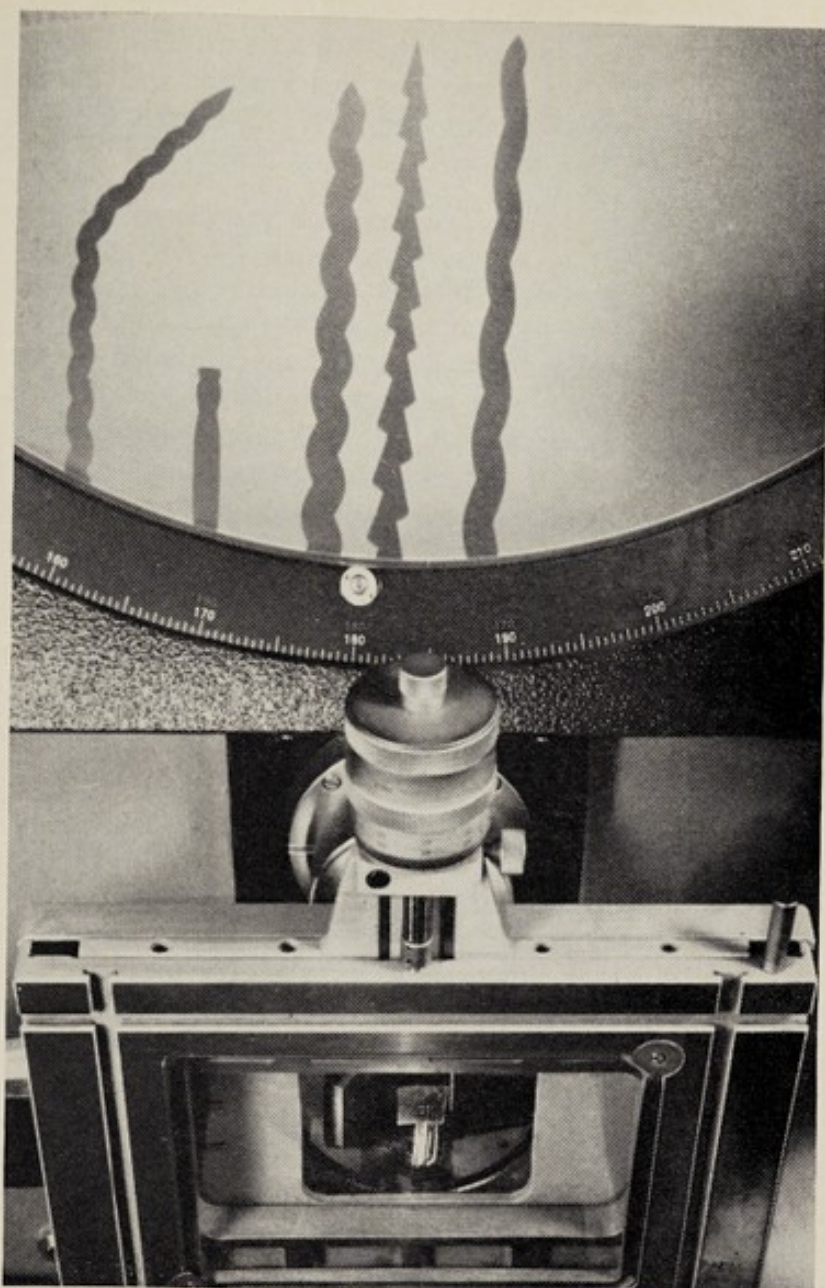
The following drafts have been prepared for publication following the postal ballots, which give the final authority for promulgation:

- AS 1241 Dental shellac baseplates;
- AS 1253 Orthodontic band cements;
- AS 1278 Dental direct filling composite materials;
- AS 1283 Dental rubber dam punch;
- AS 1437 Dental operating luminaires (lights) for oral illumination;
- AS ..... Dental mercury (revision of AS T1);
- AS ..... Dental sticky wax (revision of AS T10); and
- AS ..... Dental inlay waxes (revision of AS T14).

Before the postal ballot is held the standards go out to all interested parties as public review documents. Standards on dental excavating burs, dental gutta percha points, root canal files and reamers, single-use hypodermic needles (sterile) for insulin injection and single-use hypodermic syringes (sterile) for insulin injection have been circulated for comment.



*The Bureau of Dental Standards conducts testing and research programs on a wide range of instruments and materials used by dentists. Endodontic reamers and files (pictured below), which are used for opening up the root canals of teeth, are examined by a magnification device (pictured right) which enables close study of each instrument.*





In addition to the fifteen existing committees which cover various aspects of dental materials, instruments and equipment, two new ones are being formed—Committees DN/15 Dental Ceramics and DN/16 Dentifrices. The decision to form the committees came as a result of representations from the dental profession.

#### *Behaviour of products in the tropics*

The program of testing products stored at the Army Tropical Trials Establishment at Innisfail continued with examination of an increasing diversity and number of items. The reports on the properties of products stored under hot, wet and saline conditions compared with those stored under temperate climatic conditions have been duly recognised and acknowledged as a valuable contribution to the Army program.

Plans are now being made to extend the investigation so that where a product used by the Services has deteriorated under tropical conditions, other products of the same type will be tested. This will establish which brands will be the best choice under adverse climatic conditions, and will perhaps assist in determining the best method of packaging and stabilising the material for tropical use.

#### *Testing and research programs*

The flow of samples from manufacturers and distributors for testing continued at a high level. This year there was a marked increase in the number of instruments and devices tested as distinct from materials. Much of the investigational work relates to the preparation of standards, and particular attention was given to dental excavating burs, endodontic files and reamers, orthodontic wires, dental waxes, composite filling materials and artificial teeth.

A study was made of the concentration of mercury vapour in various dental surgeries, and the findings have been of assistance to the N.H. & M.R.C. Dental Health Committee in its recommendations for mercury hygiene. Most of the surgeries tested showed mercury vapour contents below the accepted toxicity levels, but some with carpeted floors gave higher readings. Where copper amalgam was used, there were certain stages in its preparation which gave rise to high values for mercury vapour if there was inadequate ventilation.

An investigation is to be made of possible hazards arising from the use of lead compounds in some alginate impression materials. Here the danger to the patient seems minimal, but the light, powdery material could be inhaled by the operators before it is mixed with water, especially as the manufacturers advise thorough shaking of the tin before dispensing the powder.

#### *International activities*

In March this year, the Bureau Director visited Caracas where he had been appointed as a World Health Organisation consultant to advise the Venezuelan Government on a dental materials research, standardisation and accreditation program. He also visited the South African Bureau of Standards in Pretoria, the Dental Research Unit at the National Bureau of Standards, Washington, D.C., and the Dental Materials Department of the University of Florida at Gainesville.

Another Bureau officer attended the Fifteenth World Dental Congress in



Mexico City where he was confirmed as a member of the Fédération Dentaire Internationale (FDI) Commission on Dental Materials, Instruments, Equipment and Therapeutics, taking the place of the Director who had been a member of the Commission since its inception. The same officer also attended a meeting of the American Dental Association in San Francisco and visited dental research centres and laboratories in the United States.

The coming year will see even greater involvement in the international dental field. Meetings of two world bodies—the FDI and the International Organisation for Standardisation (ISO) Committee TC/106—Dentistry—are being held successively in Sydney and Melbourne in July 1973. The FDI meeting is being held for the first time in conjunction with the Australian Dental Congress. The Bureau will participate actively in an FDI open session on the specification, certification and utilisation of dental materials, and is presenting an extensive exhibit of its work in Australia. The Bureau will be represented at most of the sessions of the ISO Committee meeting, dealing mainly with standards for restorative materials, prosthetic materials and dental instruments.



# Health Laboratories

The year saw a further increase in the volume of work carried out by the Health Laboratories and in the variety of services they provide. New laboratories were opened at Gove in the Northern Territory and at the recently completed Woden Valley Hospital in Canberra.

The laboratories now provide a free clinical pathology and public health service to hospitals and medical practitioners in sixteen regional areas throughout Australia, covering approximately 30 per cent of the provincial Australian population. The scientific specialties concerned in the work of the laboratories include clinical biochemistry, clinical and public health microbiology, haematology, serology, blood transfusion immunology, histopathology, morbid anatomy, cytology and virology.

During 1972-73 the laboratories carried out a combined total of 3.7 million diagnostic and investigative tests—a 20 per cent increase in total workload over the preceding year. This maintained the high annual growth rate which has characterised the work of the laboratories in recent years. The continuing high rate of increase is in keeping with that reported by other pathology laboratories in Australia and elsewhere. It reflects the growing importance of the laboratory component in patient care, and the rapidly expanding range of laboratory procedures which can be applied in both curative and preventive medicine and in public health.

The workload increase, together with rapid advances in the scientific and technological aspects of pathology practice, have placed heavy demands on the staff of the laboratories and emphasised the need for continuing education and organisational development to keep pace with the constant flow of technical innovations. Statistics of work performed by the laboratories are shown in Table 134 and Graph 29 on pages 248-249.

## *Staffing*

During the year some further improvement was made in the level of staffing at most of the laboratories, particularly in the medical laboratory technologist and technical officer categories. Although some direct recruitment of qualified staff took place, most vacancies were able to be filled by officers graduating from the Department's technologist and technical officer training schemes.

Nine cadet technologists and thirteen trainee technical officers who completed their study and training courses at the end of 1972 were promoted to appropriate positions at laboratories in February this year. Since the cadetship and traineeship programs began in 1968, sixty cadets and fifty-nine trainees altogether have now completed training and been posted as qualified technologists or technical officers to various laboratories throughout the country. The training programs have been of immense value in providing a flow of qualified, competent personnel to meet staffing needs.



The long-standing difficulty in recruiting specialist pathologist staff has persisted during the year and several specialist positions remain unfilled at the present time.

#### *Trainee pathologists*

One trainee pathologist began studies in the Diploma of Clinical Pathology course at the Post-Graduate Medical School, London, in 1972. Two other trainee pathologists are undertaking advanced training at the Concord Repatriation Hospital in Sydney with a view to completing examinations for membership of the Royal College of Pathologists of Australia.

#### *Work measurement*

Initial studies were completed during the year on the formulation of a work-measurement scheme to replace the previously used Nuffield Points scheme. This work has been directed towards determining weighting factors which reflect the average technical and clerical time needed to accomplish each laboratory procedure.

Attention is being given to variations arising from automation and batch-analysis and to activities such as logging of specimens for test, recording results, reagent preparation, reading of blanks and standards, quality control procedures, etc., which have not been specifically defined previously. It is expected that these studies will help to clarify the work characteristics of the laboratories, and will provide a realistic basis for assessing staffing needs and for investigating various aspects of laboratory management, equipment and accommodation requirements, etc.

#### *Laboratory Request/Report form*

The Request/Report form used in the laboratories was redesigned during the year in order to reduce its overall dimensions to seven inches by five inches. This was done to make the size of the form more compatible with that of the medical record forms now standard in hospitals throughout Australia. Supplies of the new form are expected to be issued towards the end of 1973.

#### *Equipment*

During the year, further additions were made to the already wide range of equipment in use by the laboratories. The diversity of analytical equipment required for routine use is continually increasing, particularly in biochemical work.

Much of the equipment now available is designed to mechanise one or more of the various steps in analytical procedures, making the handling of large numbers of test samples more efficient than is possible with purely manual methods. Sometimes, however, the maintenance and servicing of such equipment raises difficulties, particularly in the more remote laboratory locations. In addition, so many different types of equipment are constantly appearing on the market that adequate evaluation of each before purchase is not always possible.

To assist in providing more data relevant to these aspects, the laboratories are now preparing assessment reports on the operational performance, reliability, maintenance requirements, etc., of newly acquired items of major equipment. A standard report format has been introduced to facilitate the reporting procedure.



### *Accommodation*

As workload, staffing and equipment increases in each laboratory, a continuing review of laboratory accommodation requirements is necessary. Further progress was made in this area during the year.

In April this year the construction of a new health laboratory building began at Albury to replace the original laboratory which was burnt down in December 1971. The new building, which provides approximately 9,000 square feet of laboratory and office space, is estimated to cost about \$370,000 and should be completed early in 1974.

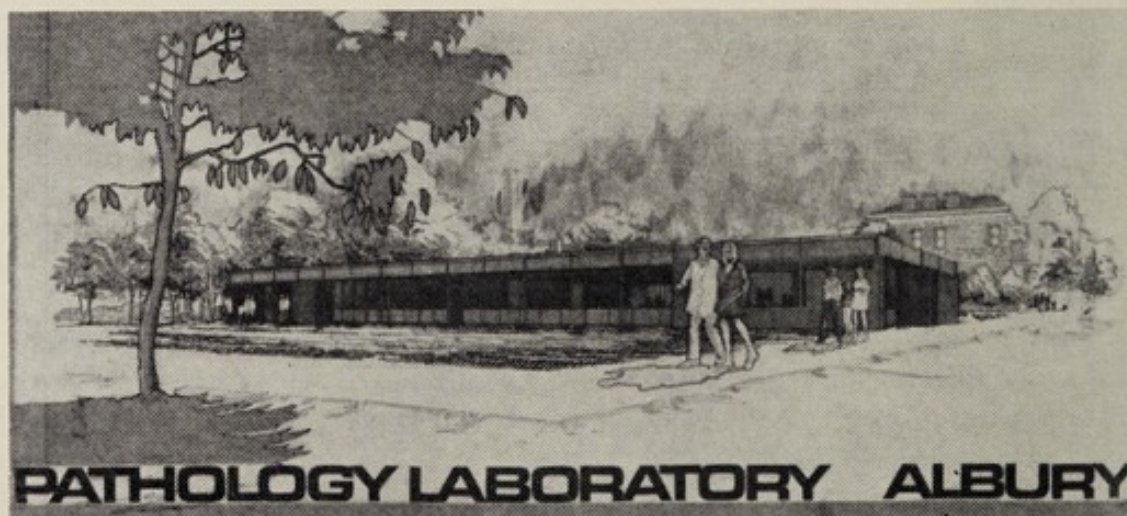
A laboratory facility in the Gove District Hospital in the Northern Territory was opened early in 1973. This laboratory provides basic pathology services for the rapidly growing mining and industrial community on the Gove Peninsula and for the communities at Yirrkala and on Groote Eylandt. A laboratory at the new Woden Valley Hospital in Canberra began operation in May this year, marking an important phase in the planned development of an integrated pathology service for the A.C.T.

Other work completed during the year included extensions to the Alice Springs laboratory, while alterations and additions began or were planned for the laboratories at Darwin, Rockhampton and Toowoomba. Planning discussions were also held on the proposed construction of a new laboratory building in Hobart.

### *Meetings and conferences*

Staff members attended a number of scientific seminars, meetings and conferences during the year, including those conducted by the Royal College of Pathologists of Australia, the Australian Association of Clinical Biochemists, the Australian Institute of Medical Technology, the Australian Society for Microbiology and the Australian Biochemical Society. Several officers presented papers at these meetings.

An officer from the Laboratory Services Section of Central Office represented Australia at the regional seminar on health laboratory services conducted by the World Health Organisation's Regional Office for the Western Pacific at Manila, in the Philippines, in December 1972. The seminar discussed the administrative, technical and operational aspects of



*An artist's impression of the new Health Laboratory now under construction at Albury, to replace the one destroyed by fire in December 1971.*



health laboratory service programs and investigated means for strengthening collaboration between the various countries and Territories of the region. Other countries represented at the seminar were Fiji, Guam, Hong Kong, Japan, Laos, Malaysia, New Zealand, Papua New Guinea, the Philippines, French Polynesia, Khmer Republic, Republic of Korea, Singapore and Western Samoa.

A pathologist attended the regional training course on venereal disease serology and bacteriology conducted by WHO at Singapore in March 1973. The four-week course covered all aspects of the diagnosis, therapy and surveillance of venereal diseases, and the application in laboratories of proficiency-testing programs in venereal disease serology.

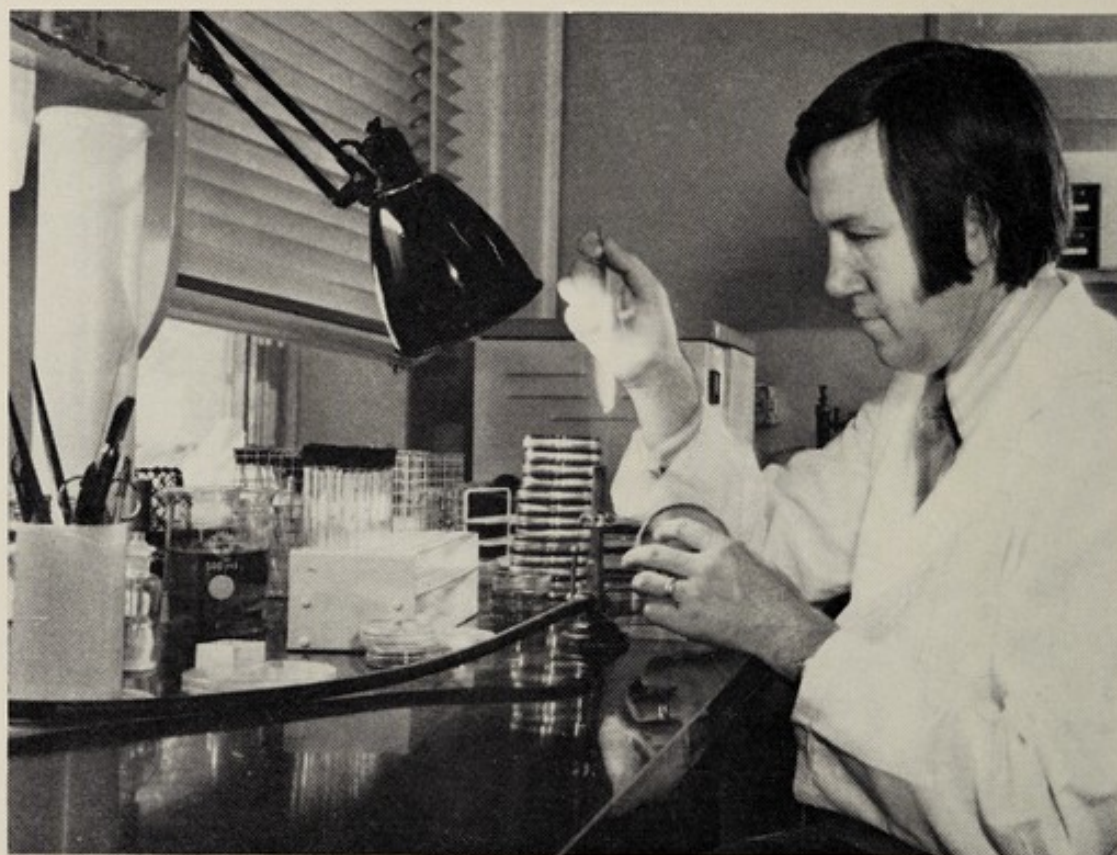


# School of Public Health and Tropical Medicine

The School of Public Health and Tropical Medicine was able to play a major role during the year in helping combat the episode of cholera among passengers on an overseas jetliner in November 1972. It was an excellent example of practical application of the many research projects conducted at the School which cover the fields of biochemistry, entomology, environmental health, occupational health, parasitology, pathology, microbiology, preventive and social medicine, radiation biology and tropical medicine. The School also continued its broad scope of teaching activities and its consultative and advisory services.

## *Teaching*

A wide range of teaching was again undertaken at a variety of levels of instruction both within and outside the University of Sydney. Twelve Diplomas in Public Health and seven in Tropical Medicine were awarded



*Dr R. G. A. Sutton, of the School of Public Health and Tropical Medicine, testing cultures of faeces for the presence of cholera organisms—a photo taken during the cholera episode in November 1972. The School played a major role in tracing the cause of the incident.*



during the year. The Diploma in Public Health program was further developed with strengthened courses in health services and administration, and the introduction of new material such as a formal seven-day course in population control and family planning.

The establishment of a Diploma in Occupational Health is being negotiated and it is hoped the first students for the course will be enrolled in the academic year 1974.

Contributions were also made to a number of other post-graduate diploma courses while 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.

### *Biochemistry*

Longitudinal studies on 'benign' proteinuria were continued and extended further to include plasma and excretory amino acid patterns in both the adolescent and adult persistent groups. In about half the adolescents so far examined, it appears that the total excreted is high, especially of the non-essential amino acids, glycine, alanine, serine and  $\beta$ -amino-isobutyric acid.

### *Environmental health*

A pilot experiment on the effects of living on survival rations was carried out. Cardio-vascular and renal performance and exercise tolerance on the treadmill were investigated. The object was to obtain experience in preparation for a forthcoming Combined Services trial of survival rations.

Analysis of the results of the investigation into the thermal adaptation of New Guineans, undertaken as part of the International Biological Program, is now nearing completion. An account was presented to The Royal Society, London, in June 1973. A study involving the physiology of the human eccrine sweat gland is in progress. The manner by which the gland modifies extra-cellular fluid to produce hypotonic sweat is still imperfectly understood. A hypothesis has been proposed regarding the mechanism of the gland's action, and a model has been constructed to test the hypothesis.

The work begun last year on the technique of recording the electrocardiogram (ECG) of an exercising subject has been completed. The quality of the ECG appears to be determined by the electrode sites, the preparation of the skin, the type of electrode and the type of electrode paste used. The technique has clinical as well as research applications and has aroused considerable interest. It has already been adopted in several institutions as a standard method.

A development project was undertaken to produce an Air-Ionisation Meter. The instrument was required to be hand-held and capable of indicating quantitative changes in the number of positive and negative ions in the air. The instrument developed was able to satisfy these requirements but, at the institution in which it was to be used, it was found to be affected by radio transmissions from nearby commercial radio stations. Further development work to overcome this problem is being undertaken, and a new instrument should be available for testing within the next few months.

### *Medical entomology*

In May 1972 members of the entomology staff conducted a three-week field investigation at Gove, Northern Territory, to compare mosquito



populations with those found at different times of the year during previous trips. Extensive surveys of breeding sites and collections of specimens were made. A field survey of mosquitoes, with particular attention to anophelines, was conducted at Darwin during the same visit. A report of the survey has been prepared.

Research into the effects of environmental factors on the life cycle of two Australian anopheline mosquitoes, *An. annulipes* and *An. amictus hilli*, continued. The influence of temperature, salinity, light regimes, pH and overcrowding on egg hatching, larval and pupal development and resulting adult fecundity has been studied. The results obtained so far indicate that each species has definite preferences and tolerance ranges for the environmental conditions tested.

Work has continued on the compilation of *A Checklist of the Culicidae of the Australasian Region*, in collaboration with Dr E. N. Marks of the University of Queensland, while the taxonomic study of the many specimens of biting midges in the School's collection also continued. Two papers describing some of the results of this work were prepared. In addition, the preparation of a comprehensive checklist of Australian midges is in progress, and important information on the location of many of the relevant type specimens has been gained through the co-operation of the staff of museums in Europe, Africa, Asia, New Zealand and U.S.A.

A checklist of the flea fauna of the Australian region is in preparation, and is being continually updated as new literature comes to hand and as older references are discovered.

There has been a change in the normal pattern of entomological enquiries. In the past they were mainly concerned with ticks, biting midges, starling mites and flies, but during the past twelve months more people have sought information on the house-dust mite and its possible control than at any other time in the past. Indeed it appears to be the most topical problem in public health entomology. A number of enquirers have also submitted house-dust samples from which mites have been extracted and identifications made. This is the most time-consuming routine activity of the Section, and it is being performed because no information on the mite components of house-dust in Sydney is available outside that gained from examinations carried out at the School.

One of the most common public enquiries with which the Section has to deal concerns requests for the identification of, or information on, the habits of the funnel-web spider, *Atrax robustus*, specimens of which have been received from the Sydney area and the Northern Tablelands of New South Wales. Many specimens submitted have proved to be mouse spiders, wolf spiders, garden orb weavers or black house spiders. Identifications, together with information on their biology and behaviour, have been provided in all cases.

### *Occupational health*

In association with the National Health and Medical Research Council and the Australian Council on Smoking and Health, and with the aid of funds provided by the R. T. Hall Trust, an investigation into sickness absence and respiratory impairment in relation to smoking in industry is to be undertaken. A considerable amount of preliminary research and planning for the survey has already been carried out and it is intended that up to 10,000 subjects will be included in the study.

An investigation is being planned of the possibly harmful psychological





*Dr G. C. Scott, of the School of Public Health and Tropical Medicine (left), with Dr D. A. Russell, Department of Health, Papua New Guinea (centre) and Dr C. R. Boughton, Prince Henry Hospital, checking records at the end of a patrol undertaken as part of the ten-year epidemiological and clinical trial of leprosy in Karamui, Papua New Guinea.*

and physiological effects of noise on the employees of a large metropolitan mail exchange. Much preliminary work has already been done. A study of the operating problems of Post Office telephonists is also in progress. About 350 telephonists have already been interviewed concerning attitudes to, and symptoms arising from, the physical conditions of their work. The interviews are being complemented by environmental studies of the work place.

A report was prepared on a recommended comprehensive program for the control of coronary heart disease in the Public Service. The report, which will initially concentrate on the Australian Post Office, calls for community and individual preventive measures, emergency and rehabilitation surveys, establishment of health information systems including a heart disease register, and prospective studies and drug trials in the prevention of the disease.

### *Parasitology*

During the past year much of the resources of the Section was devoted to developing a workable technique for the indirect fluorescent antibody diagnosis of malaria, amoebiasis, schistosomiasis and strongyloidiasis.

The examination of material collected for studies on the incidence of filariasis, malaria and alimentary parasitism at Lake Kutubu in the Southern Highlands of Papua New Guinea in February 1971 is continuing. All remaining material should be examined within the next month when the



results will be compiled. An investigation of alimentary parasitism in Australian military personnel who had served in Vietnam was terminated after the examination of 190 specimens. All parasite indices proved to be of a low order and comparable with the norm for the Australian population. The final results of both the 1966 and the 1971-72 surveys have been presented to the Army.

### *Pathology and microbiology*

In past years, much time and energy has been devoted to investigating outbreaks of food poisoning and in examining various aspects of catering and food preparation. The experience gained in this way proved invaluable in handling the episode of cholera in November 1972 amongst passengers travelling on an overseas airliner. The officer heading the team undertaking this work visited Bahrain and Singapore in connection with the incident. The fact that the cholera episode was so short and comparatively



*Water accompanying imports of live tropical fish from overseas is a possible source of both animal and human disease, and consignments are thoroughly inspected on arrival in Australia. Here Mr Ron Nyman, a technician from the School of Public Health and Tropical Medicine (left), and Animal Quarantine officer Mr Ken Watson examine a consignment at Mascot Airport in Sydney. The water is sampled and tested at the School of Public Health.*



innocuous reflects great credit on the work carried out by the Pathology and Microbiology Section.

A further step in the watch on the import of exotic pathogens from overseas has been the institution of the monitoring of water in which aquarium fish are imported and of water brought into the country for religious purposes. Evidence of heavy pollution was obtained in some instances. A survey of oysters for the presence of *Vibrio haemolyticus* had almost been completed when the recovery of another non-cholera vibrio from patients suffering from food poisoning after eating oysters led to the survey being extended to search for other possible pathogens.

#### *Preventive and social medicine*

The ten-year epidemiological and clinical trial of leprosy in Karamui, Papua New Guinea, has demonstrated conclusively that B.C.G. vaccination is effective in preventing one specific type of leprosy, which affects about 40 per cent of cases in the native population.

The first detailed analysis of medical requirements in New South Wales, including estimates projected up to 1991, has been completed, together with a health services utilisation study of the Mt Druitt area. A study has begun on hospital usage in the Hills District of western Sydney and work has been started on an analysis of health needs of the inner-urban community of Glebe. A program of antenatal detection of central nervous system malformations is under way utilising ultrasonic radiography and the estimation of amniotic fluid alpha foeto-protein — work which is a part of a larger program of genetic counselling and the antenatal diagnosis of genetic disorders in New South Wales.

The long-term study on social adaptation in haemophilia is continuing, and work is being done on the development of new educational programs in social and behavioural aspects of community medicine for postgraduate students.

#### *Radiation biology*

Some real progress appears to have been made by workers in the Radiation Biology Section in the prevention of secondary radiation sickness. A mouse which has been exposed to a lethal dose of radiation may be resuscitated by a bone-marrow graft from another mouse, only to die later from a wasting disease which is known as secondary radiation illness. In clinical medicine, attempts to employ allogeneic bone-marrow transplantations have also resulted in the same secondary sickness. In both cases the disease appears to be the result of an immunological reaction of the grafted cells against the tissues of the host. Officers of the Section have now shown that mice which have received a lethal radiation dose and are resuscitated by a marrow graft from a donor from an incompatible strain are much less likely to suffer from secondary sickness if, at the same time, they receive a graft of marrow cells from a mouse which is a first generation hybrid, resulting from a cross between the host strain and the incompatible donor strain.

Work is continuing on means for the assessment of radiation damage. Exposure to ionising radiation, as for example in radiotherapy, is accompanied by a decrease in the number of circulating lymphocytes. The amount of this decrease can be used to give a rough measure of the amount of radiation to which the individual has been exposed. It has now been shown that a more accurate measure can be obtained by measuring the patient's lymphocyte replicating ability (L.R.A.). L.R.A. is a measure of the



test lymphocyte's ability in tissue culture to synthesise a radioactive labelled D.N.A. precursor in response to a mitogenic stimulus. This can easily be determined with a scintillation counter and the results expressed as counts per minute per million lymphocytes. These can then be compared with those for a normal control.

### *Tropical medicine*

Field work for the Coasttown project, a study of the health of a part-Aboriginal rural-urban community centred on a New South Wales coastal town, has been completed. The aim of the project was to determine the role of a public health nurse operating in such a situation and the assessment of the effect of her activities on the health status of the community's children.

*Aboriginal Health*, a review of the health of Australian Aborigines by Dr P. M. Moodie, was published as a volume in the Social Service Research Council's series *Aborigines in Australian Society*, and it is considered that it will be the standard reference work on this topic.

A central register of malaria cases is maintained in the Section in association with the Health Departments of the States and Territories. In addition, guidance is given on the management of the maintenance phase of malaria eradication in malaria-receptive areas of Australia. Australia has now been free of endemic malaria for eleven years. The last indigenous case was notified on 14 March 1962.

In conjunction with the Haematology Department of St Vincent's Hospital, preliminary work has been started to determine the haemolytic activity of the venom of a number of Australian snakes.

The development of an index of growth retardation for children has made considerable progress. The index will allow precise comparisons of growth rate between individuals of different ages and sex, and precise comparisons between small groups of children of different age and sex composition. A computer program has been developed which calculates the indices, correlation co-efficients and probability, and prints scatter diagrams of the correlations.



# Institute of Child Health

The Institute of Child Health continued its research, teaching and advisory functions during the year, with staff members, undergraduates and visiting fellows taking part in varied research activities.

A WHO Fellow from Indonesia, Dr G. Santosa, carried out, in co-operation with staff from the Royal Alexandra Hospital for Children, a valuable project relating to the aetiology of acute respiratory tract infections in childhood. Medical students from Britain, New Zealand, Germany and Turkey attended the Institute.

The Director of the Institute, who is also Professor of Child Health at the University of Sydney, visited China in March as a guest of the Chinese Medical Association. With the support of a letter from the Prime Minister, he extended an invitation to a team of Chinese paediatricians to visit Australia.

## *Child psychiatry*

Regular work in undergraduate and postgraduate teaching continued. In addition special seminars in psychopathology were conducted for candidates taking the course in child psychiatry and the special course for school medical officers and paediatricians in paediatric psychiatry, organised by the New South Wales Institute of Psychiatry. The Associate Professor of Child Psychiatry delivered papers and participated in a symposium on autism, a meeting on the mental health implications of adoption, and a workshop on psychiatric education.

## *Metabolic laboratories*

The metabolic laboratories were completed during the year, enabling full use to be made of the laboratory space. The results of the continuing work on mammalian folate metabolism have received wide recognition, and an officer of the laboratories has been invited to present the results at the International Congress of Biochemistry in Stockholm.

## *Rheumatic fever*

Work continued on the long-term study of children with rheumatic fever and chorea, with participants in the study attending the after-care clinic which was established twenty years ago.

The clinic, which is held weekly throughout the year, acts also as a consultation centre for paediatricians and general practitioners who wish to refer children for an opinion concerning diagnosis and management of rheumatic fever and related disorders. A number of postgraduate, as well as undergraduate, students from Australia and other countries have attended since its inception. This has allowed them to further their knowledge of rheumatic diseases, and to discuss local as well as overseas problems with the paediatricians who supervise the clinic.



### *Urinary tract infections*

The study of children with urinary tract infections was continued during the year. Prolonged chemotherapy, often for years, is still considered to be the most effective way of eradicating chronic urinary infections when there is no indication for surgical treatment.

### *Social work*

The social workers again played an active part in the teaching of medical students. They co-operated with a number of kindergartens in the Sydney area.

### *Measuring tape*

Tapes for circumference measurements in children and a caliper for measuring skin fold thickness were prepared. These may be of considerable value in the assessment of nutritional status, particularly in developing countries. A memorandum on the tapes and caliper is being prepared.



*This tape for circumference measurements in children was developed at the Institute of Child Health. It is expected to be of considerable value in the assessment of nutritional status.*



# International Health

The Department played an increasingly active role in international health matters during the year, both at home and abroad.

Abroad, the Australian delegation to the 26th World Health Assembly again made substantial contributions to the debates in Geneva, while for the first time the Department sent an observer to a meeting of Directors of Territorial Health Services of the South Pacific Commission, held in Noumea in January. At home, the Department continued to assist with the training of overseas workers in the health field, and was closely involved in negotiations leading to the establishment of a WHO Regional Teacher Training Centre for Health Personnel at the University of New South Wales.

## WORLD HEALTH ORGANISATION

The 26th World Health Assembly, held in Geneva from 7-23 May, marked the 25th anniversary of the World Health Organisation, and appropriate celebrations were held. This was the first Assembly at which the Peoples' Republic of China was represented. Discussions covered a wide range of health problems.

### *Problems of the human environment*

A draft resolution calling on all nations to immediately halt nuclear weapons tests which give rise to an increase in ionising radiation in the atmosphere was co-sponsored by Australia and seventeen other nations. In a statement in committee, the Director-General, who led the Australian delegation, stressed the concern of the peoples of the Pacific Region at the continuation of such tests and at the hazards to health thus produced.

In the debate which followed, only France and China indicated opposition to the resolution. It was then adopted by the committee with sixty-eight votes in favour, four (France, China, Albania and Upper Volta) against, and ten abstentions. In the Plenary Session later, the resolution was adopted by the Assembly with eighty-seven votes in favour, four (France, China, Albania and Monaco) against, and ten abstentions.

### *International surveillance of communicable diseases*

A working group of twenty-three member states, including Australia, was established to study the seventeenth report of the Committee on International Surveillance of Communicable Diseases, which dealt largely with amendments to the International Health Regulations. The Australian delegation made a statement regarding the importation of cholera into Australia in 1972 and



emphasised that no secondary cases had occurred. The delegation also put forward a series of recommendations to prevent recurrences of such episodes.

The Australian delegation pointed out that although Australia was not a signatory to the International Health Regulations and would therefore abstain from voting, the regulations were applied by Australia with only slight reservations, due to its unique position as an island completely free from many exotic diseases.

#### *Admission of new members*

The German Democratic Republic was accepted by acclamation as a member of WHO. A resolution to admit North Korea was adopted following a secret ballot.

#### *Appointment of Director-General*

Following the announcement by Dr M. G. Candau that he would not be seeking a further term of office, Dr Halfdan Mahler, of Denmark, was elected as Director-General Designate.

#### *Smallpox eradication*

The Assembly was told that WHO was confident smallpox would soon be eliminated completely from the African continent. However, it was important for all countries which had been declared free of endemic smallpox to continue with surveillance to ensure that there were no biological reservoirs of the virus which had been overlooked. The WHO specialist in smallpox reported that the longest period after which cases of smallpox had occurred in cleared endemic areas was eight months. He therefore recommended that surveillance should continue for three times that period—namely, two years—before an area was declared to be free of foci.

The occurrence of four cases of the disease in England in March this year, with two resultant deaths, was reported and concern expressed that even when smallpox had been eliminated from the entire world for some years, there could be an accidental release of virus from stores kept in one of the many laboratories throughout the world.

The Assembly was told that Bangladesh and India would attract the major proportion of assistance for smallpox eradication in the year ahead.

#### *International information system on drugs*

Australia spoke in support of a proposal for a two-year feasibility study to investigate the establishment of an international information system on drugs. A resolution requesting WHO's Director-General to develop the study was adopted unanimously.

#### *Research on epidemiology*

A report to the Assembly pointed out that the science of epidemiology had undergone rapid development. Rather than being concerned with specific diseases and their causes and distribution, it was now focusing on multi-disease patterns and on health in its total ecological context. Epidemiology now depended on a range of disciplines and technology such as social services, systems analysis, operational research, economics and computer technology.

In discussion it was generally agreed that epidemiology research should be problem-orientated, and therefore the use and methodology of epidemiology would vary with the problems and state of development of each country. The report was adopted.





*The World Health Assembly in session in Geneva in May this year. This photograph was taken as the Director-General, Sir William Rejshauge, was paying tribute to Dr Pierre Dorolle of France, who is to retire soon after twenty-three years as a Deputy Director-General of WHO.*

### ***Biomedical research***

An interim report on WHO's role in the development and co-ordination of biomedical research was discussed at length. It was pointed out that the research requirements for developing countries were related to communicable diseases, while those of developed countries were more related to degenerative diseases. The general consensus of the Assembly was that it would be better for WHO to stimulate and co-ordinate research rather than establish its own research laboratories.

### ***Cancer research***

The Assembly discussed long-term planning of international co-operation in cancer research. Delegates were told that a great deal of cancer research was being undertaken throughout the world, mainly in the developed countries, but that cancer was also much more common in the developing countries than was generally realised. It was agreed that WHO should be the body under whose aegis a broad program should be drawn up by a meeting of experts. They would prepare a program for international co-operation which would be presented at the next Assembly.

### ***Regional Committee***

The 23rd Session of the Western Pacific Regional Committee of WHO, of which Australia is a member, was held in Guam from 27 September to 5 October 1972. Representatives of Australia, France, Japan, the Khmer Republic, Laos, Malaysia, New Zealand, the Philippines, Portugal, the Republic of Korea, Singapore, the United Kingdom, U.S.A., Vietnam and



Western Samoa attended the meeting. Papua New Guinea, acting for the first time in its capacity as an associate member of WHO, was represented by its own delegation.

The Committee dealt with a variety of matters including the program and budget for the region for 1974, the use of Chinese as an official language for regional committee meetings, the quality of drinking water and ice used on international flights, the epidemiology of drug abuse, and the health consequences of smoking.

### *International Agency for Research in Cancer*

The 12th Session of the Governing Council of the International Agency for Research in Cancer was held in Lyon, France, on 3 and 4 May. The Director-General was elected as vice-chairman of the meeting.

The ongoing programs and projects of the Agency were discussed. They include a systemised collection of data on the incidence and geographical distribution of human cancer and risk factor variations; field programs to identify the aetiology of specific human cancers; the evaluation of certain chemicals in relation to their potential carcinogenic risk in man and for which there is evidence of human exposure, including methodology for improving methods of evaluation; the role of DNA viruses in human cancer; research training programs with the emphasis on environmental biology; and the provision of advice to governments or national institutes as requested in relation to specific programs.

The Governing Council discussed the priorities and criteria for the selection of the Agency's program and in general supported the list of priorities which had been prepared by the Director. This was (1) epidemiological and other comparative field studies; (2) environmental carcinogenesis; and (3) training fellowships.

### *Regional Teacher Training Centre*

Following agreements between WHO, the United Nations Development Program, the Australian Government and the University of New South Wales, a Regional Teacher Training Centre for Health Personnel has been established on the campus of the University of New South Wales. This Department was closely involved with all stages of the negotiations leading to the setting up of the centre and, together with the Departments of Foreign Affairs and Education, is represented on the Co-ordination Committee.

The Centre is part of the global plan developed by WHO in 1969 to help meet the acute need for a greatly increased output of efficiently-trained health personnel. The Director of the Centre is Professor F. Rundle, formerly Dean of the Faculty of Medicine in the University of New South Wales.

Full-time and part-time staff members received valuable preparatory training at the University of Illinois in Chicago, which is the inter-regional training centre for the global plan. WHO and the UN Development Program are supporting the Centre in a number of ways. For example, they provided three overseas consultants for the planning committee which assisted the task force responsible for the first course. This course, held in June 1973, was a two-week workshop which was attended by deans and educational leaders from medical centres within the Western Pacific Region. The workshop was designed to enable them to discuss the basic concepts of education in general, education of health personnel in particular, and the organisation of regional and national centres for the training of the teachers of the health professions.



During 1973 the centre is also conducting a two-week course for medical teachers from the South Pacific area, and a four-week workshop for future part-time teachers and others with a proven interest in medical education. The centre is currently preparing a one-year Master's degree course in health personnel teacher training which, it is anticipated, will begin in 1974.

## **SOUTH PACIFIC COMMISSION**

The 4th Conference of Directors of Territorial Health Services of the South Pacific Commission was held in Noumea from 10-19 January 1973, attended by representatives of American Samoa, the Cook Islands, Fiji, the Gilbert and Ellice Islands, Guam, New Caledonia, New Hebrides, Niue, Papua New Guinea, Tonga, and the Trust Territory of the Pacific Islands. Australia, New Zealand and a number of international organisations, including WHO, sent observers.

The agenda covered a variety of matters, including the epidemiological situation in South Pacific countries and Territories, the results of endemic and epidemic control campaigns, the operations of the South Pacific Epidemiological and Health Information Service, and proposals concerning the health program of the Commission for 1974-76. Technical discussions were also held on venereal disease and nutrition in the South Pacific area.

This was the first time Australia had been represented at this conference and, although only in an observer's status, the delegate was invited to participate fully in all discussions and formed part of a sub-committee on nutrition. It is anticipated that the Department will continue to send a delegation to future meetings.

## **AUSTRALIAN FOREIGN AID**

The Department is the principal consultant to the Department of Foreign Affairs on the health aspects of foreign aid programs. The programs have two components—external medical aid and the training of overseas Fellows in Australia.

### *External medical aid*

During the year, the Department acted in its advisory capacity with regard to a number of medical aid proposals in Indonesia, Malaysia, Burma, Vietnam, Bangladesh and other countries of South-East Asia. An officer visited Bangladesh for two weeks in March 1973 at the request of the Department of Foreign Affairs to assess the feasibility of a medical aid project in that country.

All Australian civilian surgical teams were withdrawn from Vietnam by January 1973, acting on recommendations made by a study team led by the Director-General in 1971. The medical aid program in Vietnam is now directed towards providing training for the Vietnamese, providing buildings for public health and preventive medicine, and arranging short-term visits of Australian specialists for teaching purposes.



A total of six medical aid projects functioned in Indonesia during the year, two of them part of the official aid program and four sponsored by voluntary efforts in Australia with some additional support from the Government.

#### *Training of overseas Fellows in Australia*

A total of eighty-eight overseas Fellows began their training during the year, including fifty-eight postgraduate doctors, twenty-three paramedical trainees and seven postgraduate dentists. Many trainees required placement in several institutions and some individual training programs involved as many as ten placements. Training was arranged in many fields of postgraduate medicine and surgery, dentistry, pharmacy, quarantine procedures, physiotherapy, occupational therapy, dietetics, medical records, librarianship, laboratory technology, radiography, drug control and pharmaceutical quality control, and in other areas in which hospital training plays a major role.

A further sixteen Fellows attended an international group training course in health and hospital administration from June to September 1972. This was the first course of its kind arranged in a health subject, and was so successful that it is to be repeated this year.

The Department participated in a number of inter-departmental meetings on aid and training, and continued regular visits to hospitals and other institutions concerned with the training of overseas Fellows.

#### *Other activities*

The Department received a number of visitors from overseas during the year and arranged suitable programs for them during their stay in Australia. Liaison was maintained with various agencies of other governments and international organisations, including the Commonwealth Secretariat in London whose Medical Adviser, Dr Kyaruzi, visited Australia in February 1973. The Department was also responsible for the selection of Australian Fellows to take up WHO fellowship awards and to attend training seminars conducted by WHO during the year.



# A.C.T. Health

The year in the Australian Capital Territory was highlighted by preparations for the opening of the Territory's first community health centres. A.C.T. Health Services devoted considerable resources to this planning, in addition to providing an expanded volume of services to the growing population of the Territory. Another of the year's highlights was the opening of Woden Valley Hospital—Canberra's second major hospital.

## *Health centres*

A proposal that A.C.T. Health Services decentralise social workers, district nurses and other associated health workers by placing them in community health centres, where they might be more closely associated with general practitioners, was first made in the Llewellyn-Davies Report (1969), and two large health centres were originally planned to open in 1975. The new Government made an early decision that the Territories should be pacesetters for Australia, and in December 1972 the opening date of the large centres was brought forward to 1974. At the same time a decision was made to open two smaller interim centres in July 1973.

To meet the deadline in only six months, it was necessary to use demountable buildings and construct both centres with the same floor plan. Both have been designed to accommodate not more than four doctors with a salaried staff of associated health and welfare workers, suitable for a population of about 10,000. An important innovation was the decision to staff one of the centres with salaried general practitioners and to offer rooms at the other to local doctors who would charge their usual fees.

The working party which had assisted the staff of A.C.T. Health Services in the earlier planning of health centres was reconstituted after an open meeting with Canberra doctors in December. Valuable contributions were made by members of this working party, who represented the A.C.T. branches of the Australian Medical Association, the Royal Australian College of General Practitioners, the General Practitioners' Society in Australia, the Australian Dental Association, the National Capital Development Commission, and the nursing and social work professions. The working party was augmented in March with additional members representing the Welfare Section of the Department of the Capital Territory, the A.C.T. Council of Social Service and the private medical practitioners of the Belconnen district of Canberra, where both centres are sited.

The first product of the working party was a discussion paper on working arrangements for the first two centres, which was widely distributed in time for consideration at a public meeting in February. A capacity audience of approximately 300 people at the meeting produced suggestions which the augmented working party later assessed and embodied in an addendum to the discussion paper.

In essence, the public demanded even greater emphasis on education and





*Checking progress on the Melba Health Centre during construction were the first salaried doctor engaged to work at the centre, Dr Ron Cochrane (left), and the chairman of the Joint (Staff and Community) Committee, Mr Barry Reid. Mr Reid was a community representative on the committee which examined ways in which local residents could become involved in the running of the centre.*

prevention than had been proposed in the discussion paper, together with an expanded welfare function, and steps will be taken to meet this demand. At the meeting, some people expressed fears that health centres would make medicine impersonal, while others maintained it would be better if all the doctors in Canberra continued to practise in isolation from the other health and welfare services. These fears must be respected, and one object of the experiment must be to attempt to prove them groundless.

The centre with salaried general practitioners is sited in the Belconnen suburb of Melba and is serving Melba and the adjoining suburbs of Charnwood, Flynn, Evatt and Spence. The centre with fee-for-service general practitioners is sited in Scullin, to serve Scullin, Page, Hawker and Weetangera.

Both centres are being staffed by medical and dental practitioners, receptionists, district nurses, mothercraft sisters, psychiatric social workers, welfare social workers, social health visitors and medical records librarians' assistants. The Melba centre has a salaried pharmacist and pharmacist's assistant. A part-time clinical psychologist is attached who will act as community co-ordinator at both centres, and other part-time staff will join each centre during the first few months.

Details of agreements for the private practitioners who are availing themselves of the accommodation and facilities offered at the Scullin Health Centre were worked out in prolonged negotiations with the Australian Medical Association at the federal level. These negotiations were very productive, due



to the considerable assistance given by the Association. Assistance from the Australian Dental Association is also acknowledged.

Substantial support for the centres came from the public. Active community participation was a feature of planning, particularly with the Melba centre. At a public meeting in Melba held on 29 March, a large audience of local residents met those members of the staff who had already been appointed. A Joint (Staff and Community) Committee was elected, which met regularly to plan ways in which the local community could become involved in promoting its own health and welfare and assist the health centre team to function productively. This Committee was to be disbanded or reconstituted in July, with the formation of a more permanent Melba Health Centre Management Committee. Community involvement on similar lines is proposed at Scullin.

During the year planning advanced for other health centres in the suburbs of Phillip and Kippax and at sites in the new district of Tuggeranong. A centre will be provided for older districts of Canberra in the future headquarters building for A.C.T. Health Services in Civic Centre.

### *Mental health services*

A major concern of the Psychiatric Services Branch during the year was the integration of mental health services activities with those of other community health services, including general practitioners and voluntary and Government agencies. A psychologist, two social workers and two health visitors were nominated for duty as part of primary health care teams at the Melba and Scullin Health Centres. Regional activities continued to expand, and a clinic opened in the Woden Valley late in the year.

Priority has been given to short-term care and family crisis therapy, but the Branch also developed services for those with longer-term problems, particularly drug and alcohol dependence. Strengthening of services for people with chronic problems is a major objective of the second stage of development of mental health services for the A.C.T. This plan was approved in principle by the Government in August 1972, but its implementation did not proceed as rapidly as hoped because of staffing delays and difficulty in filling positions for psychiatrists.

A handicap assessment clinic was established to gauge mental and physical disabilities of the intellectually handicapped and recommend forms of future management. The clinic is staffed by a consultant paediatrician, a psychologist, a social worker and a health visitor, with a speech therapist, occupational therapist and district nurse available as required.

In conjunction with the Child Health Section, the Branch operated a therapy centre for very young retarded children. Long-term support was given by domiciliary visiting staff to families with handicapped children. Services were also provided for disturbed adolescents and their parents, with emphasis on preventive activities. An evening drop-in counselling centre set up for this group proved very successful in prevention and early detection of adolescent problems, including drug abuse.

The Branch continued to work with community agencies, and grants totalling more than \$20,000 were made to groups involved in mental health activity in the A.C.T. to assist with employment of qualified personnel. Training courses were conducted for voluntary workers. Staff of the Branch engaged in group discussions with schoolchildren and others on issues like personal relationships, drug abuse and sex education.

The total of new patients treated by the Branch during the year was 1,698.



The number of intellectually handicapped people receiving counselling and domiciliary support at 30 June 1973 was 119. Some 2,830 home visits were made during the year.

### *Research*

A self-contained Research Section was established during the year. It incorporates research staff of the Psychiatric Services Branch and consequently many of its activities are concerned with psychiatric research.

Continuing analysis of the 1971 Canberra Mental Health Survey provided valuable information on the factors influencing mental health in Canberra. Several papers on the survey have been prepared for presentation at two international gatherings in Sydney in August and October 1973 — the International Epidemiological Conference and the World Mental Health Congress.

Preparations are being made to evaluate the effectiveness and efficiency of the community health centres at Melba and Scullin. Background records have been checked to provide baseline measurements which will permit research in cost-effectiveness, hospital bed usage, analyses of general practices, consumer attitudes, continuity of care, referral patterns and drug usage. With community co-operation, the Section is also preparing a survey to be put to residents who will be served by the health centres asking what services they believe they need.

### *Woden Valley Hospital*

Canberra's second major hospital admitted its first patients on 1 May 1973. Almost all areas of the first stage of construction of the Woden Valley Hospital were taken over from the building contractors during the year, permitting thirty-six beds to come into use from 30 April and a further thirty-six from the end of June. Stage one comprised the 380-bed main block of eleven floors, plus the school of nursing and all residential buildings on the site.

Work is proceeding on stage two, a 220-bed community medicine block to accommodate psychiatric, geriatric and rehabilitation patients. It is scheduled for completion at the end of 1973.

The hospital opened progressively with initial emphasis on patients who were not seriously ill, and with a fourteen-hours-a-day casualty service designed to handle minor cases. Two of the five operating theatres and eight of the sixteen intensive care beds were to come into use in July, widening the range of cases the hospital is able to treat.

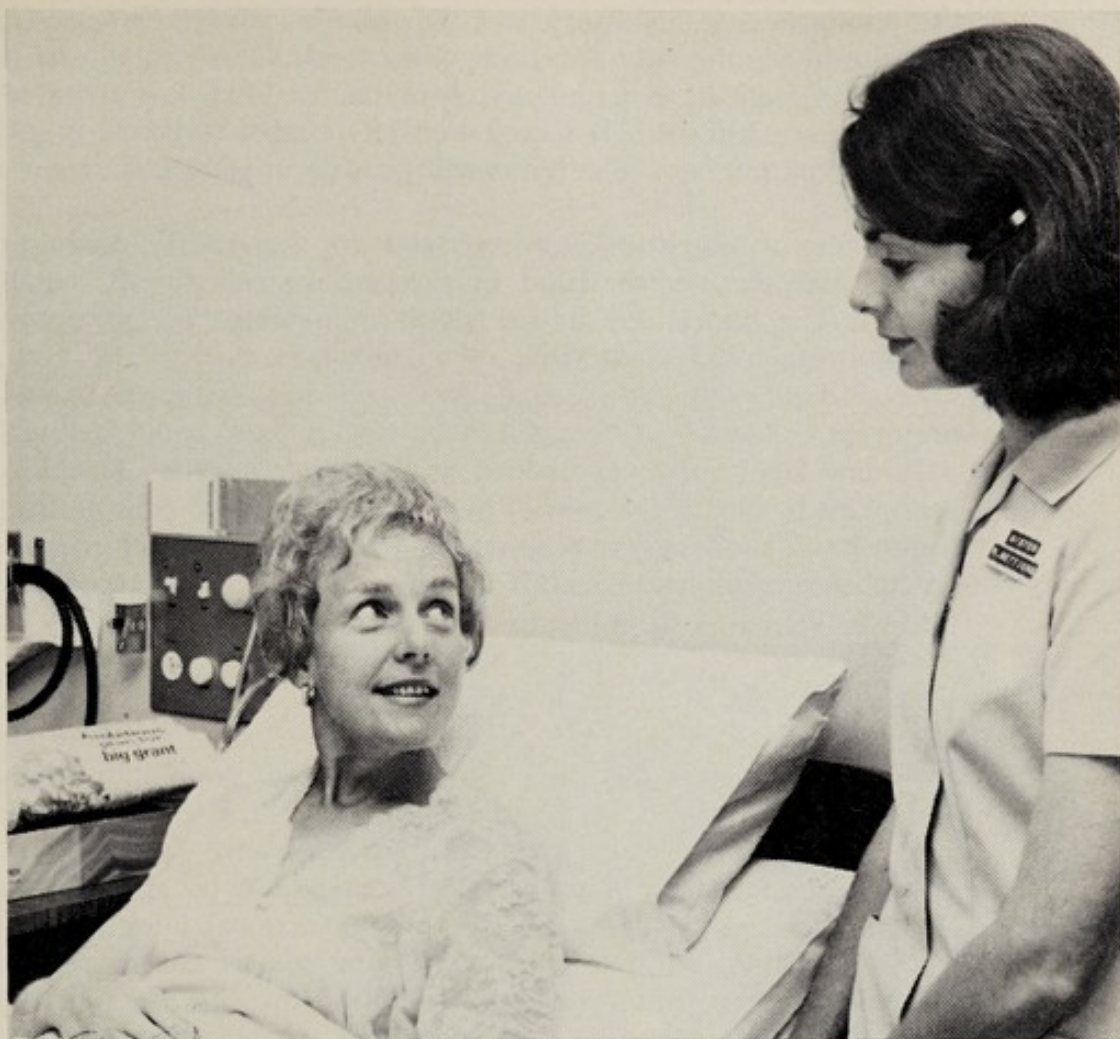
### *Health facilities*

The Health Facilities Section was expanded through the year to meet wider responsibilities in planning equipment and buildings needed for A.C.T. Health Services.

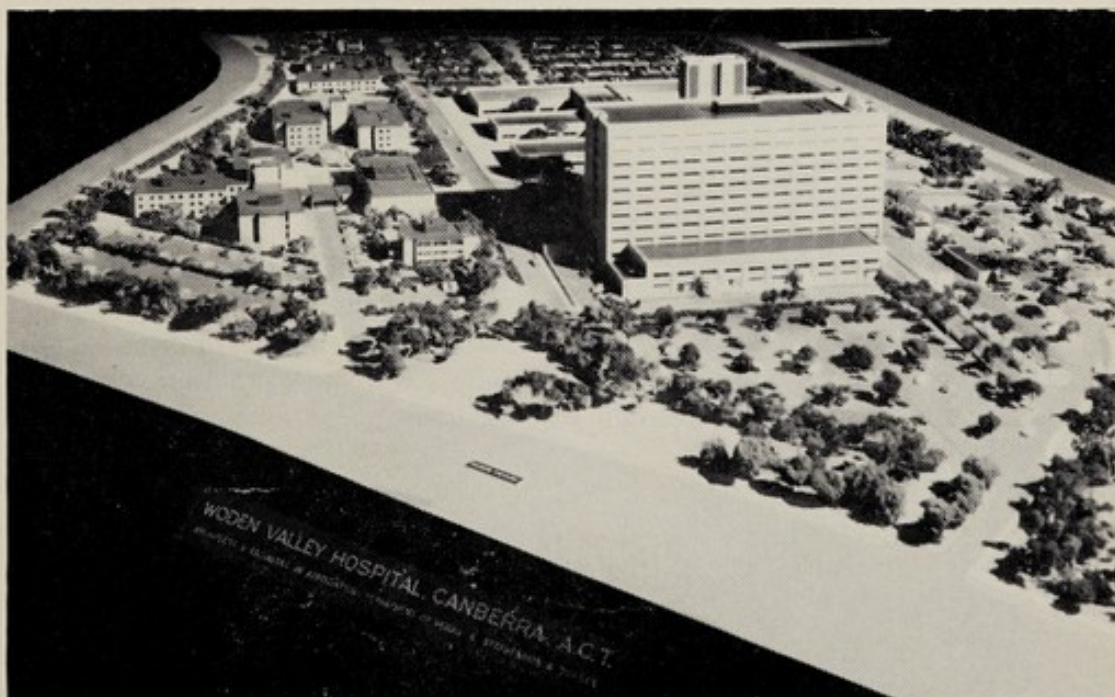
Documentation on the 300-bed Calvary Hospital project was brought to the stage at which tenders could be called. Preparations for the Belconnen Health Complex proceeded and consulting architects were appointed to make a feasibility study for design and construction of the 400-bed first stage. Drawings of stage one of the central hospital services complex at Crace were completed and final documents prepared for tender purposes. Stage one will service 1,500 hospital beds and it is hoped the buildings will be completed by mid-1975.

In May, construction was approved of a central health laboratory beside Woden Valley Hospital which will accommodate routine pathology services,





*Canberra's second major hospital, the Woden Valley Hospital, opened for business at the beginning of May. The first patient admitted, Mrs Irene Muir of the Canberra suburb of Duffy, is pictured above talking to Sister R. Bettiens. Below, a model of the hospital as it will appear when completed.*





the public health laboratory and the forensic science service. The building will also house the A.C.T. central blood bank and there will be provision for training of students in pathology. A functional brief was prepared for a new, larger Queen Elizabeth II Coronation Home able to house twenty-six babies and fourteen mothers. The home will provide training facilities in mothercraft nursing.

Planning of four health service hostels for the A.C.T., ranging in size from ten to forty beds, proceeded in association with the Psychiatric Services Branch. The hostels will house people of different age groups with varying degrees of mental retardation.

### *Health laboratories*

A new laboratory was opened at the Woden Valley Hospital during the year. This is part of the overall plan for provision of consultative and testing facilities in each major hospital in the Territory, with routine repetitive procedures being centralised. To cope with an increased workload, specialist staff was increased from five to eight, while the total laboratory establishment rose by twenty.

### *X-ray campaign*

A compulsory chest X-ray survey of the adult population of the A.C.T.—the first since 1965—was conducted in Canberra and Jervis Bay between 9 April and 4 June. More than 63,000 people were X-rayed.

The inspection of X-rays and the examination by specialist medical staff of people whose X-rays have shown lung abnormalities is still continuing, and final figures on the number of tuberculosis cases and other serious conditions discovered are not yet available. However, as at 30 June 1973 ten cases of active tuberculosis had been found and placed under treatment while 211 cases of inactive tuberculosis were being investigated. In addition, more than 250 other abnormalities requiring further investigation had been discovered. These included twelve cases of carcinoma, forty-two cases of chronic bronchitis and emphysema and 173 cases of pulmonary or cardiac abnormalities. All these abnormalities are being investigated further, and full reports are being forwarded to patients' own doctors. It is emphasised that the above figures are preliminary and are subject to change.

### *Chest clinic*

Increased use of fully supervised intermittent chemotherapy for out-patients significantly reduced the bed usage at Canberra Hospital for patients with tuberculosis. There were 1,296 attendances at the chest clinic for such treatment during 1972. The number of patients seen by the chest clinic physicians was 2,595, including 289 seen for the first time, 103 of whom were referred by other medical practitioners.

The number of notifications and reactivations in the calendar year 1972 was twenty-one, an increase of four over the previous year. Six cases were diagnosed among residents of adjacent areas of New South Wales.

### *Family planning*

During the year the assistance being given to the Family Planning Association by A.C.T. Health Services was considerably increased and augmented by the Department of the Capital Territory. Prior to 1 April, the Association was holding two evening clinics a week at baby health premises in Civic Centre. On that date, however, it moved into a centrally-situated



office provided in a former private hotel by the Department of the Capital Territory, and was able to offer a telephone appointment and advisory service from 9 a.m. to 5 p.m. on weekdays, together with day and evening clinics. From 12 June, regular clinics began in Health Services premises in Woden Plaza, a south-side shopping complex.

Following changes in legislation, the service was widely advertised in newspapers, but the response was not as great as had been hoped. The Association is planning moves to reach more effectively those most likely to benefit. Of those attending the clinics, the largest group comprised people aged twenty to twenty-nine, with those aged less than twenty forming the second largest group. Most were women, and the majority were married or engaged. Some men sought counselling on vasectomies.

### *Immunisation*

Several clinics for immunisation against rubella were held at holiday periods during the year, but only 631 girls came forward to be immunised.



*A teenager manages a smile during her immunisation against rubella at an A.C.T. Health Services clinic. She knows the pain is brief and the benefits are lasting.*



In future it is planned to offer immunisation to pupils in the schools which should ensure that most girls are protected.

A total of 15,263 doses of Sabin vaccine was administered as protection against poliomyelitis, while 17,782 doses of either triple antigen or combined diphtheria and tetanus vaccine were given.

### *Baby health centres*

New centres were opened in the suburbs of Melba and Holt during the year. Attendances at all clinics totalled 82,431, while 18,152 home visits were made. Evening classes held each month for expectant parents continued to be well attended.

### *Infant health*

Programs covering infant health were expanded to provide a more thorough coverage through medical examinations. Staff continued to examine children at nine months and at three years of age, but children missed at three are being examined at four years of age when starting pre-school.

An integration of examinations and records with the School Medical Service has also been effected, to cover the occasional child who may have been missed at these earlier examinations.

### *Physiotherapy*

Three physiotherapists in the Child Health Section carried out individual treatments on medical referral, conducted a weekly swimming program, and supervised a trained gymnast who helped children with trampolining and other useful activities. Children under three years with physical and intellectual handicaps were given therapy and their parents were instructed in correct handling. In this, the physiotherapists worked closely with doctors and with other therapists.

### *School Medical Service*

A total of 23,863 children was checked by the School Medical Service, compared with 19,162 in the preceding year. Incidence of notifiable defects was 10 per cent, compared with 8.3 per cent the year before. Figures for the incidence of the more common defects are given in Table 146 on page 254.

### *School Dental Service*

The number of children examined by the School Dental Service decreased slightly from 20,990 in 1971-72 to 20,686. The Service employs seventeen dental officers, together with fourteen dental therapists who have won public acceptance and demonstrated clinical efficiency.

The investigation to assess the value of fluoridation of Canberra's water supply continued, and 7,556 children aged from six to twelve years were examined. The children, who have all lived continuously in Canberra since fluoridation began in 1964, had 49.8 per cent fewer defective permanent teeth and 70.8 per cent fewer decayed permanent teeth than children of the same age who were examined just before fluoridation began in Canberra.

### *Ambulance service*

A survey into cases of coronary heart disease handled by the A.C.T. ambulance service in one three-month period was carried out with the assistance of representatives from the National Heart Foundation and the



Australian Medical Association. The purpose was to consider the need for a specialised coronary case ambulance service, closely co-ordinated with hospital intensive care and cardiac services. Further studies will consider overseas experience with similar specialised ambulance services and the possibility of radio telemetry of electrocardiographs.

### *Transport*

A general transport section began operations in January with seven drivers and five part-time attendants who are operating buses previously used by the ambulance service to transport day hospital rehabilitation patients. The service was subsequently expanded to provide transport for physically handicapped children between their homes and a special school.

### *Nursing services*

Following the decision to build community health centres at Melba and Scullin, approval was given for the establishment of a community nursing course to prepare registered nurses for work in infant welfare, district nursing, health education, psychiatric care and crisis support. The course is scheduled to begin early in 1974, and it is expected that graduates will prove valuable members of the health centre teams.

During the year the District Nursing Service made about 36,000 home visits.

### *Veterinary services*

The meat inspection staff was almost doubled during the year, following an increase in production at Canberra Abattoir. Formation of an A.C.T. Hydatid Control Council and local committees of farmers indicated community concern for the campaign to control hydatid tapeworm infestation of rural dogs, which poses a risk to human health.

### *Government medical officers*

The number of vaccinations given by medical officers during the year increased from 21,531 in 1971-72 to 31,495, while clinical examinations increased from 11,576 to 12,080.

### *Health education*

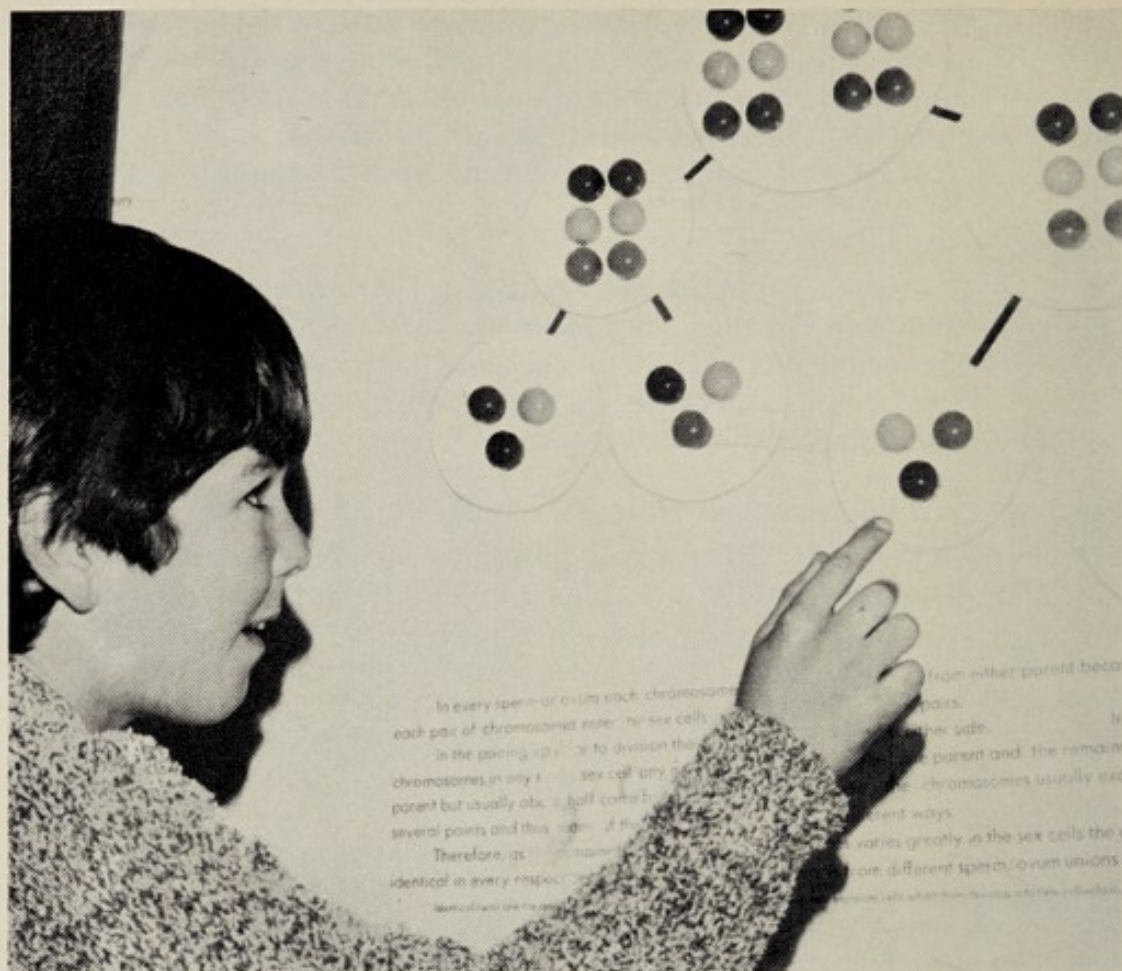
The Health Education Section became further involved in the national drug education program during the year. It also provided increased assistance to teachers giving health instruction in schools, and supported organisations in the running of health education courses.

A conference of community leaders was held to provide current information on the non-medical use of drugs and to discuss approaches to the problem. More than 100 teachers from infant, primary and secondary schools attended three one-day workshops to study education procedures relating to cigarette smoking, alcohol and drugs of dependence. With assistance from professional staff of A.C.T. Health Services and by using suitably trained private individuals as discussion leaders, requests for 152 drug and health education talks to school and community groups were met.

### *National Fitness*

Although responsibility for National Fitness activities has been transferred at the Federal level to the Department of Tourism and Recreation, work in





*A young visitor to the Institute of Anatomy in Canberra shows interest in a recently-renovated display on human genetics.*

the A.C.T. for the present will continue to be carried out by A.C.T. Health Services.

School vacation recreation skills classes were again highly successful during the year. Sailing, archery, table tennis and junior girls' Olympic gymnastics were among sports offered for the first time, and all were received enthusiastically. More than 1,100 children took part in the January and May classes. Women's golf classes were heavily over-subscribed. More than 350 women attended courses, indicating that the National Fitness Section was meeting a community need in organising this introduction to golf, aimed primarily at housewives.

Results were published of a survey of the basic swimming ability of first-form schoolchildren, which had been carried out by the Section the previous year. The survey—thought to be the first of its kind undertaken in Australia—disclosed that one in four of the twelve- and thirteen-year-olds tested could not swim fifty metres. The survey also showed that fewer than half of the possible participants had ever attended vacation swimming schools conducted by National Fitness in the A.C.T. and N.S.W., indicating the limitations of the existing two-week vacation swimming schools, especially in Canberra's climate.

#### *Public health*

The growing community drug abuse problem was reflected in activities of the Public Health Laboratory. The number of drugs submitted by police



for identification—which included cannabis, LSD, hashish and heroin—trebled by comparison with the previous year.

Routine sampling and analysis of water, milk and food continued. The Section was involved in the cholera incident in November 1972. Six contacts from the flight which brought the cholera cases to Australia were traced to the A.C.T., and one woman was found to have the disease. She recovered in hospital.

#### *Institute of Anatomy*

New techniques were used to improve five displays renovated during the year at the Institute of Anatomy. Silk screen printing replaced hand lettering on displays of written information, while plastic three-dimensional models replaced sketches. The response of visitors showed they appreciated the improvements.

#### *Professional boards*

The Medical Board held ten meetings and registered fifty-six medical practitioners during the year. Fourteen medical graduates were appointed as approved qualified persons to serve a pre-registration period of twelve months at Canberra Hospital. A newsletter was circulated to all registered medical practitioners in the A.C.T. which set out guidelines in regard to the use of doctors' names in news media.

The Dental Board held six meetings and registered fifteen dentists. The Board reviewed twenty-four complaints on accounts for dental fees, and a newsletter was circulated to all registered dentists with a proposal to try to reduce the number of complaints.

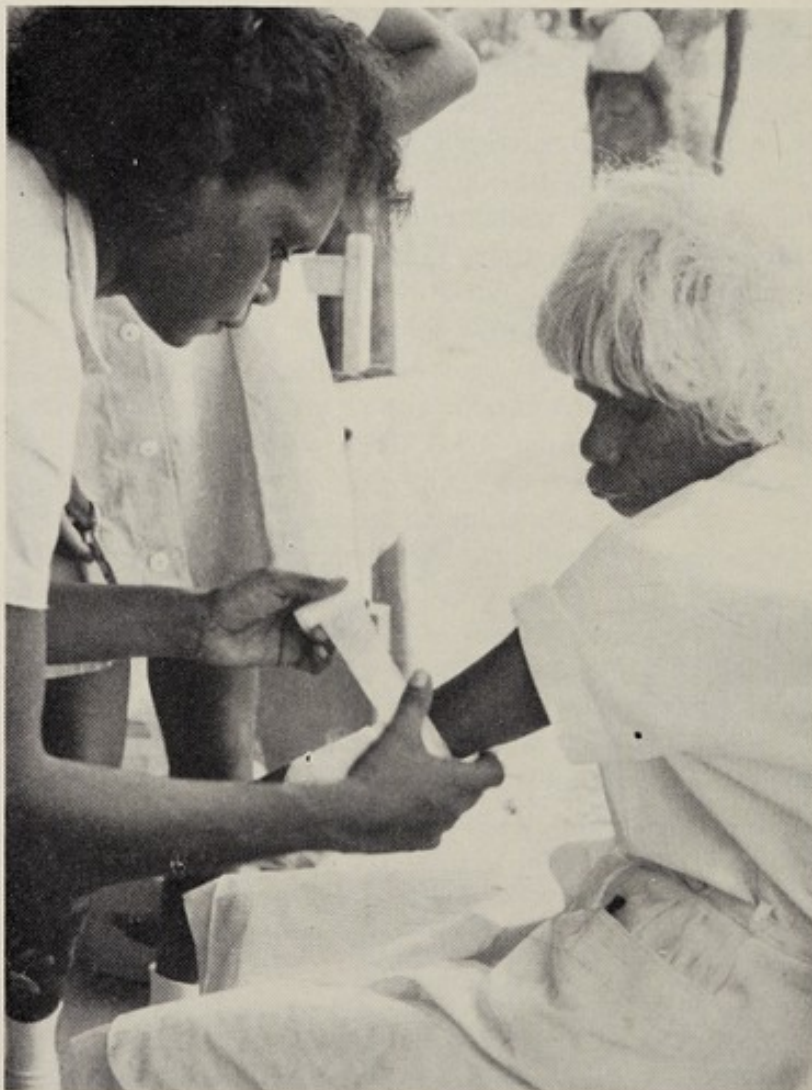
The Pharmacy Board held seven meetings and registered twenty-seven pharmacists, while the Veterinary Surgeons Board registered four veterinary surgeons. The Nurses Registration Board held nine meetings and registered 385 general nurses, 147 midwifery nurses, fourteen mental nurses and ninety-seven nursing aides. On 16 January 1973 the Board approved Woden Valley Hospital as a training school for general nurses and nursing aides.



# Northern Territory Health

This was another challenging year for the Northern Territory Medical Service. Constant pressures were exerted on resources by the continued rapid growth of the Territory's population—pressures which were aggravated by the perennial problems of recruiting and retaining sufficient qualified staff. In addition, 1972-73 brought a significant broadening of responsibilities.

On 1 January 1973, the Service became responsible for providing health services on Aboriginal settlements and for the supervision of subsidised health services on pastoral properties. This has necessitated a major re-organisation and expansion—changes which, it is hoped, will reduce the Aboriginal infant mortality and morbidity rates and raise the standard of Aboriginal health generally. Emphasis in the re-planning has been placed on preventive medicine and health education programs. A district and regional framework has been established, based on primary care in rural health centres



*A new training program for Aborigines is being introduced in the Northern Territory to fill positions of Aboriginal Health Worker on the Department's staff. The program will enable more Aborigines like this nursing assistant to play important roles in Territory health programs.*



and secondary care in regional or district hospitals, with the Aerial Medical Service filling a linking role.

Responses to the new initiatives so far have been encouraging, although it will be some time before permanent effects can be discerned.

Administratively the Territory has now been divided into three regions—Northern, Southern and East Arnhem—each under the control of an Assistant Director. This is giving more localised control of the improved health programs. In other administrative changes, a Planning and Development Division has been created. This will permit an optimum allocation of services throughout the Territory and reduce the necessity for stop-gap measures, which have dogged the Service over the past few years as population growth far outstripped the development of resources. The Division will provide research and resource data which will enable long-term planning to keep abreast of population growth and new developments in health care. Staff is being recruited to cope with the new responsibilities emerging throughout the Service.

A major role is envisaged for community health centres as a means of providing a comprehensive approach to health care. Centres are due to open in Darwin, Tennant Creek, Katherine and Alice Springs in 1973-74, and much thought is currently being given to the form and quality of service to be provided.

In April this year, the Director of Health, Dr. D. B. Travers, was appointed an official member of the Legislative Council for the Territory, thus providing the Department with a direct community link and an opportunity to more effectively monitor community feeling.

Of major significance during the year was the release of the report of the Committee of Inquiry into Territory Health Services, which was tabled in the Legislative Council in August 1972. This was the first time a community-sponsored independent authority had assessed the problems as well as the shortcomings of the Service. Although some of the long-term recommendations are still being considered, many of the recommendations have been acted on.

### *Aboriginal health services*

Changing social patterns have become apparent among Territory Aborigines in the past two years. Some of the larger communities are splintering into groups of fifty to 200 people and moving away from established administrative centres. This development may change the pattern of illness among Aborigines, and it is hoped that the new two-tier system of medical care mentioned above will provide more flexible and responsive health services.

Rural health centres, which will provide the primary care, are relatively small units serving from 400 to 1,000 people, staffed by qualified nursing sisters, and emphasising outpatient facilities. It is, of course, recognised that community involvement in these local health units is essential, and several approaches to this are being explored. Successful contact has been made with traditional medicine men, and their advice and assistance has been sought for both patient and health service planning problems. An active program is also under way to encourage the formation on Aboriginal settlements of committees involving traditional Aboriginal authorities as well as Government representatives. In addition, a new training program is being introduced for Aborigines to fill positions of Aboriginal Health Worker on the Department's staff.





*Tutor Sister C. Smeal lectures student nurses at Darwin Hospital. New training courses for nurses were introduced during the year.*

The measures outlined above are not expected to show immediate results, but should provide long-range improvement in Aboriginal health standards.

#### *Rural Health Service*

The Rural Health Service faced problems caused by staff shortages during the year, but nevertheless the level of the annual program was maintained. Staff members benefited greatly from a seminar conducted in Darwin by a medical anthropologist from the School of Public Health and Tropical Medicine. Such training in basic anthropology greatly helps with community health work among Aboriginal people.

A district clinic was established at the new mining area of Jabiru to provide nursing services until a hospital is built with the development of a new township.

In the southern region, the Service conducted mass health surveys in three areas to establish basic facts about the health of the people surveyed. This was in addition to the program of regular visits to properties. Staff members also organised a mass prophylaxis campaign to attempt the eradication of meningococci from both Aboriginal and European carriers in the whole of the region and some northern areas of South Australia.

#### *Hospitals*

Darwin Hospital continued its steady growth throughout the year and now has a total establishment of 837, due largely to staff increases in the clerical, administrative and para-medical areas. The demand for in-patient



services reached record levels in May this year with an occupancy of 382 beds on one occasion, compared to an authorised bedstate of 363. This caused serious overcrowding in some wards which should, however, be solved with the completion of two 32-bed demountable wards which are now under construction. A demountable 70-bed staff accommodation complex is also being built.

A highlight of the year was the opening of a psychiatric day clinic which provides day facilities for psychiatric patients, including a dining room, a playroom for children, a room for group therapy, etc. The new building also houses the hospital's occupational therapy centre. A detailed post-graduate training program for medical officers has been established, with accreditation from the Royal College of Obstetricians and Gynaecologists, the Royal Australasian College of Surgeons (Faculty of Anaesthetists) and the Royal Australasian College of Physicians. A cadet radiographer scheme was introduced to the hospital which, it is hoped, will considerably ease staffing problems in the future. Fifty-nine students entered the School of Nursing during the year, although fifteen later discontinued their studies. Fourteen students graduated.

The year was a difficult one at Alice Springs Hospital because of staffing problems. A rapid turnover of medical officers continued for much of the year, and a number of departments had to rely heavily on the services of rotating registrars from southern States and on visiting specialists from Darwin and southern capitals. The turnover of nursing staff was also very high and a progressive decline reduced numbers to seventy below strength. Widespread efforts to recruit more nursing staff have had little success.



*An operation in progress at Darwin Hospital. The hospital catered for record numbers of in-patients during the year.*



Work has begun on the redevelopment of the hospital. The \$12.5 million project includes a new 252-bed ward block and extensions to staff quarters. It is hoped that the building of professional officers' accommodation will help reduce the high staff turnover.

The Tennant Creek Hospital has also suffered from high staff turnover, and it is hoped that the building of a new hospital there will help ease this continuing difficulty. Stage one of a redevelopment is planned for the 1974-75 financial year, subject to the appropriate Government approvals. This will provide a new building which will include an outpatients' department, operating theatre, casualty, administration area, X-ray room, laboratory and dispensary. Subsequently, as the demand warrants, it is planned to provide a new maternity ward, gastro-enteritis ward, additional nurses' accommodation and a dining room.

Katherine Hospital functioned for the entire year with the Medical Superintendent and one medical officer only. The two officers faced a heavy workload, coping with their clinical duties at the hospital as well as their fortnightly visits to outlying areas. The building program for the hospital is well advanced. The new 20-bed sisters' quarters were almost ready for occupation as the year ended, while the new outpatient-administration block was also nearing completion.

Gove District Hospital, which opened in November 1971, underwent considerable development in the past year. Although maximum effectiveness was inhibited by the transport and communications problems of the East Arnhem region, the hospital had a daily bed occupancy of seventeen. The labour ward is now fully operational, and the total of babies delivered since the official opening of the ward on 7 April 1972 has reached ninety-nine. As with other Territory hospitals there has been a high turnover of staff, but the number of positions occupied has either been maintained or, in some disciplines, increased. Regular visits are being made to the hospital by specialists in the fields of surgery, paediatrics, ophthalmology, psychiatry, gynaecology and obstetrics.

### *Communicable diseases*

The activities of the Tuberculosis Control Branch were stepped up following the opening of a new central chest clinic in Darwin. The BCG vaccination campaign was extended, and most missions and settlements were visited during the year, either by air or caravan. This activity resulted in an unusually high number of new notified cases of the disease.

The number of new leprosy cases diagnosed in 1972 was twenty-one—a figure which strengthened the belief that the disease is under control in the Territory. The East Arm Leprosy Hospital continued its program of rehabilitation training, while four Aboriginal workers who completed training at the hospital were appointed to positions with the Rural Health Service. They will work mainly in leprosy.

The malaria surveillance program continued successfully throughout the year. The increasing immigration of labour into both urban and rural areas continued to maintain the risk of reintroducing the disease into the Territory. Anopheline mosquito surveys carried out at Darwin and Gove in 1972 clearly established the potential for malaria transmission. The recent appointment of a medical entomologist has greatly increased investigation capacity.

The rising incidence of venereal disease continued to cause concern, and considerable efforts were made to counter the trend. The incidence of infectious hepatitis was a little lower, although still well above the national





*Anti-mosquito fogging operations under way near Darwin—  
a vital part of the malaria surveillance program in the  
Northern Territory.*

average. The epidemiology of the disease is currently being investigated so that risk areas can receive more concentrated attention. An uncommonly large number of cases of bacillary dysentery were notified during March and April this year, mostly among the European population of the southern region. Epidemiological studies have shown no particular reason for the phenomenon.

#### *Nursing services*

The expanded role and increased responsibilities of the Department have made a major impact on nursing services. A larger staff structure will enable the concept of taking the hospital to the community to be introduced through the free movement of nursing staff between hospital-based and community nursing positions.

An important innovation is the introduction of a tutorial section which will teach nurses with hospital-only experience some of the new skills required in the community health field. The section will emphasise the importance of fostering Aboriginal skills and of encouraging acceptance of responsibility by Aborigines for health matters in their own communities. Staff members are also being encouraged to study Aboriginal languages and culture.

#### *Schools Medical Service*

An important development in the role of the Schools Medical Service was the opening in Darwin of a Family Consultation Centre. This is a



centre to which children with specific problems—behavioural, educational, learning and developmental—can be referred by parents, teachers or family doctors. The problems are assessed and the child referred for testing in the appropriate area. This is followed by a group conference attended by all the people involved, and a plan of action is suggested. The response to the centre so far has been extremely encouraging.

A Schools Medical Service began in the East Arnhem region in February this year, but because of transport and communication difficulties it is confined to the Gove Peninsula at present.

### *Infant Health Service*

The Infant Health Service extended operations to Nhulunbuy on the Gove Peninsula in October 1972, replacing the clinics which had been held at Gove District Hospital as a routine outpatient service. In Alice Springs, the appointment soon of an additional nurse will allow the holding of regular clinics where all babies and toddlers will be given full medical and developmental examinations. In Darwin, comprehensive developmental examinations for the detection of handicaps in infants aged from nine to twelve months were started during the year. An increased number of home visits was made in Darwin, largely because of public transport difficulties in newer areas.



*An Aboriginal patient at the new occupational therapy centre at Darwin Hospital prepares a piece of bark for painting. The new centre, which opened in February 1973, provides a wide range of training for both day and in-patients at the hospital.*



### *Dental services*

The re-equipment program for dental clinics continued during the year, and only one fixed clinic—at Alyangula Medical Centre on Groote Eylandt—now remains to be updated. A comprehensive service was provided in rural areas during the first half of the year, but a rapid fall-off in staffing levels caused the program to lose impetus in the second half. In the major towns, too, waiting lists are still long to which there is no answer other than a higher success rate in recruiting and retaining professional staff.

Orthodontic services were maintained at a satisfactory level with the aid of visiting consultants from Adelaide. However, here too a waiting list is growing and considerable efforts are being made to recruit a second orthodontist.

### *Aerial Medical Service*

The Aerial Medical Service had another busy year, with increases in both routine and emergency flights. The present Dove aircraft have now been operating at maximum capacity for some years, and suitable replacement aircraft are being considered.

### *Research*

A variety of research projects was again undertaken during the year, both by Departmental officers and by visiting experts who receive full Departmental co-operation. Several facets of Aboriginal health came under close examination. In the East Arnhem region, a study is being made of water and fluoride physiologies in the Top End environment as a basis for the extension of small-scale fluoridation projects to Aboriginal communities. The project, at Angurugu (population 350), is believed to be the first of its kind in which the benefits of fluoridation have been successfully extended to such a small population group. The project also includes a study of nutritional effects, oral hygiene practices and periodontal disease incidence.

The collection of data for the longitudinal study of growth and illness in early childhood, which began in three Arnhem Land Aboriginal communities in February 1970, ended in February this year, and processing of the data will begin soon. It is expected that much interesting information concerning growth retardation in Aboriginal communities, and the factors influencing it, will emerge. A survey of Aboriginal vision was carried out at three other communities, while a number of research projects are under way at the East Arm Leprosy Hospital, including a study of disability and deformity in Aborigines with leprosy.

### *Health laboratories*

The year saw a general increase in the number of tests performed at the Darwin laboratory. However, pressure on the laboratory was relieved to some extent by the opening of a laboratory facility at Gove District Hospital and by the appointment of technical staff to the hospital at Katherine. Extensions to the Alice Springs laboratory were completed and some new instruments installed, allowing a number of new test procedures to be instituted. However, the overall output of work did not increase greatly because of staffing difficulties.

A program of refresher training courses began during the year, and several staff members spent two to three weeks at large interstate teaching hospitals studying the use of new equipment and techniques.





*This plant quarantine depot was opened at Frances Bay, Darwin, during the year. A second post-entry screenhouse was also opened at Berrimah.*

### *Quarantine*

New developments in the quarantine service during the year included the opening of a plant quarantine depot at Frances Bay in Darwin and a second post-entry screenhouse at Berrimah. The expansion of mining projects at Gove and Groote Eylandt has brought overseas shipping to the two areas, and quarantine services are now being provided at the ports there.

### *Health education*

The Health Education Section is developing suitable techniques for teaching health practices in Aboriginal communities. To assist with the planning, a survey was conducted during the year to obtain the views of managerial, educational and health personnel working in the communities.

Seminars were conducted in the Territory's larger centres on drug abuse and other health problems, while the Section also participated in the formation of a committee which is planning health education programs for schools.

### *Speech therapy*

This new service began in July 1972 in Alice Springs and a month later in Darwin. A part-time clinic was also established at Tennant Creek. The service provides therapy treatment for hospital patients, children in special classes or schools, and children referred by the Schools Health Service. It also screens children living in rural areas.



## Divisional Offices

The Divisional Offices in the State capital cities were all affected to some extent during the year by the transfer of health insurance and benefits responsibilities to the Department of Social Security. However, the many remaining functions for which the offices have day-to-day administrative responsibility continued to expand, and every office coped with an increased workload.

### *Quarantine services*

The year was highlighted by the involvement of the offices in the cholera incident of November 1972. Each was required, in conjunction with State health authorities, to trace passengers from the aircraft on which the disease reached Australia, and their numerous contacts—a problem compounded by the wide dispersal of the passengers throughout the country. In Queensland, for instance, where two positive cases of cholera were diagnosed and isolated at Lytton Quarantine Station in Brisbane, another seventeen passengers had to be traced and interviewed at widely-scattered locations, together with a total of sixty-three contacts. For every office it was a massive and difficult task requiring the utmost skill and speed, and its successful completion reflected great credit on the officers involved. No secondary case of cholera occurred.

The exercise highlighted the problems facing quarantine authorities everywhere following the introduction of wide-bodied aircraft with much larger passenger capacities, and also illustrated the need for revision of some procedures for obtaining lists of passengers from such aircraft. Many valuable lessons were learned and new plans formulated which will be of utmost value should there be a similar occurrence in the future.

The volume of incoming aircraft traffic increased still further during the year, straining the staff resources necessary to provide full clearance services. The New South Wales office estimates that by the end of 1973 some fifty wide-bodied aircraft will be arriving in Sydney each week, compounding the problems of visual inspection of passengers and disinsectisation procedures. In Brisbane, where the airport is an emergency alternate landing place for overseas jetliners, non-quarantine staff are now being trained as auxiliary staff to help handle the quarantine clearance of wide-bodied jets when necessary.

The Western Australian office reported an increase in the numbers of unvaccinated travellers arriving at Perth airport during the year. A request for Adelaide to be declared a first port for British military aircraft arriving direct from the United Kingdom was refused because of lack of airport facilities to process such aircraft on a regular basis.

The pattern of quarantine activity relating to shipping is undergoing change. The small overseas freighters which once plied so frequently to Australia have been largely replaced by container ships, bulk carriers and



large tankers, and the number of movements in some ports has decreased, although the total tonnage has shown little change. Many of the newer vessels are too large to anchor safely within the quarantine line and have to be inspected while under way.

In Tasmania, quarantine staff were kept busy clearing Japanese fishing boats, with more than 350 arriving in Hobart during the year. In the first full year of operation by a quarantine assistant based at Burnie, 295 vessels were cleared at Launceston, Devonport, Port Latta, Stanley and Burnie. In Western Australia, shipping activity increased markedly in the north-western mining ports of Dampier, Port Walcott, Cockatoo Island and Port Hedland, together with the salt export centre of Cape Cuvier. In South Australia, fogging activities were stepped up to cope with the increase in stock vessels berthing at Port Adelaide. An all-weather access road has been built to the Torrens Island Quarantine Station. In Queensland, an extended quarantine service began at Brisbane and Townsville during the year, while a full-time quarantine inspector was stationed at Mackay. In Victoria, an incinerator for garbage disposal for the Port of Melbourne was recently completed at a cost of approximately \$900,000. Incinerators have also been provided at Portland, Geelong and Westernport.

Two cases of suspected smallpox were admitted to the Sydney Quarantine Station during the year, but both proved negative after full investigation.

Some States are preparing to build additional quarantine accommodation for cats and dogs following the relaxation of restrictions on their import from some Pacific area countries. Existing accommodation has been fully taxed since the regulations were changed in February this year.

A quarantine museum was established at the South Australian Quarantine Station during the year to preserve items of equipment dating back some ninety years.

### *Pharmaceutical Benefits*

A general rise in the volume of prescriptions, plus the addition of new benefits to the Pharmaceutical Benefits Schedule, increased the workload in all offices. The removal of restrictions on the minor tranquilliser diazepam, together with the listing of certain oral contraceptives as benefits, had a marked effect on total volume.

All offices noted a substantial increase in applications for 'special authority' drugs. In Perth, for instance, the volume almost doubled in the space of eighteen months, while Hobart noted a 50 per cent increase in a twelve-month period.

The general increase in prescription volume produced a corresponding increase in liaison and inspection activities by Departmental pharmacists. They regularly visit chemists and doctors to discuss prescribing practices and the operation of the Pharmaceutical Benefits Scheme.

### *Automatic data processing*

Significant progress was made during the year in the introduction of an on-line computer system for processing chemists' payments under the Pharmaceutical Benefits Scheme. The Brisbane office was the first to be linked to the Central Office computers in Canberra through the Common User Data Network of the Australian Post Office. Following a trial period, all national health prescriptions in Queensland were processed in the new way from the end of February. The Melbourne office was the second to be





*At work in the Cairns Health Laboratory, where an additional 7,500 square feet of accommodation became available during the year. All Divisional Offices reported a continued upward demand for laboratory services.*

similarly linked to Canberra, and some 75 per cent of Victorian prescriptions were being processed by the end of June.

An interim on-line system, using a private communications link, was installed in Sydney, and similar facilities will be extended to the other Divisional Offices as soon as possible. Ultimately each office will be linked to Canberra by the Common User Data Network which will enable speedier processing of payments to chemists. Staff are being given special training.

#### *Medical examinations and vaccinations*

The introduction of cheaper airline fares to Europe and South-East Asia brought an increase in numbers of travellers requiring vaccinations. New requirements concerning cholera vaccinations also contributed to the increase. The numbers of medical examinations also rose. The Perth office, for instance, recorded an increase of some 20 per cent during the year.

#### *Acoustic laboratories*

New equipment was installed in the laboratories to help keep pace with the steadily growing demand for their services. Particularly useful are the electric response audiometers, used for assessing hearing loss in very young children and others who cannot be tested by more conventional methods.

An officer of the Hobart Laboratory has developed an electrotympanometer, a modification of existing equipment to diagnose the physical condition of the ear. It is now being evaluated by the Departmental suggestions committee.



Psychologists and technicians from the Adelaide Laboratory continued to visit the Northern Territory during the year, and will extend their visits to the East Arnhem region in the coming year.

#### *Health laboratories*

All health laboratories recorded a continued upward demand for their services, and close attention was paid to the upgrading of some laboratories and the provision of more space to cope with the demand. In Cairns, for instance, an additional 7,500 square feet of accommodation became available during the year, while a contract has been let for an extra 6,000 square feet of accommodation in Toowoomba.

Work began in April this year on construction of a new laboratory in Albury to replace the one destroyed by fire in December 1971. The laboratory will continue to function in temporary premises until about mid-1974 when the new building should be completed.

#### *Training of overseas students*

The Divisional Offices continued their liaison work with institutions providing training for students from African, Asian and South Pacific countries. The Brisbane office, for instance, assisted with the placement of some thirty fellows for training in fields ranging from blood bank serology to diagnostic pathology, and from specialist eye surgery to radiography.

The students are trained under such programs as the Colombo Plan, the Australian Government Practical Training Scheme, and the World Health Organisation Fellowship scheme.



# Policy Secretariat and Legislation

The year was another busy one for the Policy Secretariat and Legislation Branch. The transfer of the Health Insurance and Benefits Division to the Department of Social Security made little difference to the overall workload of the Branch.

The Legislation Section examined a further wide variety of Federal and Territories legislation while the Policy Secretariat again coped with a large volume of Ministerial representations. The Public Relations Section continued its wide-ranging role of providing information to press and public, arranging Departmental publications and organising publicity projects.

## *Federal legislation*

During the year two Acts amending the *National Health Act* 1953-71 were passed. The *National Health Act* 1972, assented to on 31 October 1972, made provision for a new fund benefit for patients in nursing homes and a new Government benefit for pensioners. It also implemented a domiciliary nursing care benefit for approved persons who provide professional nursing and other care for elderly relatives living with them. Among other provisions, the Act incorporated the National Health (Variations of Benefits) Regulations Nos. 3 to 7 into the Schedule of the National Health Act.

The administration of parts III to VI and other related provisions of the National Health Act, which provide for Medical Benefits, the Pensioner Medical Service and Hospital Benefits (including Nursing Home and Handicapped Children's Home Benefits) and for the Medical and Hospital Benefit Organisations, were transferred to the Department of Social Security on 20 December 1972.

The *National Health Act* 1973, assented to on 14 June 1973, complemented the provisions of the *Social Services Act* 1973 (No. 3) by providing hearing aids to supporting mothers on conditions similar to those applying to eligible pensioners.

Eleven sets of regulations were promulgated and in addition eight proclamations and statutory instruments were made.

In November 1972 the threat of a cholera outbreak necessitated urgent action to provide emergency legislation to ensure that all persons coming to Australia had been vaccinated against the disease.

## *Territories legislation*

Fifteen ordinances and regulations were made for the Australian Capital Territory and Northern Territory during the year. Included among these were the Cigarette Containers (Labelling) Ordinance 1972, introduced in both Territories to implement a decision taken by the Federal and State Ministers for Health to require health warning labels on cigarette containers.



The Ordinances required the phrase 'WARNING — SMOKING IS A HEALTH HAZARD' to appear on all cigarette containers sold after 1 January 1973.

The Canberra Hospitals Ordinance 1973 and Canberra Hospitals (Charges) Regulation authorised the Canberra Hospitals Management Board to manage the Woden Valley Hospital, which opened on 1 May 1973.

In line with Government policy, action has been taken to amend the law in both Territories to remove restrictions relating to the sale of contraceptives.

### *Policy Secretariat*

Demands on the services of the Policy Secretariat continued at a high level, both before and after the transfer of health insurance functions to the Department of Social Security in December 1972. Public interest in matters coming within the sphere of responsibilities of the Minister for Health was reflected in the thousands of Ministerial representations made throughout the year.

The Policy Secretariat continued to provide assistance in relation to Parliamentary questions and in the formulation of proposals for consideration by the Government. Secretarial services were provided for a number of conferences, and the Section prepared or assisted in the preparation of conference briefing papers.

### *Public Relations Section*

The Public Relations Section continued to plan and implement a nationwide program of publishing, advertising, special writing, press liaison and special project exercises throughout the year.

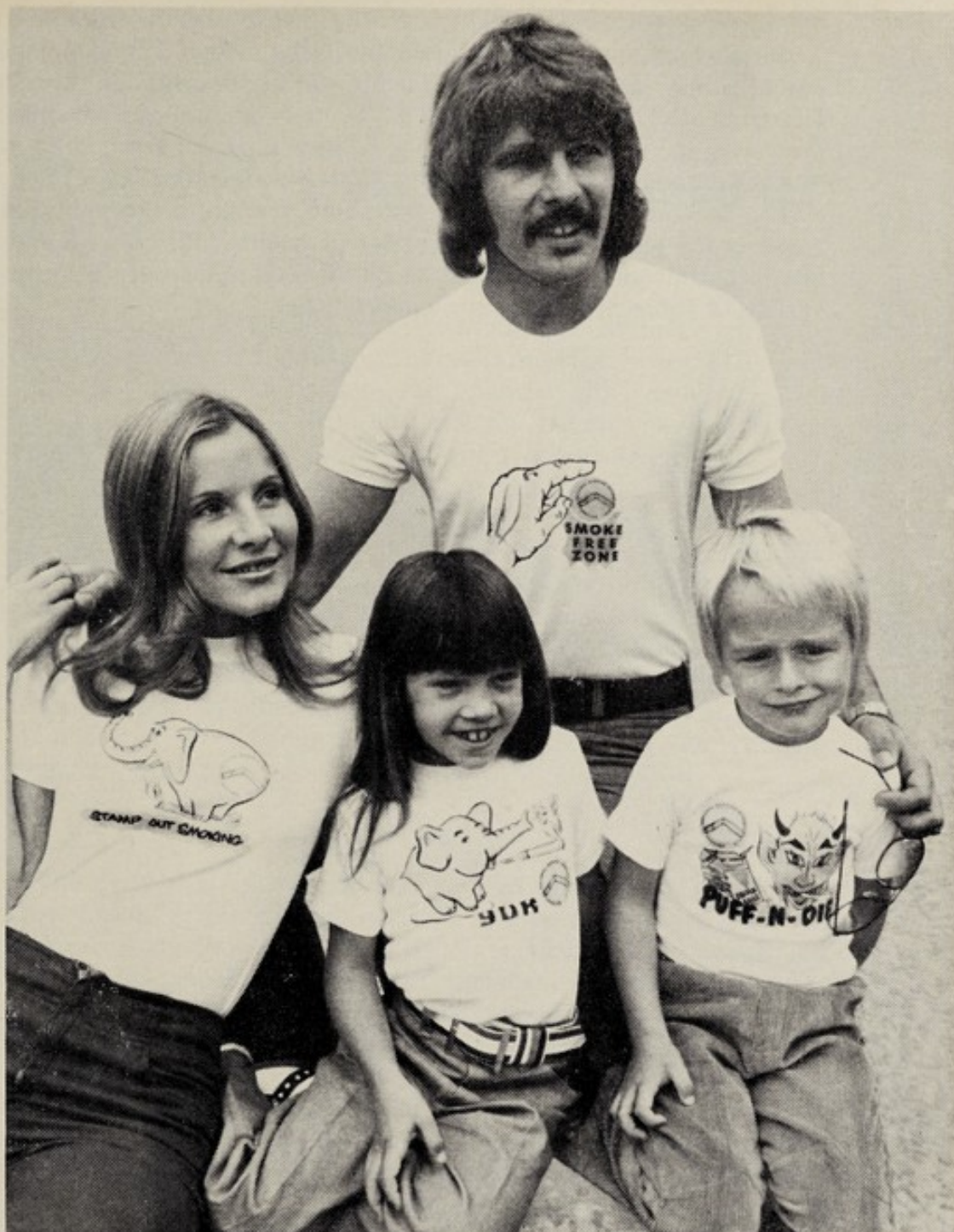
The publishing requirements of the Department—a vital function handled by the Section—are increasing yearly. This increase was particularly noticeable in 1972-73 in the volume of National Health and Medical Research Council publications, which range from single-page leaflets and small booklets to annual reports and specialist documents of 300 to 400 pages. To cope with this increase and to cater for the widening objectives of the N.H. & M.R.C., approval has been given for the appointment of another senior journalist who will work exclusively on Council matters. This will ensure the best possible service in publishing and public relations activities for Council in the future.

Other publishing work handled by the Section during the year included the Department's quarterly journal *Health*, which reached its fiftieth year of publication in 1973, and *Animal Quarantine*, which is now being published six times a year. Publishing assistance was also given to the National Hospitals and Health Services Commission Interim Committee.

Media relations continued at an active level, particularly during the period of the cholera episode in November 1972 when it was necessary to provide an around-the-clock flow of information to the national press, arrange interviews for television and radio news bulletins, and help plan follow-up television programs for current affairs documentaries. More than 100 news releases were written and distributed during the year. Special public relations exercises were also mounted for occasions such as the opening of the new phase of the smoking education campaign, and the start of the New Zealand training scheme for Australian dental therapists.

The year saw a greater involvement in public relations activities concerning behavioural and sociological issues, and developments now taking place will require even more involvement in the future. A specialist journalist was recruited in July 1972 as Social Medicine Information Officer to handle





*Four professional models were engaged by the Public Relations Section to publicise these T-shirt transfers, produced as part of the National Warning Against Smoking Campaign. The transfers won wide media publicity throughout Australia, and created a heavy public demand for them.*

publicity and publishing aspects of the national education campaigns on smoking and drugs of dependence. He was heavily involved for most of the year in the National Warning Against Smoking campaign, which represented a new departure in health education techniques for the Department.

The Section arranged two major anti-smoking advertising campaigns on television and radio and in newspapers, including nineteen foreign language journals, and also organised the publishing of more than two million information booklets and pamphlets. It also arranged national publicity



through press releases and through the distribution of iron-on transfers for T-shirts which attracted wide attention in the media. The campaign generated much public interest and requests for more information flooded into the Department's Central Office. The Section undertook the major task of answering the requests which in one five-week period reached a total of nearly 3,000. In one day a total of 393 requests was received.

The Section also provided a continuous service to the public in answering requests for information on a variety of health subjects required for school projects, University theses, and so on. Speech notes were also provided on a variety of subjects for Departmental officers.



# Planning and Research

The wisdom of establishing a Planning and Research Branch within the Department became most apparent during the year. The community and financial pressures to evaluate and adjust existing delivery systems, and the need to consider and initiate new systems, have demanded that adequate and competent research and planning teams be readily available. The Planning and Research Branch was of considerable value in contributing to these requirements throughout the year.

There is still much to be done however. Research, planning and implementation are seriously deficient without proper evaluation back-up, and to satisfy this function it will be necessary to recruit and train staff for this specialised area. Particular attention will have to be paid to the training of people to work in health research and planning. The Branch is already feeling the effects of the demands from other areas of the Department for the use of research and planning officers in the implementation of approved programs.

## *Planning Section*

The early part of the first full year of operation of the Planning Section saw officers involved in a range of enquiries and activities encompassing such areas as child care, school dental services, mental health and assistance to the handicapped. The Section contributed a submission to the Committee on Medical Schools of the Australian Universities Commission, and assisted the enquiry into the establishment of the proposed A.C.T. Health Commission.

Following the change in Government, the Section was involved in planning for new initiatives by the Australian Government in the fields of school dental care, family planning, alcoholism, drug dependency and mental health. With the completion of the planning and approval stages, these initiatives were passed to appropriate branches within the Department for subsequent development and administration. The foundation is also being laid for a greater involvement by the Australian Government in health manpower planning.

The creation of the National Hospitals and Health Services Commission Interim Committee early in 1973 meant that the Planning Section, together with other areas of the Planning and Research Branch, has had to devote a major part of its resources to activities directly or indirectly associated with the Interim Committee.

As foreshadowed in the 1971-72 report, a secretariat consisting of a senior executive officer, a clerk and a library officer was established within the Planning Section to service the Hospital and Allied Services Advisory Council and its committees. Until the permanent occupants took up duty in December 1972, temporary assistance was provided to the Council. During the past year, the secretariat serviced two meetings of the Council, ten meetings of committees and six working party meetings. It assisted in the



preparation of a number of documents and recommendations on hospital and allied services which were submitted to the 1973 Australian Health Ministers' Conference. In addition, the development of a library of Council and an information service was begun.

Committees of the National Medical War Planning Committee continued to review and define principles for the treatment of mass casualties and the provision of a medical service in a national emergency. In addition to compiling statistics relating to medical manpower and the availability of medical installations, equipment and consumables, the Committee prepared and distributed part one of a Model Plan. This will be used as guidelines for the State Medical Planning Committees to ensure that emergency planning throughout Australia may be uniform when preparation of operational plans by the States is finalised. A second part of this Model Plan is in the course of preparation.

Articles have been submitted from time to time to medical journals to inform doctors of their roles in an emergency. Articles have also been published in dental and veterinary journals outlining how best to assist in the treatment procedures of a mass casualty situation.

### *Research Section*

Interest in the provision, financing, organisation and administration of health care and in new methods of financing and delivering health care has grown rapidly. Greater demands are being made for information and analyses on which decisions about future developments may be based. It was in this area that the Research Section played an important role during 1972-73.

The Section provides an information service to the Department on current developments in health care in Australia and overseas, and on the economics of health care. As part of this service, the Section continued to provide comprehensive and up-to-date information on a variety of matters relating to health care in Australia to international bodies such as the World Health Organisation. The Section also prepared detailed costing and analyses of the current health scheme and the proposed universal health scheme.

As in previous years, the Section continued to look at the activities of hospitals approved under the National Health Act. During the year an analysis of the availability, utilisation and financing of accommodation in approved public and private hospital beds throughout Australia over the period 1967-68 to 1970-71 was completed. Statistical details relating to this exercise are in Tables 32-61 and Graph 15 on pages 178-202.

In October 1972, a special survey of domiciliary nursing services was made to obtain information about patients then in receipt of domiciliary care. The information obtained included age, sex, pension entitlements, diagnosis, treatment, and frequency of visits. Analysis of the special survey results is currently being undertaken and should be available shortly.

Total current account expenditure on health services throughout Australia was estimated to be \$1,537 million in 1969-70. This represents an increase of \$418 million or 37 per cent over the estimate for 1966-67 of \$1,119 million. Per capita expenditure on all services increased 30 per cent in the same period. Recipients of health care services, however, met a lower proportion of the cost in 1969-70 than in 1966-67. Statistics relating to the estimates of total current health expenditure for 1969-70 are in Tables 166-176 on pages 265-277.

The Federal Government financed about 30 per cent of the 1969-70 total current account expenditure on health and, if the same trend continues,



total current account expenditure on health would be in the region of \$2,100 million in 1972-73. This places greater emphasis on the need for planning of the direction in which Federal efforts may best be directed, and analysis of the benefits to be derived from the expenditure it incurs. In these matters the Research Section, in co-operation with the Planning Section, has assisted the Interim Committee of the National Hospitals and Health Services Commission in formulating its proposals.

The Research Section currently provides executive assistance to the Departmental Working Party established to consider the provision of medical and surgical aids and appliances. The Working Party, which includes representatives from the Departments of Social Security and Repatriation, is currently giving attention to the provision of hearing aids and artificial limbs. The consideration of the provision of artificial limbs is in pursuance of Recommendation 55 of the Senate Standing Committee on Health and Welfare in its report on Mentally and Physically Handicapped Persons in Australia.

The Section continued its investigation of domiciliary nursing care in Australia through its fifth survey of services provided in this area of health care and the financial experiences of the domiciliary nursing organisations. This survey relates to 1970-71 and the results have been published.

#### *Central Statistical Unit*

The Central Statistical Unit made considerable improvement in medical and hospital benefits statistics prior to the transfer of the Health Insurance and Benefits Division to the Department of Social Security. Although annual statistics relating to hospital and medical benefits are appearing for the first time in the annual report of the Department of Social Security for 1972-73, the corresponding quarterly statistics continued to appear in the *Quarterly Review of Health Statistics* to the end of the financial year.

Following the administrative changes in the Department, a review was made of the content of the statistical appendix of this report. The opportunity has been taken to incorporate more information on a wider front relating to the Department's activities and interests. A similar review is currently under way on the *Quarterly Review of Health Statistics*.

The Unit continued to place its emphasis on the provision of expert statistical advice in the application of statistical techniques, analysis and presentation of data. For example, the Unit provided advice on the preparation of estimates of health expenditure and the conduct of the survey of domiciliary nursing organisations, some tables of which appear in the statistical appendix of this report.

Advice was also provided on the use of mathematical statistical techniques, notably in efficacy trials of drugs and in the use of small samples and Fisher's exact test for analysis of such trials. In addition, technical advice was provided to the secretariat for the Enquiry into Pharmacy Earnings, Costs and Profits and to many of the committees of the National Health and Medical Research Council. The most notable recent assistance in this area was to the N.H. & M.R.C. Standing Committee on the Health Problems of Alcohol for which a detailed statistical review has been drafted. A few tables have been included in the statistical appendix (see Tables 22 and 23 and Graph 13 on pages 171-172), but the major part of the review, which is not yet completed, will be incorporated in the report of that Committee.

Work was also carried out on statistics of tobacco consumption (which appeared in the December 1972 issue of the *Quarterly Review of Health*



*Statistics*), and an evaluation was made of the existing statistics of case reporting of poisonings (a report of which was submitted to the Medical Statistics Committee of the N.H. & M.R.C.).

The Unit continued to plan and develop new statistical series. The main undertaking in the last year was the study of medical manpower statistics. During the investigation of various sources of statistics, the Unit undertook to provide the Australian University Commission's Committee on Medical Education with statistics of medical practitioners. This information was provided by means of a sample survey of registrations of medical practitioners. Two of the tables have been included in the statistical appendix (see Tables 79 and 80 on page 213). It is hoped that a more detailed publication of the information will be available soon.

Assistance was also given to the A.C.T. Health Services in the development of regular statistics of ambulance trips in the A.C.T.

The Unit devoted resources to studying improvements in the efficiency of conducting standard procedures of statistical analyses. As a result of this study, the Unit and the A.D.P. Branch conjointly implemented a set of computer programs designed for a range of statistical analyses of data in the biological and medical fields.

While considerable statistical work is still being carried out in areas outside the Central Statistical Unit, the demands on the Unit have grown rapidly since its inception over three years ago. In 1972-73 it was necessary to introduce a system of priorities for programming statistical work to be undertaken by the Unit.

Looking forward, it is expected that the Unit will not only continue to provide assistance to the N.H. & M.R.C. and other areas of the Department, but also to provide statistical support for the National Hospitals and Health Services Commission. In addition, it is planned to review the statistical developments in the regional offices of the Department, particularly in the Northern Territory. It is also hoped that more emphasis can be placed on statistics relating to health economics and on the development of social indicators relating to health.



# Establishments and Finance

The change in administrative arrangements halfway through the year had little effect on the volume of work of the Establishments and Finance Branch, which is responsible for the provision of management services and for financial control.

## *Organisation and classification*

The change was, however, reflected in staff growth. The establishment of the Department increased to 5,864 during the twelve month period, including 440 industrial staff. This represented an overall increase of 196 compared with 441 the previous year—a direct result of the transfer of the 398 positions in the Health Insurance and Benefits Division to the Department of Social Security.

A review of the non-professional Quarantine structure was finalised, resulting in the creation of thirty-five additional positions and the upward reclassification of a further thirty-three positions. Reviews of the Radiation Laboratory, an Acoustic Laboratory in the A.C.T., the National Health and Medical Research Council Division, the National Biological Standards Laboratory, and the classification of Assistant Directors, Executive Services Branch, Divisional Offices, were also undertaken.

Overall reviews of the Automatic Data Processing, Therapeutic Substances and Pharmaceutical Branches, together with staff structures of Health Inspectors and Medical Officers (Research and Teaching), began during the year. Two new branches—Aboriginal Health and Dental Services—were established.

## *Methods*

The Methods Sub-section recorded an increase in the use of work measurement techniques during the year. Work measurement was carried out at four of the Department's Health Laboratories with a view to establishing standard times for the performance of a wide and increasing range of pathology tests. Standard times in Acoustic Laboratories were also re-appraised. Work recording systems were introduced to the Central Office audio-typing service and the automatic typewriting pool. The benefits to be derived from these activities include improved reporting to management, determinable levels of productivity and indicators of future development.

Store-keeping and purchasing procedures at Central Office and at the Radiation Laboratory were reviewed. A review of the Central Office library resulted in the implementation of a new system of integrated book acquisition and loans, together with a more durable and efficient book-labelling process. These changes have effectively improved the library acquisition and circulation techniques.



In conjunction with the A.D.P. Branch, two new procedure manuals were compiled. These are to be used by data preparation and pharmaceutical services staff in the processing of chemists' claims by State offices to the central computer in Canberra.

An increasing number of office machines proposals were investigated throughout the year, resulting in the installation of new equipment or the upgrading of old equipment and procedures in many areas of the Department.

### *Training*

There was a further increase in the level and frequency of training courses conducted within the Department during the year. The more advanced courses in Central Office included work control and establishments, advanced selection interviewing, management development, administrative planning and modular programming, while in the Divisional Offices courses covered quarantine clearance, program operating, work control and review, work recording and supervision principles.

Formal training for graduate clerks starting in Central Office was again organised in part, through the Social Welfare Group Graduate Training Scheme, while a program of formal induction and job rotation was continued for school-leaver clerks in their first year with the Department in the Central and Divisional Offices. Copies of a new *Typing-Secretarial Handbook* were issued to all offices.

A total of 355 officers was enrolled under the fees reimbursement scheme in the 1972 academic year, a 23 per cent increase on the previous year. The Central Office A.D.P. Training Section completed installation of closed circuit television facilities for instructional purposes.

### *Finance Section*

The transfer of Health Insurance and Benefits payments to the Department of Social Security had little physical effect on the activities of the Finance Section. In fact, the volume of accounts transactions for the financial year increased, emphasising the continued expansion of the Department's remaining and additional activities.

With the co-operation of the Treasury, a central coding file was created for use in coding expenditure for computer processing in the Central and Divisional Offices. The file will allow monthly expenditure statements to be provided to Central Office in more detail than is possible at present. This will facilitate expenditure control and will provide particulars required for the 'functional' classification of expenditure which is to be included in future budget documents.

The Section continued to assist other areas of the Department with accounting analysis. As an example, comments were provided on the proposed program and budget for inclusion in Australia's brief for the Twenty-sixth World Health Assembly.

The Quarantine (General) Regulations were amended to authorise higher charges for the Department's vaccination services. Proposals were prepared on higher charges for hospital services in the Australian Capital Territory and Northern Territory, but were not finalised due to a number of policy implications. Work is proceeding on the review of animal quarantine charges and charges for general quarantine services.

An organisation proposal is being prepared to strengthen the staff resources of the Finance Section.



### *Administrative Services*

The Administrative Services Section is responsible for co-ordinating departmental activities concerning works and accommodation, for liaison with the Commonwealth Serum Laboratories Commission, and for the administration of grants to the States and certain non-profit organisations.

The cost of the Department's civil works program for the year totalled \$64,164,523. This included works in progress carried forward from the previous financial year of \$13,172,779 and a new program of \$50,991,744. The program included a number of significant projects, both in cost and concept.

In the Northern Territory, rural health centres for Aborigines were proposed for Timber Creek, Utopia, Ti-Tree, Boorooloola and Yirrkala. In addition three settlement hospitals (Umbakumba, Papunya and Warrabri) and two Mission hospitals (Oenpelli and Ngukurr) were included in the Department's program. Community health centres at Darwin and Alice Springs were also programmed, continuing a health service concept started during 1971-72 at Tennant Creek and Katherine. Two major projects are the new Casuarina Hospital at Darwin (\$27 million) and the redevelopment of the Alice Springs Hospital (\$12.6 million).

In the A.C.T., building works for the proposed central sterilising and linen service complex (\$4,750,000) were programmed as stage one of an overall scheme to provide a central hospital services complex. Construction also started on a brucella testing laboratory at Narrabundah (\$1,023,000). Continuing accommodation problems were experienced in Central Office because of establishment growth and the overall shortage of office accommodation generally in Canberra.

Liaison with the Commonwealth Serum Laboratories Commission continued throughout the year. This covers a wide range of activities and includes the assessment and programming for the ordering of the Government's requirements of immunising vaccines for poliomyelitis, rubella and measles.

The Grants Sub-section is responsible for the administration of a number of schemes providing financial assistance to the States and to non-profit organisations in connection with health services. These schemes are listed in detail in the Federal Grants chapter.



# Automatic Data Processing

The year 1972-73 was one of considerable activity and achievement for the Automatic Data Processing Branch. An 'on-line' computer system, described in detail below, was implemented. This system represents a significant advance on computer-based communication of data and in the Department's capability to provide computer support. In this same area progress was made towards obtaining a number of mini-computers to extend the coverage of the on-line system to meet rapidly increasing processing needs.

On another front, the Branch set up a comprehensive system designed to meet local needs in the field of adverse drug reaction reporting and to fulfil our international commitment to the World Health Organisation in this area.

Approval was obtained for the Department to substantially upgrade its computer equipment to meet increasing demands and provide a basis for more efficient processing in existing areas of development. The new facilities will provide the basis for improved systems technology in response to many new requirements from management.

The year also saw an encouraging development in work management techniques of the Branch with the introduction of new standards in the field of modular programming.

## *Applications Section*

The Applications Section was active in a wide range of areas. Work continued on systems for nation-wide monitoring of licit transactions in drugs of dependence, surveys in the A.C.T. Health Services area, developmental work for the Radiation Laboratory, and for research-based activities of the Pituitary Hormone Sub-committee. Some investigatory work was undertaken on the use of computers in hospitals.

The Section also assisted the Acoustic Laboratories to acquire a computer for research in the field of ultrasonics in medicine. An Interdata Model 80 computer was installed at the Laboratories' Sydney offices during May 1973.

However, the major effort in the Section was dedicated to a relatively small number of applications, including the implementation of two major systems. For some time the Section—and indeed the Branch—had been engaged on the development of more efficient alternative A.D.P. methods of prescription handling, designed to reduce the resources which would otherwise be required to process the steadily increasing volume of prescriptions. The system involves the replacement of existing methods of paper tape/magnetic tape input-preparation and error-handling with a nationwide on-line system of data acquisition, error detection and correction.

The new system links the data-acquisition and error-processing tasks undertaken in the Department's Divisional Offices with the central computing facilities in Canberra. The requirements for the system are met through the use of the Common User Data Network, the computer-based data





*Data processing operators at work (above) in the Department's Brisbane office, keying in chemists' claims data for computerised processing. The data is transmitted by an 'on-line' system to the Central Office computer in Canberra (right).*





communications utility developed and initially installed by the Australian Post Office in Queensland and proposed for future implementation in each capital city.

The new Health system was introduced on a fully functional basis into Queensland on 4 December 1972 for a portion of total prescriptions from that State. This portion was steadily increased until 1 March 1973. From that date all national health prescriptions in Queensland—approximately 1.3 million per month—were handled by the new procedure.

Encoded prescription data keyed on several electronic keyboards are received continuously throughout the day by the Department's computer in Canberra. Incorrect records are isolated in a series of automatic processes and returned through the communications network to the State of origin. These records are displayed for correction at one of a series of visual display units. Corrected data is communicated back through the network to the Department's central computer for further processing and determination of the final amount due to the chemist.

The new system was introduced into Victoria on a production basis on 1 May 1973 with a small proportion of traffic. By the end of June, approximately 75 per cent of all prescriptions from that State were being processed in the new way.

A substantial increase in prescription volumes can now be expected from the wider coverage of the Pharmaceutical Benefits Scheme. Because of the effects this will have on the Department's processing machinery, it has been necessary to introduce a complementary on-line system into New South Wales in advance of the availability of the Common User Data Network. This interim system links the Sydney office to the Department's computer in Canberra by a private communications link. Through appropriate integration with facilities already in operation for Brisbane and Melbourne, it allows the error-detection, display and error-correction facilities of the on-line scheme in operation in those States to be implemented on the basis of data prepared initially on paper tape.

The interim system will be extended to South Australia, Western Australia and Tasmania as soon as practicable. Further extensions of the interim arrangements in these States are planned. Ultimate use of the Common User Data Network as it becomes available in each State is an important component of these plans.

The Department's experience in Queensland and Victoria indicates that the many objectives of the new scheme are being achieved and that the Department can look forward to an extension of these benefits as the scheme is introduced progressively into each State. Using the estimated prescription volume for 1973-74 of 87.1 million as a basis, it has been calculated that eventual implementation of the on-line system across all States will save not less than \$1 million a year of present costs, while still allowing the Department to meet its increased processing commitments.

The second major area of A.D.P. development has involved the establishment of a computer system to accumulate information and report on suspected cases of adverse drug reactions. The system has been built around a number of programs supplied to the Department by the World Health Organisation. It not only provides the capacity to present timely and pertinent information to the Australian Adverse Drug Reaction Advisory Committee, but also the mechanism whereby suspected adverse reactions reported in this country can be made available to the World Health



Organisation in a form compatible for entry into its own drug monitoring system.

The Branch continued to provide information on the observance by doctors of most common fees in relation to the medical benefits scheme. Although the responsibility for administering the scheme was transferred during the year to the Department of Social Security, it was not practicable to transfer the associated data processing commitments simultaneously. This Department therefore continued to provide statistics derived from information supplied by major medical benefits funds in each State. An improved system to provide a more comprehensive coverage of available data is currently being developed.

The Branch continued to improve the quality of its service to the National Library in the computer processing of MEDLARS search requests. This is a medical literature information retrieval system sponsored internationally by the National Library of Medicine, U.S.A., which is now being widely used by researchers and workers in bio-medical fields. Some 190 literature searches and 500 'current awareness' searches were being processed each month in the latter part of the year and the demand was growing rapidly. The time taken to process a search through the computer, including keying and verification of data, file searching and the printing and despatch of reports, is now averaging two and a half days. The system is providing a service equivalent to most advanced MEDLARS systems at present operating in overseas countries.

### *Services Section*

During the year the Services Section extended standards and associated documentation across many aspects of programming and procedures, and investigated on a national and international basis techniques for improving programming efficiency. The technique known as Modular Programming was adopted generally throughout the Branch. This followed a prolonged and thorough evaluation of the technique in 'test bed' and operational environments, and involved a great deal of work on such aspects as procedural and software development, training and re-training activities, evaluation, selection and installation of associated module-testing software, and the formulation of appropriate standards and guidelines for general use. Initial indications of improved programmer productivity and better project management are encouraging.

Other areas currently under investigation in the Section include project planning and control; data bases and data-base management systems and standardised procedures to provide assistance in automating statistical calculations; continuing evaluation of a variety of software facilities from various sources; and assessment of their potential cost effectiveness in the Department's environment.

The provision of facilities, procedures and standards appropriate to the many uses envisaged for the time-sharing facilities to be developed and implemented in the Department is a future task of major proportions for the Section.

During the year a total of thirty-one programmers-in-training and programming assistants attended training courses organised in conjunction with other Departments. Various specialised training courses were held for other A.D.P. personnel. A training aid known as video-assisted instruction was acquired and has been used extensively by A.D.P. personnel since being installed.



### *Operations Section*

The year was characterised by a substantial growth in demand for computing resources which required the Operations, Software and Communications Section to provide increased computer availability through overtime and weekend working. Preparations are under way for the relocation of some units of the computers, pending the upgrading of the installation and the introduction of mini-computers. This requires considerable preparatory work and careful planning to ensure a smooth transition, without interruption to the normal workflow.

The implementation of the pharmaceutical benefits on-line system required significant amounts of machine resources during the daytime, and increased monitoring and support activities. The Communications Sub-section is now concentrating on improving the efficiency of the communications software associated with the system. It is also responsible for designing and introducing a mini-computer-based system in each of the Divisional Offices. These machines will enhance the Department's current capacity to accommodate increasing processing volumes. The growing use of communications networks is a feature of the current developments in A.D.P., and the Department plans ultimately to make extensive use of these for on-line data entry and information retrieval.

The Software Sub-section continued to provide support to the IBM operating system and associated software.

The Section, in addition to having responsibility for the planning, installation and acceptance testing of all computer hardware including the mini-computers, is preparing to introduce and support facilities that will permit terminal working on a wide scale. It is also evaluating the acquisition and introduction of an advanced operating system feature called the Attached Support Processor (ASP) which will permit sophisticated scheduling techniques to be used. These will take into account total resources of both computers, and will result in increased throughput and efficiency of operation. This system, which is primarily designed for the larger type installation, has been used with considerable success overseas but has not previously been introduced in Australia.



# National Health and Medical Research Council

The National Health and Medical Research Council again met twice during the year—at the Seventy-fifth Session in Canberra in November 1972 and the Seventy-sixth Session in Adelaide in May 1973.

The role of the Council is to advise the Australian Government and the States on public health matters and on medical and dental care, and to advise the Minister for Health on the allocation of funds made available by the Government for medical research. For these purposes, Council has three major committees—the Public Health Advisory Committee, the Medicine Advisory Committee and the Medical Research Advisory Committee, each of which has expert committees and sub-committees to advise on specific topics.

## *Medical Research Advisory Committee*

As reported last year, a significant increase of \$6.5 million was made in the level of support for medical research for the triennium 1973-75, bringing the total to \$13.5 million. The Government agreed to make annual allocations to the Council from the Medical Research Endowment Fund of \$4.0 million for 1973, \$4.5 million for 1974 and \$5.0 million for 1975. Council decided at its Seventy-fifth Session that the increased funds should be allocated in three categories:

- (a) Expansion of support for traditional areas of medical research through scholarships, overseas fellowships, and equipment grants as well as the furtherance of current research project activities in universities, hospitals, institutes, government departments and by individual doctors and dentists;
- (b) Increased support for certain medical research institutes in Australia which have developed specialised in-depth programs of notable achievement;
- (c) Support for new areas of research. The major innovation was the allocation by Council of \$2.67 million for the triennium for, firstly, medical research into areas of particular importance to the Australian community. These are causes of mental and physical disablement; delivery of health care services in the community; drug abuse and addiction, including alcoholism; environmental factors relating to disease in man; hearing, speech and vision disabilities; prevention and treatment of arthritis; prevention of accidents—in the home, in industry, and road and recreational accidents; renal disease, including the relationship between renal disease and misuse of minor analgesics; respiratory diseases; and viral diseases, including respiratory infections and infectious hepatitis. Secondly, Council decided to finance special overseas travelling fellowships for clinical use and training in the disciplines of epidemiology, psychiatric research and research in clinical pharmacology.



The first grants and fellowships in these new areas were awarded following recommendations made at the Seventy-sixth session of Council in May 1973.

#### *Public Health Advisory Committee*

Council continued to make recommendations designed to ensure the safety of food consumed in Australia and to protect the population from adverse factors in the environment. A number of publications on these matters were released, including *Code of Practice for Fumigation of Wheat in Export Grain Terminals*, *Emission Standards—Air Pollutants*, *Emission Standards—Motor Vehicles*, *Desirable Standards for Public Water Supplies in Australian Capital Cities* and *Guidelines for Safe Practices in the Use of Microwave Ovens Made to Heat Food*.

Council also approved grants for a survey of the consequences of methylmercury ingestion from fish in selected Victorian population groups, and a survey of pesticides in selected foods which form part of the normal Australian diet. In the field of communicable diseases, Council made recommendations concerning influenza vaccination, rabies vaccine, meningococcal meningitis in the Northern Territory, the diagnosis of malaria, and health education in relation to venereal diseases.

A document entitled *Recommended Practices for Occupational Health Services in Australia* was prepared and distributed to interested bodies. Council also made recommendations concerning the keeping and transfer of records of radiation exposure in workers exposed to sources of ionising radiation. An ad hoc Smoking Survey Sub-committee was established to



*Members of the National Health and Medical Research Council gather informally during a break in proceedings of the Seventy-sixth Session of Council in Adelaide, in May this year.*



design and conduct a national survey of the smoking habits and attitudes of Australian schoolchildren.

Council decided there was a need to examine medical and paramedical (including nursing) manpower in Australia in relation to present and future needs, and discussions are taking place with appropriate Federal and State agencies on preparation of guidelines and standard procedures for further action.

In the field of traffic injury, proposed State legislation requiring blood alcohol levels to be estimated on all traffic crash victims was considered. Council favoured the estimation of blood alcohol levels on all such victims brought to or arriving at hospital, provided the procedure did not interfere with treatment. It was considered that immediate estimation of the blood alcohol level was of value in diagnosis, anaesthesia, anticipation of complications, and as a pointer to the existence of problems with alcohol requiring investigation and treatment concurrently with the treatment of injury. The information would also be of value in providing on-going statistical monitoring of the road crash situation.

### *Medicine Advisory Committee*

During the year Council established several new committees to provide guidance on various health matters which are becoming increasingly important—for example, gerontology, accidents, disabilities, medical problems of alcoholism and multiphasic screening. Council is supporting an investigation of multiphasic screening in Adelaide and is undertaking an investigation of the merits of acupuncture for use in Australia. Council also made recommendations concerning methods of preventing accidental poisoning in childhood; health education of infants regarding methods of preventing rickets; and the use of intravenous sedation in dentistry.

A publication, *Chemotherapy with Antibiotics and Allied Drugs*, was distributed widely to dental and medical practitioners and students. Another publication, *Modern Psychotropic Drugs in Medical Practice*, was revised and will be distributed shortly, while a paper on serum hepatitis was prepared for distribution to general practitioners.

### *Overseas Travelling Fellowships*

Council now awards three categories of overseas travelling fellowships—the C. J. Martin Travelling Fellowships, the Public Health Travelling Fellowships, and the newly-instituted Fellowships in Clinical Sciences.

The C. J. Martin Travelling Fellowships are open to all candidates who have been engaged in medical, dental or related fields of research in Australia for a period of from two to seven years. The tenure of the Fellowships is normally two years overseas and one year in Australia, and the awards are made to workers intending to follow a research career in Australia. At its Seventy-sixth Session, Council awarded three C. J. Martin Fellowships for work in hormonal physiology, immunology and biochemical genetics.

The Public Health Travelling Fellowships are awarded to enable graduates working in the field of public health to study overseas for a period not exceeding twelve months. At the Seventy-fifth Session of Council, five Fellowships were awarded for study in the fields of drug control, radiation hazards, health education, the training of dental auxiliaries, and services for the mentally handicapped.

As mentioned above the Fellowships in Clinical Sciences were instituted by Council at its Seventy-fifth Session to encourage research training both in



Australia and overseas in the disciplines of epidemiology, psychiatry and clinical pharmacology. The conditions applying to these Fellowships are similar to those for the C. J. Martin Travelling Fellowships. Council at its Seventy-sixth Session awarded five of the new Fellowships—two in the field of epidemiology, two in clinical pharmacology and one for psychiatric research.



# Federal Grants

Federal grants totalling \$23 million were paid to State Governments and non-profit organisations during 1972-73 to promote and assist in the provision of a variety of health services. The grants included for the first time support for family planning services in Australia.

## *Public nursing homes*

Matching grants totalling \$5 million are available under the *States Grants (Nursing Homes) Act 1969* towards approved expenditure by the States for the erection of public nursing homes. The money is available to the States on a population formula during the five-year period ending 30 June 1974.

With the recent approval of a nursing home project in New South Wales all States are now taking part in the scheme. Matching grant payments during the year amounted to \$1,019,133, bringing total payments under the Act to \$1,816,050.

## *Paramedical services*

Expenditure by the States on approved schemes for the provision of paramedical services to aged persons in their homes is subsidised under the *States Grants (Paramedical Services) Act 1969*. The Federal offer is for matching assistance totalling \$250,000 a year towards expenditure on physiotherapy, occupational therapy, speech therapy and similar services.

During the year a scheme covering eleven centres in Victoria was approved, together with two additional schemes in South Australia. Payments to Victoria, South Australia and Tasmania totalled \$76,965 for the year.

## *Mental health institutions*

With the termination of the *States Grants (Mental Health Institutions) Act 1964-70*, capital expenditure by the States after 30 June 1973 on residential mental hospitals will cease to attract one-third Federal assistance. The Government has announced that in future, assistance will be directed towards community mental health centres.

Since capital assistance began in 1955 a total of \$55.6 million has been paid to the States towards the building and equipping of mental health institutions. During 1972-73 payments amounted to \$3,430,186.

## *Free milk for schoolchildren*

Payments under the *States Grants (Milk for School Children) Act 1950* during the year totalled \$11,432,707 for the cost of milk and \$64,315 for other expenditure. In addition, \$284,229 was spent on the supply of school milk in the A.C.T. and the Northern Territory.

Under the Act, the States are reimbursed the cost of milk supplied, together with half of approved capital and incidental expenditure incurred



in running the scheme. Free milk was supplied to 1.7 million children attending primary schools, kindergartens, creches, nursery schools and Aboriginal missions throughout Australia during the year.

#### *Home nursing subsidy scheme*

The number of organisations receiving subsidy under the *Home Nursing Subsidy Act* 1956 increased by 18 during the year to a total of 133 while subsidy payments increased by \$666,901 to \$2,502,117. These services, which enable people who might otherwise need institutional care to remain in their own homes, are provided by organisations such as public hospitals, municipal bodies, and religious, charitable and voluntary community groups.

Under the Act non-profit organisations which operate home nursing services employing registered nurses and which receive State or local government assistance are eligible for subsidies.

#### *Blood transfusion service*

Federal Government payments to the nation-wide blood transfusion service operated by the Australian Red Cross Society totalled \$1,169,973 during 1972-73. The service is subsidised by the Government to the extent of 30 per cent of the operating costs in each State, provided the State pays a further 60 per cent of the costs. The remaining ten per cent is met by the Society.

The Society also operates blood transfusion services in the A.C.T. and the Northern Territory where the Federal Government makes grants amounting to 90 per cent of the operating expenses. Grants during the year amounted to \$31,100 in the A.C.T. and \$60,500 in the Northern Territory.

In addition to these grants, the Government pays a substantial sum annually to the Commonwealth Serum Laboratories for processing costs involved in the production of blood fractions. In 1972-73 this payment totalled \$2,093,000.

#### *Royal Flying Doctor Service*

The emergency aerial medical service operated by the Royal Flying Doctor Service has been subsidised by the Federal Government since 1936. For the current triennium ending 30 June 1974, the level of assistance is \$315,000 a year for operational purposes and \$170,000 a year towards an approved capital expenditure program.

Under the current arrangements the Government is also meeting the estimated cost of \$480,000 for the mandatory changeover of twelve base radio stations from double sideband to single sideband operation, which is due to be completed shortly. Payments of \$198,934 were made for this purpose during the year.

#### *Family planning*

Federal financial support to family planning services was introduced during the year in the form of grants to approved organisations. From 1 April 1973 the Family Planning Association of Australia is being supported at the rate of \$200,000 a year and the National Catholic Welfare Committee at \$100,000 a year. Additional grants totalling \$50,000 are also available for other voluntary organisations in this field.

In addition to the extension of family planning generally, these organisations are expected to develop services for Aborigines, including the training of suitable personnel to provide for an expansion of such services.



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## APPENDIX 1—STATISTICS

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## NOTES ON STATISTICS

Any discrepancies between totals and sums of components in tables are due to rounding.

Yearly periods shown as, e.g., 1972, refer to the year ended 31 December 1972; those shown as, e.g., 1971-72, refer to the year ended 30 June 1972.

Values are shown in Australian dollars (\$).

p Preliminary—figure or series subject to revision.

r Figure or series revised since previous report. Derived statistics based on population estimates have been re-calculated to conform with revised population estimates.

n.a. Not applicable.

— Nil.

— Break in continuity of series (where drawn across a column or between columns to separate two consecutive figures).

C.B.C.S. Bureau of Census and Statistics.

W.H.O. World Health Organisation.

## HEALTH INDICATORS

## LIFE EXPECTANCY

TABLE 1 COMPARATIVE EXPECTATION OF LIFE—1881-1890 TO 1971

Year	Expectation of life			
	Males		Females	
	At birth	At 60 years	At birth	At 60 years
1881-1890 . . . . .	47.19	13.77	50.84	15.39
1891-1900 . . . . .	51.07	13.99	54.77	15.86
1901-1910 . . . . .	55.19	14.35	58.82	16.20
1920-1922 . . . . .	59.13	15.08	63.29	17.17
1932-1934 . . . . .	63.48	15.57	67.14	17.74
1946-1948 . . . . .	66.07	15.36	70.63	18.11
1953-1955 . . . . .	67.14	15.47	72.75	18.78
1960-1962 . . . . .	67.92	15.60	74.18	19.51
1965-1967 (a) . . . . .	67.63	15.27	74.15	19.52
1971 . . . . .	67.95	15.42	74.51	19.73
Increase in life expectancy since 1881-1890 . . . . .	20.76	1.65	23.67	4.34

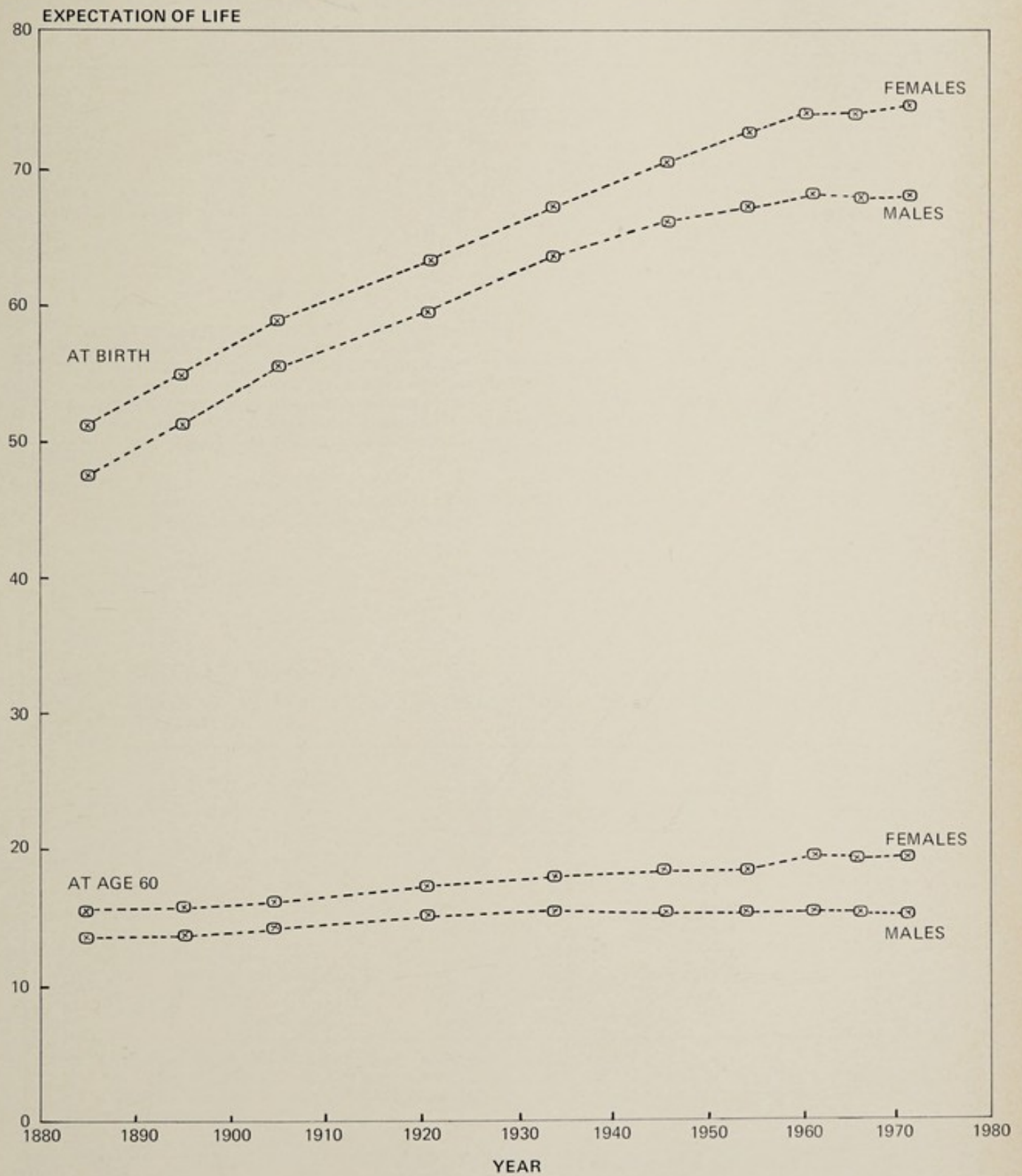
(a) Figures from 1965-67 onwards are based on population and death statistics including Aborigines.

Source: For periods up to 1965-67 *Australian Life Tables* prepared by the Australian Government Actuary. For 1971, figures from *Life Table* prepared by the Bureau of Census and Statistics based on population and mortality data for the year 1971.



## LIFE EXPECTANCY

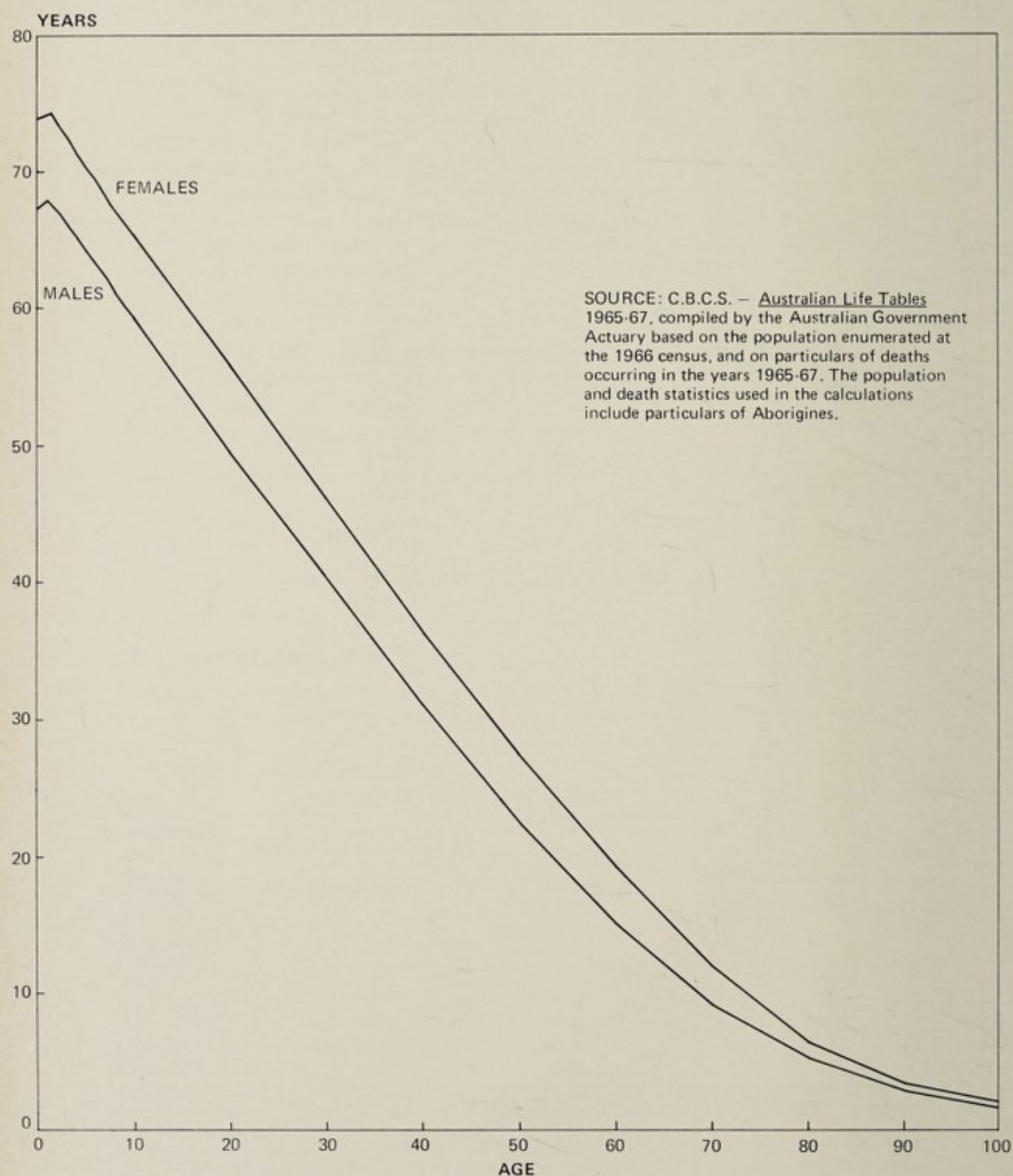
GRAPH 1 COMPARATIVE EXPECTATION OF LIFE—1881-1890 TO 1971





# LIFE EXPECTANCY

GRAPH 2 COMPARATIVE EXPECTATION OF LIFE—1965-67





## MORTALITY RATES

TABLE 2 MORTALITY RATES AND COMPARATIVE EXPECTATION OF LIFE AT BIRTH—SELECTED COUNTRIES—YEAR ENDED 31 DECEMBER 1971

Country	Crude death rate (a)	Infant mortality rate (b)	Neo-natal mortality rate (c)	Expectation of life at birth		
				Year	Male	Female
Australia . . . . .	8.7	17.3	12.2	1965-67	67.63	74.15
Austria . . . . .	13.1	26.1	19.0	1970	66.34	73.52
Canada . . . . .	7.3	18.8 (d)	13.5 (d)	1965-67	68.75	75.18
Denmark . . . . .	9.8 (d)	14.2 (d)	11.0 (d)	1968-69	70.7	75.6
England and Wales . . . . .	11.6	17.5	11.6	1968-70	68.6	74.9
France . . . . .	10.8	17.3	(e)	1969	67.6	75.3
Ireland . . . . .	10.6	18.0	12.0	1960-62	68.13	71.86
Italy . . . . .	9.6	29.4	20.4 (d)	1964-67	67.87	73.37
Japan . . . . .	6.6	12.4	8.7 (d)	1968	69.05	74.30
Sweden . . . . .	10.2	11.0 (d)	9.1 (d)	1967	71.85	76.54
United States . . . . .	9.3	19.2	14.3	1970	70.8 p.	

(a) Number of deaths registered per 1,000 mean population.

(b) The number of deaths of live born children within one year of birth per 1,000 live births.

(c) The number of deaths of live born children within twenty-eight days of birth per 1,000 live births.

(d) 1970 figures.

(e) Not available.

Source: C.B.C.S. *Deaths Bulletin*, 1971.United Nations *Demographic Year Book*, 1971.W.H.O. *Statistical Report*, Volume 25, Number 12, 1972.

## MORTALITY RATES

TABLE 3 MORTALITY RATES—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1971

State or territory	Crude death rate (a)	Infant mortality rate (b)	Neo-natal mortality rate (c)
New South Wales . . . . .	9.0	17.4	12.8
Victoria . . . . .	8.7	14.7	10.4
Queensland . . . . .	8.9	19.2	13.8
South Australia . . . . .	8.2	15.9	11.7
Western Australia . . . . .	7.6	19.1	12.6
Tasmania . . . . .	8.4	13.7	7.5
Australian Capital Territory . . . . .	4.2	19.8	16.6
Northern Territory . . . . .	7.4	60.0	23.3
Australia . . . . .	8.7	17.3	12.2

(a) Number of deaths registered per 1,000 mean population.

(b) The number of deaths of live born children within one year of birth per 1,000 live births.

(c) The number of deaths of live born children within twenty-eight days of birth per 1,000 live births.

Source: C.B.C.S. *Deaths* 1971.C.B.C.S. *Summary of vital and population statistics*, December Quarter 1972.



**MORTALITY RATES****TABLE 4 MORTALITY RATES—1901 TO 1971**

<i>Year ended 31 December</i>	<i>Crude death rate (a)</i>	<i>Infant mortality rate (b)</i>	<i>Neo-natal mortality rate (c)</i>
1901 . . . . .	12.2	103.6	(d)
1911 . . . . .	10.7	68.5	31.1
1921 . . . . .	9.9	65.7	31.2
1931 . . . . .	8.7	42.1	26.8
1935 . . . . .	9.5	39.8	27.5
1940 (e)	9.7	38.4	25.5
1945 (e)	9.5	29.4	21.8
1950 . . . . .	9.6	24.5	17.4
1955 . . . . .	8.9	22.0	15.5
1960 . . . . .	8.6	20.2	14.6
1961 . . . . .	8.5	19.5	14.0
1962 . . . . .	8.7	20.4	14.7
1963 . . . . .	8.7	19.6	14.3
1964 . . . . .	9.0	19.1	13.6
1965 . . . . .	8.8	18.5	13.2
1966 (f)	9.0	18.7	13.3
1967 . . . . .	8.7	18.3	13.3
1968 . . . . .	9.1	17.8	12.9
1969 . . . . .	8.7	17.9	13.0
1970 . . . . .	9.0	17.9	12.9
1971 . . . . .	8.7	17.3	12.2

(a) Number of deaths registered per 1,000 mean population.

(b) The number of deaths of live born children within one year of birth per 1,000 live births.

(c) The number of deaths of live born children within twenty-eight days of birth per 1,000 live births.

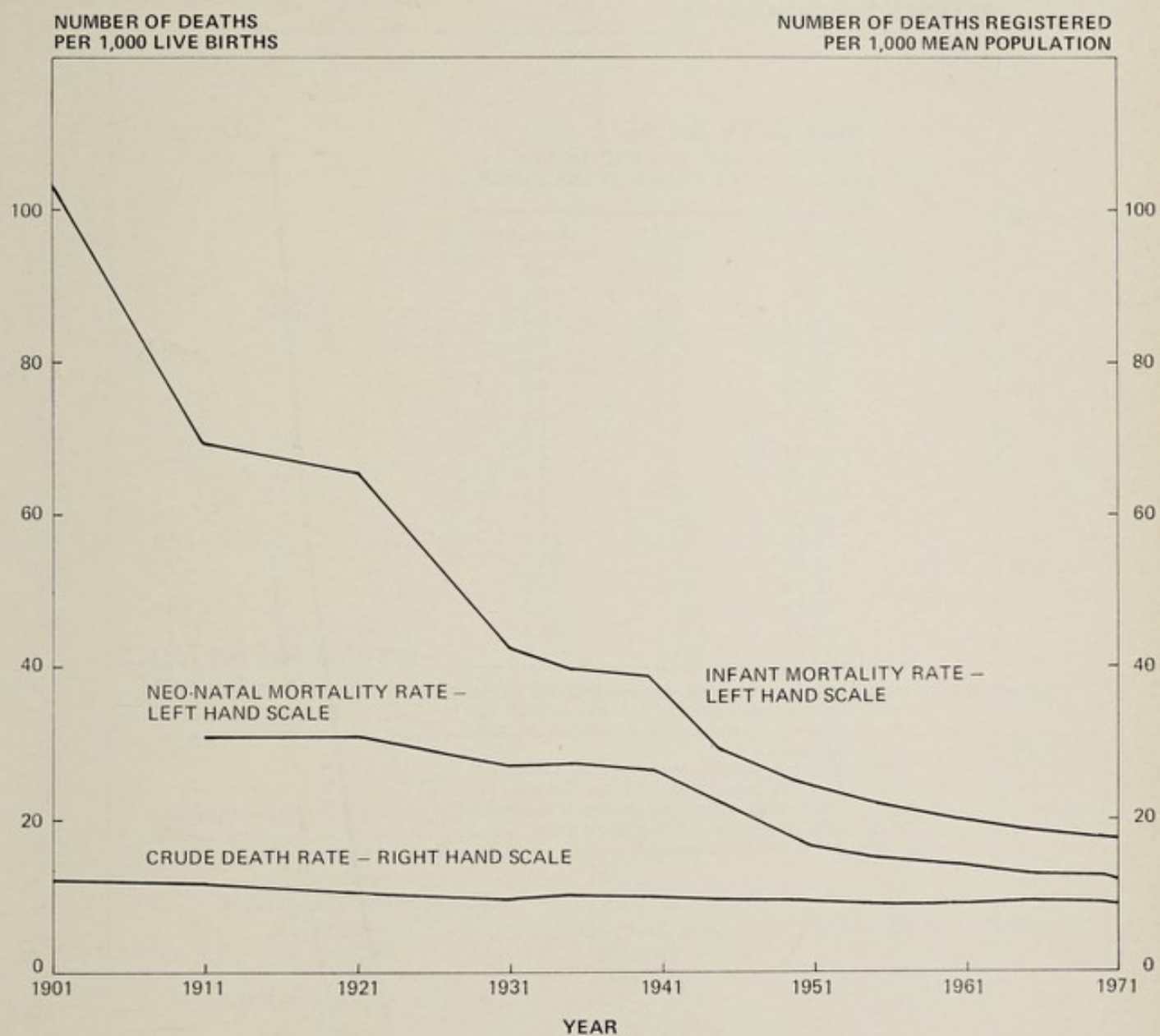
(d) Not available.

(e) Excludes deaths of defence personnel.

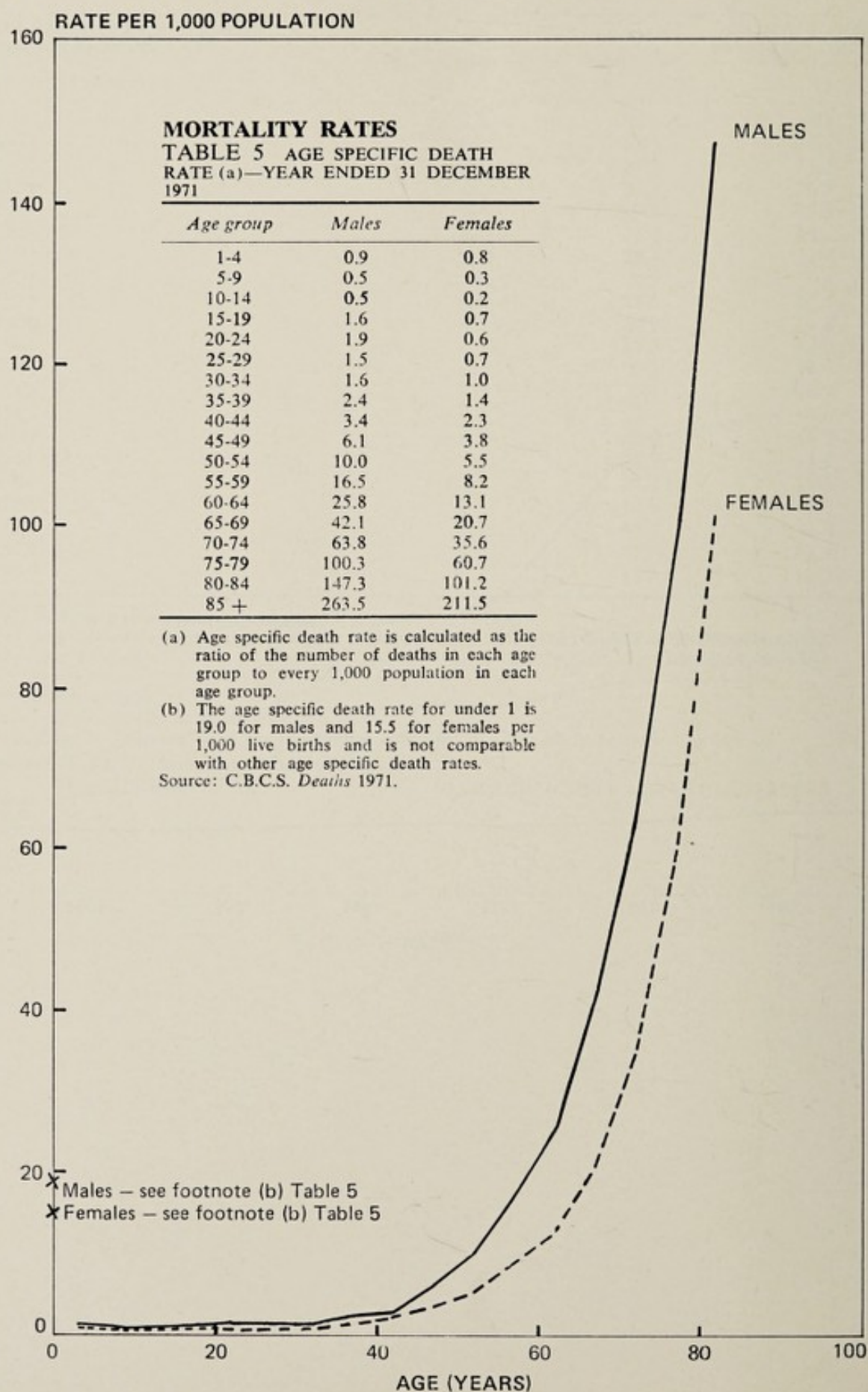
(f) Prior to 1966 the rates exclude deaths identified as those of full-blood Aborigines.

Source: C.B.C.S. *Demography Bulletin* 1967-68.C.B.C.S. *Deaths* 1971.



**MORTALITY RATES****GRAPH 3 MORTALITY RATES—1901 TO 1971**

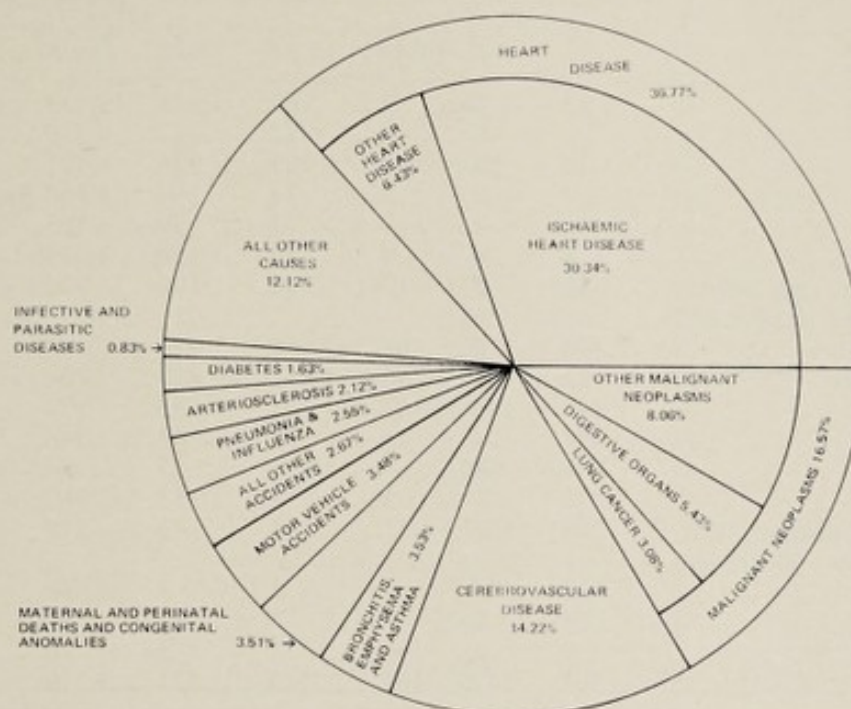


**MORTALITY RATES****GRAPH 4** AGE SPECIFIC DEATH RATE—YEAR ENDED 31 DECEMBER 1971



## CAUSE OF DEATH

GRAPH 5 CAUSE OF DEATH AS PROPORTION OF ALL DEATHS—YEAR ENDED 31 DECEMBER 1971



## CAUSE OF DEATH

TABLE 6 NUMBER AND PERCENTAGE OF DEATHS BY CAUSE—YEAR ENDED 31 DECEMBER 1971

<i>I.C.D. detailed list numbers (a)</i>	<i>Cause groups</i>	<i>Number of deaths</i>	<i>Percentage of all deaths</i>
393-398; 400-404; 410-414; 420-429	Heart disease . . . . .	40,683	36.77
410-414	Ischaemic . . . . .	33,573	30.34
393-398; 400-404; 420-429	Other . . . . .	7,110	6.43
140-209	Malignant neoplasms . . . . .	18,338	16.57
150-159	Digestive organs . . . . .	6,004	5.43
162	Lung . . . . .	3,406	3.08
140-149; 160; 161; 163-209	Other . . . . .	8,928	8.06
430-438	Cerebrovascular disease . . . . .	15,731	14.22
490-493	Bronchitis, emphysema and asthma . . . . .	3,911	3.53
630-639; 640-645; 650-678; 740-779	Maternal and perinatal deaths and congenital anomalies . . . . .	3,885	3.51
E810-E823	Motor vehicle accidents . . . . .	3,847	3.48
E800-E807; E825-E949	All other accidents . . . . .	2,955	2.67
480-486	Pneumonia . . . . .	2,725	2.46
440	Arteriosclerosis . . . . .	2,350	2.12
250	Diabetes . . . . .	1,801	1.63
000-136	Infective and parasitic diseases . . . . .	914	0.83
470-474	Influenza . . . . .	96	0.09
Various	All other causes . . . . .	13,414	12.12
	Total . . . . .	110,650	100.00

(a) According to the 8th Revision of the International Classification of Diseases.

Source: C.B.C.S. Deaths 1971.



## APPENDIX 1 STATISTICS

## CAUSE OF DEATH

TABLE 7 NUMBER OF DEATHS BY CAUSE AND AGE GROUP—YEAR ENDED 31 DECEMBER 1971

Cause of death	Age group							Not stated	Total
	0	1-4	5-14	15-24	25-44	45-64	65 +		
Heart disease	15	7	9	62	1,018	10,479	29,088	5	40,683
Ischaemic	—	—	—	12	743	9,330	23,484	4	33,573
Malignant neoplasms	15	89	160	205	996	6,571	10,302	—	18,338
Digestive organs	1	2	2	14	194	1,866	3,925	—	6,004
Lung	—	—	—	1	99	1,503	1,803	—	3,406
Cerebrovascular disease	6	4	6	29	328	2,439	12,917	2	15,731
Bronchitis, emphysema and asthma	10	8	17	42	106	935	2,793	—	3,911
Maternal and perinatal deaths and congenital anomalies	3,473	112	61	58	78	69	34	—	3,885
Motor vehicle accidents	25	104	260	1,387	898	700	471	2	3,847
All other accidents	140	194	167	322	496	524	1,112	—	2,955
Pneumonia	343	74	21	29	93	346	1,819	—	2,725
Arteriosclerosis	—	—	—	—	3	63	2,284	—	2,350
Diabetes	1	—	5	9	53	369	1,364	—	1,801
Infective and parasitic diseases	239	105	31	23	43	179	294	—	914
Enteritis and other diarrhoeal diseases	137	73	9	3	2	30	98	—	352
Tuberculosis	1	2	—	—	11	69	99	—	182
Influenza	6	3	—	2	5	16	64	—	96
All other causes	504	142	163	536	1,521	3,719	6,824	5	13,414
Total	4,777	842	900	2,704	5,638	26,409	69,366	14	110,650

Source: C.B.C.S. Deaths 1971.

## CAUSE OF DEATH

TABLE 8 CAUSE OF DEATH BY AGE GROUP—PERCENTAGE DISTRIBUTION—YEAR ENDED 31 DECEMBER 1971

Cause of death	Age group							Not stated	Total
	0	1-4	5-14	15-24	25-44	45-64	65 +		
Heart disease	0.3	0.8	1.0	2.3	18.1	39.7	41.9	35.7	36.8
Ischaemic	0.0	0.0	0.0	0.4	13.2	35.3	33.9	28.6	30.3
Malignant neoplasms	0.3	10.6	17.8	7.6	17.7	24.9	14.9	0.0	16.6
Digestive organs	0.0	0.2	0.2	0.5	3.4	7.1	5.7	0.0	5.4
Lung	0.0	0.0	0.0	0.0	1.8	5.7	2.6	0.0	3.1
Cerebrovascular disease	0.1	0.5	0.7	1.1	5.8	9.2	18.6	14.3	14.2
Bronchitis, emphysema and asthma	0.2	1.0	1.9	1.6	1.9	3.5	4.0	0.0	3.5
Maternal and perinatal deaths and congenital anomalies	72.7	13.3	6.8	2.1	1.4	0.3	0.0	0.0	3.5
Motor vehicle accidents	0.5	12.4	28.9	51.3	15.9	2.7	0.7	14.3	3.5
All other accidents	2.9	23.0	18.6	11.9	8.8	2.0	1.6	0.0	2.7
Pneumonia	7.2	8.8	2.3	1.1	1.6	1.3	2.6	0.0	2.5
Arteriosclerosis	0.0	0.0	0.0	0.0	0.1	0.2	3.3	0.0	2.1
Diabetes	0.0	0.0	0.6	0.3	0.9	1.4	2.0	0.0	1.6
Infective and parasitic diseases	5.0	12.5	3.4	0.9	0.8	0.7	0.4	0.0	0.8
Enteritis and other diarrhoeal diseases	2.9	8.7	1.0	0.1	0.0	0.1	0.1	0.0	0.3
Tuberculosis	0.0	0.2	0.0	0.0	0.2	0.3	0.1	0.0	0.2
Influenza	0.1	0.4	0.0	0.1	0.1	0.1	0.1	0.0	0.1
All other causes	10.6	16.7	18.1	19.8	27.0	14.1	9.8	35.7	12.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: C.B.C.S. Deaths 1971.



## CAUSE OF DEATH

TABLE 9 AGE SPECIFIC DEATH RATE (a)—YEAR ENDED 31 DECEMBER 1971

Cause of death	Age group							Total
	0	1-4	5-14	15-24	25-44	45-64	65 +	
Heart disease . . . . .	—	7	4	28	314	4,088	27,297	3,189
Ischaemic . . . . .	—	—	—	5	229	3,639	22,038	2,632
Malignant neoplasms . . . . .	—	92	65	91	307	2,563	9,668	1,438
Digestive organs . . . . .	—	2	1	6	60	728	3,683	471
Lung . . . . .	—	—	—	—	31	586	1,692	267
Cerebrovascular disease . . . . .	—	4	2	13	101	951	12,122	1,233
Bronchitis, emphysema and asthma . . . . .	—	8	7	19	33	365	2,621	307
Maternal and perinatal deaths and congenital anomalies . . . . .	13	116	25	26	24	27	32	305
Motor vehicle accidents . . . . .	—	107	106	615	277	273	442	302
All other accidents . . . . .	1	200	68	143	153	204	1,044	232
Pneumonia . . . . .	1	76	9	13	29	135	1,707	214
Arteriosclerosis . . . . .	—	—	—	—	1	25	2,143	184
Diabetes . . . . .	—	—	2	4	16	144	1,280	141
Infective and parasitic diseases . . . . .	1	108	13	10	13	70	276	72
Enteritis and other diarrhoeal diseases . . . . .	—	75	4	1	1	12	92	28
Tuberculosis . . . . .	—	2	—	—	3	27	93	14
Influenza . . . . .	—	3	—	1	2	6	60	8
All other causes . . . . .	2	146	67	238	469	1,451	6,404	1,052
Total . . . . .	17	869	367	1,200	1,740	10,301	65,095	8,674

(a) Number of deaths registered per million of population at risk (i.e. in each age group) except for children under one year of age which are expressed as a rate per 1,000 live births registered.

Source: Figures calculated from Tables of Deaths by Cause and population estimates. C.B.C.S. Deaths 1971.

Note: Figures for 1968 onwards are based on the Eighth Revision of the International Classification of Diseases and will not in all cases be strictly comparable with figures for earlier years.

## CAUSE OF DEATH

TABLE 10 SELECTED CAUSES OF DEATH AND TOTAL DEATHS—1963 TO 1971

Year ended 31 December	Diseases of the skin and subcutaneous tissue	Diseases of the respira- tory system	Cerebro- vascular disease	Neoplasms	Diseases of the circula- tory system (a)	All other deaths	Total deaths
NUMBER OF DEATHS							
1963 . . . . .	121	6,417	12,579	14,973	39,269	21,535	94,894
1964 . . . . .	140	7,763	13,122	15,355	41,898	22,316	100,594
1965 . . . . .	108	7,183	13,644	15,316	41,489	21,975	99,715
1966 . . . . .	114	8,241	13,920	15,984	43,502	22,168	103,929
1967 (b) . . . . .	105	7,284	13,523	16,349	42,698	22,744	102,703
1968 . . . . .	65	7,674	15,364	17,292	45,566	23,586	109,547
1969 . . . . .	74	7,366	14,633	17,549	43,892	22,982	106,496
1970 . . . . .	76	9,080	15,686	18,315	45,690	24,201	113,048
1971 p. . . . .	60	7,674	15,731	18,527	44,881	23,777	110,650
PERCENTAGE OF TOTAL DEATHS							
1963 . . . . .	0.13	6.76	13.26	15.78	41.38	22.69	100.00
1964 . . . . .	0.14	7.72	13.04	15.26	41.65	22.18	100.00
1965 . . . . .	0.11	7.20	13.68	15.36	41.61	22.04	100.00
1966 . . . . .	0.11	7.93	13.39	15.38	41.86	21.33	100.00
1967 (b) . . . . .	0.10	7.09	13.17	15.92	41.57	22.15	100.00
1968 . . . . .	0.06	7.01	14.03	15.79	41.59	21.53	100.00
1969 . . . . .	0.07	6.92	13.74	16.48	41.21	21.58	100.00
1970 . . . . .	0.07	8.03	13.88	16.20	40.42	21.41	100.00
1971 p. . . . .	0.05	6.94	14.22	16.74	40.56	21.49	100.00

(a) Excludes cerebrovascular disease.

(b) Prior to 1967 deaths identified as those of full-blood Aborigines were excluded.

Source: C.B.C.S. Causes of Death Bulletins, 1963 to 1971.



# APPENDIX 1 – STATISTICS

## CAUSE OF DEATH

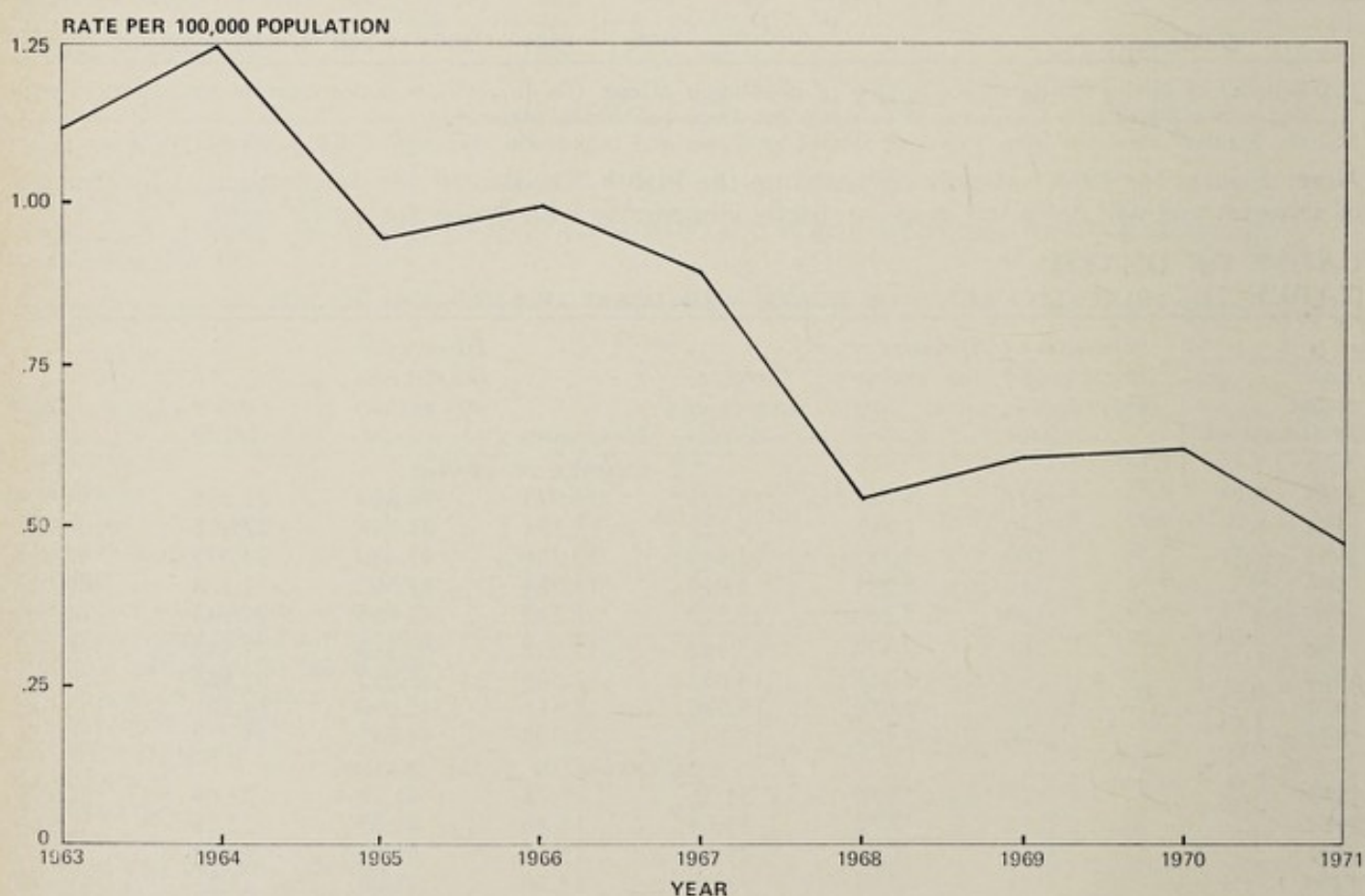
TABLE 11 DEATHS FROM DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE—1963 TO 1971

Disease	1963	1964	1965	1966	1967 (a)	1968	1969	1970	1971 p.
Infections of the skin and subcutaneous tissue . . . . .	35	52	35	35	31	34	30	30	22
Other inflammatory conditions of the skin and subcutaneous tissue . . . . .	44	26	23	27	19	13	18	27	21
Other diseases of the skin and subcutaneous tissue . . . . .	42	62	50	52	55	18	26	19	17
Total . . . . .	121	140	108	114	105	65	74	76	60

(a) Prior to 1967 deaths identified as those of full-blood Aborigines were excluded.  
Source: C.B.C.S. *Causes of Death Bulletins*, 1963 to 1971.

## CAUSE OF DEATH

GRAPH 6 DEATH RATES FROM DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE—1963 TO 1971





## CAUSE OF DEATH

TABLE 12 DEATHS FROM DISEASES OF THE RESPIRATORY SYSTEM—1963 TO 1971

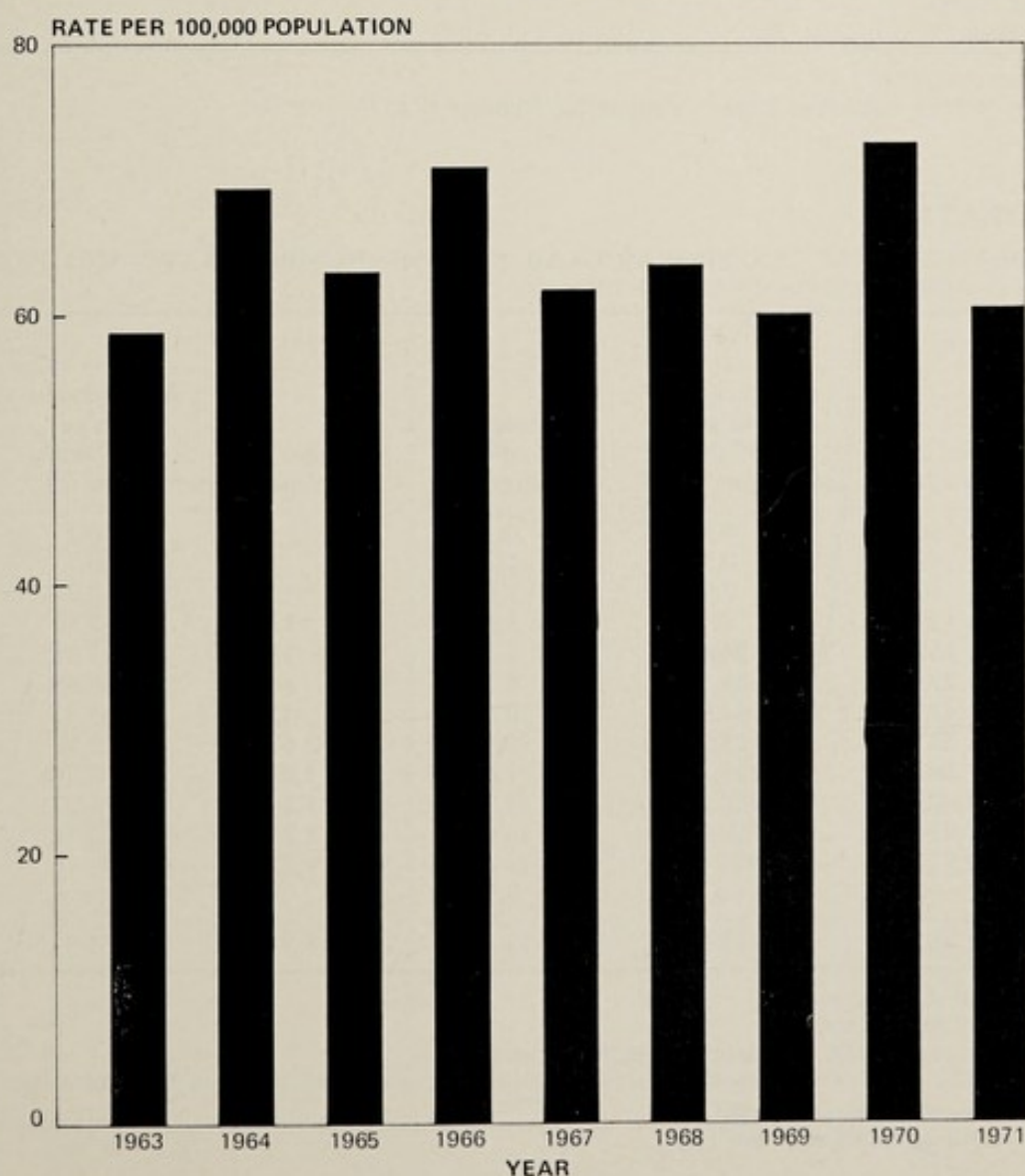
Disease	1963	1964	1965	1966	1967 (a)	1968	1969	1970	1971 p.
Acute respiratory infections (except influenza)	136	147	162	172	205	231	234	282	280
Influenza	67	302	142	249	55	323	215	813	96
Pneumonia	3,158	3,722	3,370	3,950	3,332	2,952	2,666	3,143	2,725
Bronchitis, emphysema and asthma	2,234	2,681	2,707	3,024	2,879	3,602	3,675	4,205	3,911
Other diseases of upper respira- tory tract	24	16	22	27	18	9	17	21	18
Other diseases of respiratory system	798	895	780	819	795	557	559	616	644
Total	6,417	7,763	7,183	8,241	7,284	7,674	7,366	9,080	7,674

(a) Prior to 1967 deaths identified as those of full-blood Aborigines were excluded.

Source: C.B.C.S. *Causes of Death Bulletins*, 1963 to 1971.

## CAUSE OF DEATH

GRAPH 7 DEATH RATES FROM DISEASES OF THE RESPIRATORY SYSTEM—1963 TO 1971





## CAUSE OF DEATH

TABLE 13 DEATHS FROM TUBERCULOSIS OF THE RESPIRATORY SYSTEM—RATE PER 100,000 POPULATION—SELECTED COUNTRIES—1969 TO 1971

Country	1969	1970	1971
Australia . . . . .	1.2	1.0	0.9
Austria . . . . .	12.0	11.2	10.9
Canada . . . . .	1.8	1.7	(a)
England and Wales . . . . .	2.2	1.9	1.9
France . . . . .	8.8	7.1	(a)
Germany . . . . .	9.9	7.4	18.6
Hong Kong . . . . .	35.8	34.8	(a)
Hungary . . . . .	18.4	16.7	14.9
Ireland . . . . .	7.7	6.8	5.5
Italy . . . . .	7.3	6.0	6.0
Japan . . . . .	15.3	14.6	(a)
Mexico . . . . .	16.6	17.6	(a)
Netherlands . . . . .	0.8	0.8	0.9
Norway . . . . .	0.9	0.6	(a)
Poland . . . . .	27.0	24.7	23.4
Romania . . . . .	19.1	16.9	(a)
Singapore . . . . .	20.0	21.6	(a)
Sweden . . . . .	3.2	3.1	(a)
United States . . . . .	2.2	(a)	(a)
Yugoslavia . . . . .	17.6	16.5	(a)

(a) Not available.

Source: W.H.O. *Statistical Report*, Volume 26, Number 1, 1973.

## CAUSE OF DEATH

TABLE 14 DEATHS FROM CEREBROVASCULAR DISEASE—NUMBER, RATE AND PERCENTAGE OF ALL DEATHS—AGE GROUPS—1961 AND 1971

Age group	1961 (a)			1971 (b) p.		
	Number of deaths	Number of deaths per 100,000 population (c)	Percentage of all deaths (d)	Number of deaths	Number of deaths per 100,000 population (c)	Percentage of all deaths (d)
0-9 . . . . .	20	0.92	0.33	14	0.57	0.23
10-19 . . . . .	19	0.99	1.70	17	0.73	1.00
20-29 . . . . .	40	2.97	2.64	45	2.20	1.85
30-39 . . . . .	129	8.57	5.33	115	7.50	4.80
40-44 . . . . .	167	24.62	8.34	182	23.08	8.14
45-49 . . . . .	295	44.75	9.53	300	38.69	7.77
50-54 . . . . .	441	94.98	10.08	432	65.38	8.40
55-59 . . . . .	582	125.22	10.36	670	111.03	8.79
60-64 . . . . .	898	225.35	11.69	1,037	207.26	10.60
65-69 . . . . .	1,422	424.60	13.96	1,443	371.27	12.13
70-74 . . . . .	2,036	769.75	16.03	2,253	782.16	16.09
75 and over . . . . .	5,913	2,003.05	18.41	9,221	2,400.16	21.21
Not stated . . . . .	2	n.a.	9.52	2	n.a.	14.29
Total	11,964	113.85	13.45	15,731	123.33	14.22

(a) Excludes full-blood Aborigines.

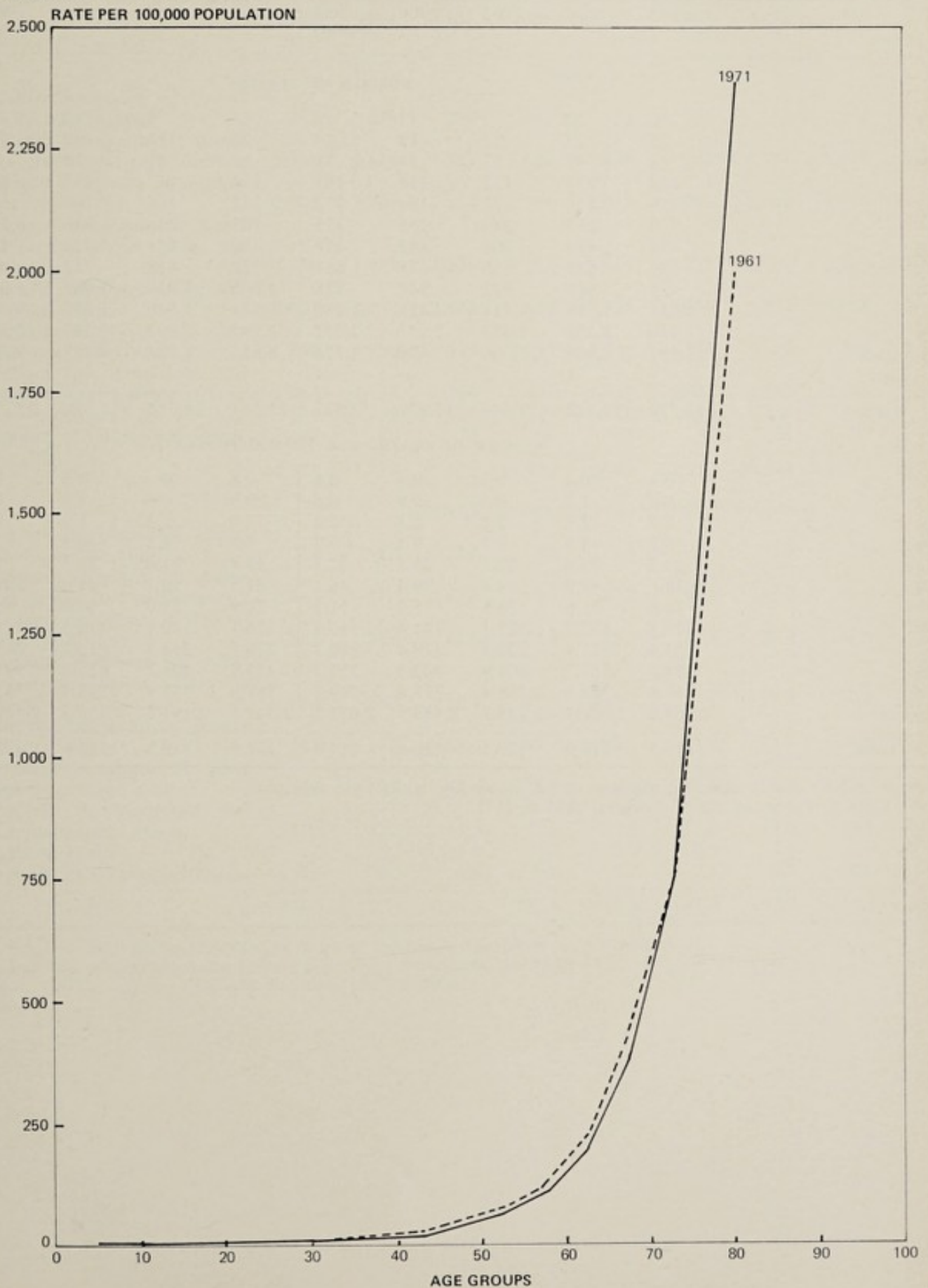
(b) Includes full-blood Aborigines.

(c) Number of deaths per 100,000 population in each age group.

(d) Percentage of deaths from cerebrovascular disease in each age group to all deaths in each age group.

Source: C.B.C.S. *Demography Bulletin*, 1961.C.B.C.S. *Causes of Death Bulletin*, 1971.



**CAUSE OF DEATH****GRAPH 8 Cerebrovascular Disease—Rate of Death per 100,000 Population by Age Groups—1961 and 1971**



## APPENDIX 1 — STATISTICS

## CAUSE OF DEATH

TABLE 15 DEATHS FROM CEREBROVASCULAR DISEASE—AGE GROUPS—1963 TO 1971

Age group	1963	1964	1965	1966	1967 (a)	1968	1969	1970	1971 p.
NUMBER OF DEATHS									
0-9 . . . . .	10	10	7	11	13	15	9	12	14
10-19 . . . . .	15	22	17	19	14	20	14	22	17
20-29 . . . . .	24	41	32	34	38	35	41	38	45
30-39 . . . . .	128	123	132	135	107	136	142	158	115
40-44 . . . . .	156	176	170	194	172	183	166	168	182
45-49 . . . . .	250	285	290	253	323	301	296	316	300
50-54 . . . . .	455	439	501	482	459	479	474	432	432
55-59 . . . . .	572	677	658	658	651	722	648	717	670
60-64 . . . . .	923	966	972	947	938	1,045	1,020	1,037	1,037
65-69 . . . . .	1,351	1,318	1,414	1,428	1,360	1,551	1,520	1,655	1,443
70-74 . . . . .	2,110	2,156	2,083	2,151	2,072	2,192	2,097	2,263	2,253
75 and over . . . . .	6,584	6,908	7,366	7,608	7,375	8,685	8,204	8,867	9,221
Not stated . . . . .	1	1	2	—	1	—	2	1	2
Total . . . . .	12,579	13,122	13,644	13,920	13,523	15,364	14,633	15,686	15,731
NUMBER OF DEATHS PER 100,000 POPULATION									
0-9 . . . . .	0.4	0.4	0.3	0.5	0.6	0.6	0.4	0.5	0.6
10-19 . . . . .	0.8	1.1	0.8	0.9	0.6	0.9	0.6	1.0	0.7
20-29 . . . . .	1.7	2.8	2.1	2.1	2.2	2.0	2.2	1.9	2.2
30-39 . . . . .	8.7	8.4	9.1	9.3	7.3	9.3	9.5	10.5	7.5
40-44 . . . . .	21.5	23.4	22.1	25.1	22.1	23.4	21.0	21.3	23.1
45-49 . . . . .	38.1	43.9	44.4	39.4	46.1	41.3	39.3	41.0	38.7
50-54 . . . . .	76.0	71.0	78.9	75.0	71.1	74.9	75.0	68.0	65.4
55-59 . . . . .	115.8	132.5	125.1	121.4	116.5	126.1	110.1	119.5	111.0
60-64 . . . . .	225.6	231.9	229.1	218.4	210.1	226.7	214.3	212.7	207.3
65-69 . . . . .	398.3	385.7	404.9	402.3	376.7	423.6	406.3	435.2	371.3
70-74 . . . . .	767.8	782.3	756.4	777.4	749.2	787.9	753.8	798.9	782.2
75 and over . . . . .	2,063.8	2,088.3	2,155.7	2,159.5	2,037.2	2,349.1	2,191.3	2,332.2	2,400.2
Total . . . . .	115.3	118.0	120.3	120.5	114.6	127.9	119.3	125.4	123.3

(a) Prior to 1967 deaths identified as those of full-blood Aborigines were excluded.

Source: C.B.C.S. *Causes of Death Bulletins*, 1963 to 1971.



## CAUSE OF DEATH

TABLE 16 DEATHS FROM NEOPLASMS—1963 TO 1971

<i>Disease</i>	1963	1964	1965	1966	1967 (a)	1968	1969	1970	1971 <i>p.</i>
NUMBER OF DEATHS									
Malignant neoplasm of buccal cavity and pharynx . . .	282	279	277	292	318	341	335	362	338
Malignant neoplasm of digestive organs and peritoneum .	5,412	5,328	5,383	5,606	5,659	5,788	5,897	6,018	6,004
Malignant neoplasm of respiratory system (b) . . .	2,303	2,508	2,574	2,768	2,973	3,096	3,241	3,458	3,622
Malignant neoplasm of bone, connective tissue, skin and breast . . . . .	1,910	1,927	1,898	2,012	2,046	2,072	2,149	2,191	2,300
Malignant neoplasm of genito-urinary organs . . . . .	2,624	2,713	2,662	2,685	2,728	2,905	2,911	3,026	2,990
Malignant neoplasm of other and unspecified sites . . .	980	998	979	1,013	1,006	1,295	1,220	1,368	1,386
Neoplasm of lymphatic and haematopoietic tissue . . .	1,265	1,413	1,358	1,411	1,440	1,621	1,597	1,696	1,698
Benign neoplasm . . . . .	135	129	113	129	120	110	135	124	113
Neoplasm of unspecified nature	62	60	72	68	59	64	64	72	76
Total . . . . .	14,973	15,355	15,316	15,984	16,349	17,292	17,549	18,315	18,527
NUMBER OF DEATHS PER 100,000 POPULATION									
Malignant neoplasm of buccal cavity and pharynx . . .	2.6	2.5	2.4	2.5	2.7	2.8	2.7	2.9	2.6
Malignant neoplasm of digestive organs and peritoneum .	49.4	47.7	47.3	48.3	47.9	48.1	48.0	48.0	47.0
Malignant neoplasm of respiratory system (b) . . . . .	21.0	22.5	22.6	23.9	25.2	25.8	26.4	27.6	28.3
Malignant neoplasm of bone, connective tissue, skin and breast . . . . .	17.4	17.3	16.7	17.3	17.3	17.2	17.5	17.5	18.0
Malignant neoplasm of genito-urinary organs . . . . .	24.0	24.3	23.4	23.1	23.1	24.2	23.7	24.2	23.4
Malignant neoplasm of other and unspecified sites . . .	8.9	8.9	8.6	8.7	8.5	10.8	9.9	10.9	10.8
Neoplasm of lymphatic and haematopoietic tissue . . .	11.6	12.7	11.9	12.2	12.2	13.5	13.0	13.5	13.3
Benign neoplasm . . . . .	1.2	1.2	1.0	1.1	1.0	0.9	1.1	1.0	0.9
Neoplasm of unspecified nature	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.6
Total . . . . .	136.7	137.5	134.5	137.8	138.5	143.8	143.0	146.2	144.9

(a) Prior to 1967 deaths identified as those of full-blood Aborigines were excluded.

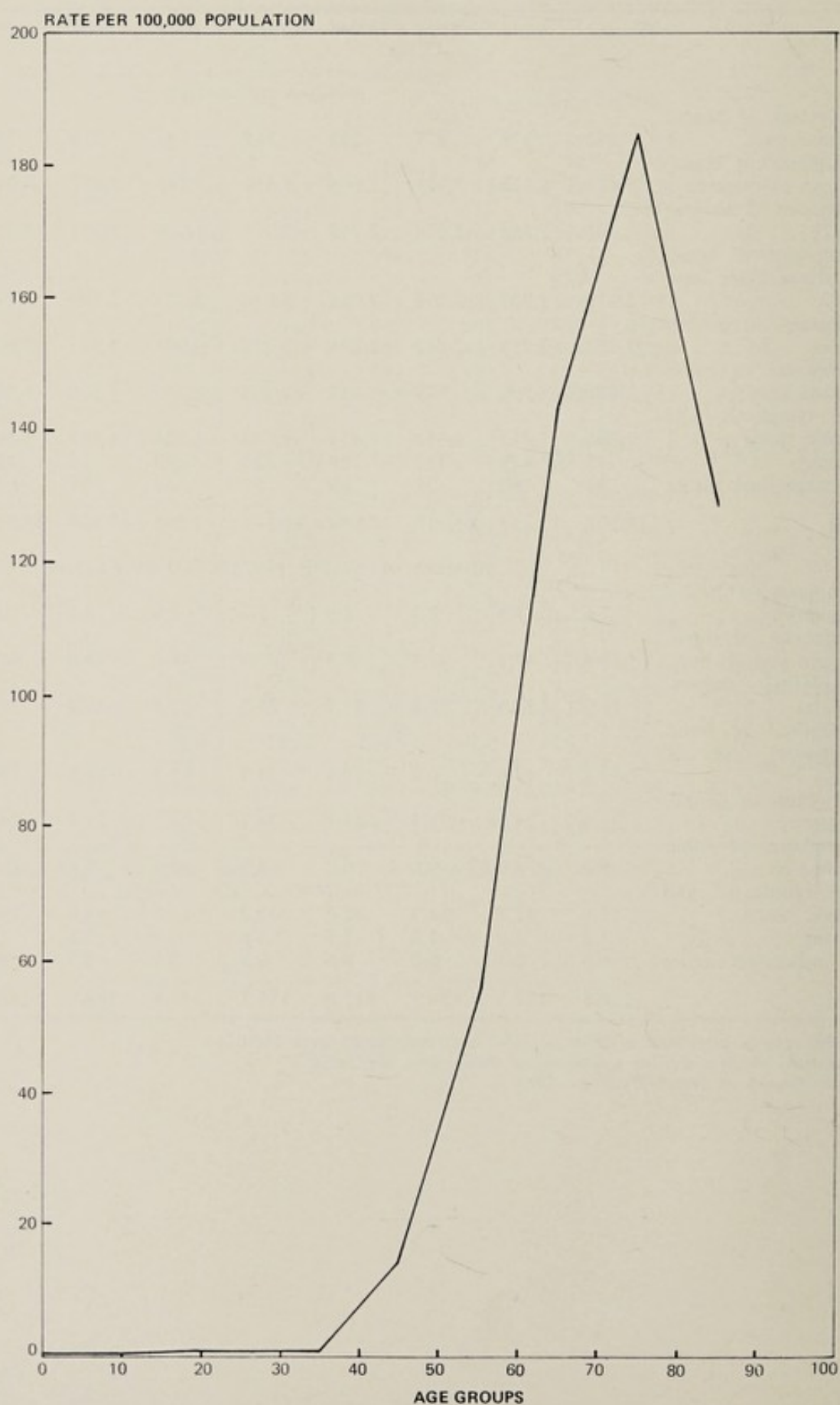
(b) For lung cancer, which constitute a majority of these cases, see Table 17.

Source: C.B.C.S. *Causes of Death Bulletins*, 1963 to 1971.



**CAUSE OF DEATH**

**GRAPH 9 LUNG CANCER—NUMBER OF DEATHS PER 100,000 POPULATION—AGE GROUPS—  
YEAR ENDED 31 DECEMBER 1971**





## CAUSE OF DEATH

TABLE 17 DEATHS FROM LUNG CANCER (a)—AGE GROUPS—1963 TO 1971

Age group	1963	1964	1965	1966	1967 (b)	1968	1969	1970	1971 p.
NUMBER OF DEATHS									
0-9	1	—	—	—	1	—	—	—	—
10-19	1	1	1	1	1	1	1	1	1
20-29	6	1	4	4	1	2	1	1	2
30-39	33	23	33	27	29	24	23	23	30
40-49	153	158	134	173	183	189	228	203	226
50-59	457	533	551	564	589	619	661	687	716
60-69	796	834	857	971	1,018	1,051	1,074	1,224	1,288
70-79	545	611	643	666	745	791	826	878	905
80 and over	129	162	172	170	200	216	223	227	238
Not stated	—	2	—	—	1	—	—	—	—
Total	2,121	2,325	2,395	2,576	2,768	2,893	3,037	3,244	3,406
NUMBER OF DEATHS PER 100,000 POPULATION									
0-9	0.04	—	—	—	0.04	—	—	—	—
10-19	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04
20-29	0.42	0.07	0.26	0.25	0.06	0.11	0.05	0.05	0.10
30-39	2.24	1.57	2.27	1.86	1.98	1.63	1.55	1.52	1.96
40-49	11.06	11.28	9.42	11.93	12.37	12.50	14.77	13.02	14.45
50-59	41.83	47.22	47.48	47.60	48.91	51.06	54.17	55.61	56.64
60-69	106.25	110.00	110.80	123.13	126.05	127.06	126.36	141.05	144.88
70-79	120.07	132.37	137.81	141.07	156.41	165.22	172.93	181.91	185.67
80 and over	92.21	111.88	114.29	108.35	123.26	127.69	127.49	125.55	128.78
Total	19.45	20.91	21.12	22.30	23.46	24.09	24.77	25.94	26.70

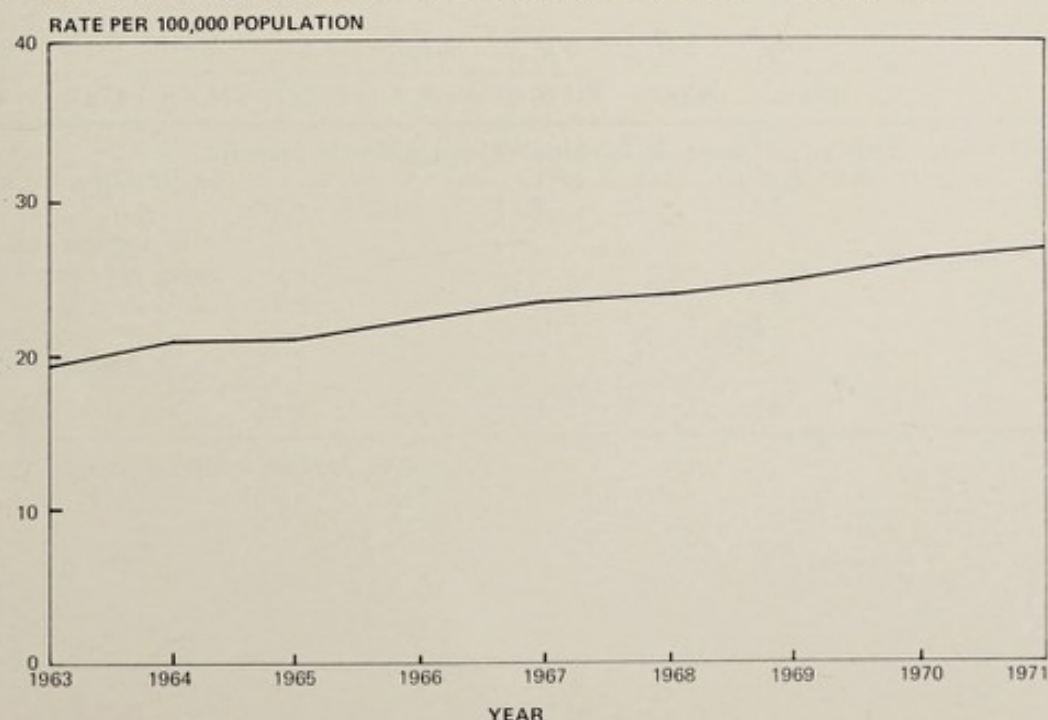
(a) Lung cancer is defined as a malignant neoplasm of the trachea, bronchus or lung by International Classification of Diseases.

(b) Prior to 1967 deaths identified as those of full-blood Aborigines were excluded.

Source: C.B.C.S. *Causes of Death Bulletins*, 1963 to 1971.

## CAUSE OF DEATH

GRAPH 10 LUNG CANCER—DEATHS PER 100,000 POPULATION—1963 TO 1971





## CAUSE OF DEATH

TABLE 18 DEATHS FROM DISEASES OF THE CIRCULATORY SYSTEM—1963 TO 1971

<i>Disease</i>	1963	1964	1965	1966	1967 (a)	1968	1969	1970	1971 <i>p.</i>
NUMBER OF DEATHS									
Active rheumatic fever .	21	23	18	13	14	21	23	13	12
Chronic rheumatic heart disease . . . . .	742	773	799	798	736	996	919	965	931
Hypertensive disease .	2,238	2,300	2,125	2,141	1,988	1,866	1,694	1,743	1,629
Ischaemic heart disease .	29,378	31,393	31,530	33,035	32,760	33,411	32,711	33,939	33,573
Other forms of heart disease . . . . .	3,523	3,794	3,673	3,909	3,528	5,039	4,658	4,798	4,550
Cerebrovascular disease .	12,579	13,122	13,644	13,920	13,523	15,364	14,633	15,686	15,731
Diseases of arteries, arterioles and capillaries . . . .	3,101	3,279	3,005	3,235	3,243	3,941	3,622	3,914	3,842
Diseases of veins and lymphatics, and other diseases of the circulatory system . . .	266	336	339	371	429	292	265	318	344
Total . . . . .	51,848	55,020	55,133	57,422	56,221	60,930	58,525	61,376	60,612
NUMBER OF DEATHS PER 100,000 POPULATION									
Active rheumatic fever .	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1
Chronic rheumatic heart disease . . . . .	6.8	6.9	7.0	6.9	6.2	8.3	7.5	7.7	7.3
Hypertensive disease .	20.4	20.6	18.7	18.5	16.8	15.5	13.8	13.9	12.7
Ischaemic heart disease .	268.3	281.1	276.8	284.7	277.5	277.9	266.5	270.9	262.6
Other forms of heart disease . . . . .	32.2	34.0	32.2	33.7	29.9	41.9	37.9	38.3	35.6
Cerebrovascular disease .	114.9	117.5	119.8	120.0	114.5	127.8	119.2	125.2	123.1
Diseases of arteries, arterioles and capillaries . . . .	28.3	29.4	26.4	27.9	27.5	32.8	29.5	31.2	30.1
Diseases of veins and lymphatics, and other diseases of the circulatory system . . .	2.4	3.0	3.0	3.2	3.6	2.4	2.2	2.5	2.7
Total . . . . .	473.4	492.6	484.0	494.9	476.2	506.8	476.8	489.9	474.2

(a) Prior to 1967 deaths identified as those of full-blood Aborigines were excluded.

Source: C.B.C.S. *Causes of Death Bulletins*, 1963 to 1971.



## CAUSE OF DEATH

TABLE 19 NUMBER OF DEATHS DUE TO ACCIDENTS, POISONINGS AND VIOLENCE—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1971 p.

<i>Cause of death</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>	<i>Aust.</i>
NUMBER OF DEATHS									
Accidents—									
Railway . . . . .	35	20	15	6	4	2	—	1	83
Motor vehicle . . . . .	1,309	1,064	622	309	323	143	28	49	3,847
Water transport . . . . .	34	18	15	8	9	16	—	1	101
Air and space transport . . . . .	13	14	2	3	4	—	—	5	41
Falls . . . . .	376	397	179	98	76	35	7	3	1,171
Caused by fire and flames . . . . .	65	36	25	18	13	4	2	5	168
Drowning . . . . .	161	76	78	34	41	18	—	14	422
Poisonings—									
Drugs and medicaments . . . . .	33	7	13	4	3	1	1	—	62
Other . . . . .	30	8	5	4	9	—	—	1	57
Other . . . . .	314	148	188	56	86	27	16	15	850
Total . . . . .	2,370	1,788	1,142	540	568	246	54	94	6,802
Suicide and self-inflicted injuries . . . . .	621	501	280	122	153	48	9	4	1,738
Homicide and injuries purposely inflicted by other persons . . . . .	87	56	25	22	16	8	6	8	228
Other poisonings . . . . .	44	32	—	—	1	—	1	—	78
Other external causes . . . . .	57	30	2	2	1	2	3	1	98
Total . . . . .	3,179	2,407	1,449	686	739	304	73	107	8,944
NUMBER OF DEATHS PER 100,000 POPULATION									
Accidents—									
Railway . . . . .	0.8	0.6	0.8	0.5	0.4	0.5	—	1.2	0.6
Motor vehicle . . . . .	28.4	30.3	34.0	26.3	31.3	36.6	19.4	56.6	30.1
Water transport . . . . .	0.7	0.5	0.8	0.7	0.9	4.1	—	1.2	0.8
Air and space transport . . . . .	0.3	0.4	0.1	0.3	0.4	—	—	5.8	0.3
Falls . . . . .	8.2	11.3	9.8	8.3	7.4	8.9	4.9	3.5	9.2
Caused by fire and flames . . . . .	1.4	1.0	1.4	1.5	1.3	1.0	1.4	5.8	1.3
Drowning . . . . .	3.5	2.2	4.3	2.9	4.0	4.6	—	16.2	3.3
Poisonings—									
Drugs and medicaments . . . . .	0.7	0.2	0.7	0.3	0.3	0.3	0.7	—	0.5
Other . . . . .	0.7	0.2	0.3	0.3	0.9	—	—	1.2	0.4
Other . . . . .	6.8	4.2	10.3	4.8	8.3	6.9	11.1	17.3	6.6
Total . . . . .	51.4	50.9	62.4	45.9	55.1	62.9	37.4	108.5	53.2
Suicide and self-inflicted injuries . . . . .	13.5	14.3	15.3	10.4	14.8	12.3	6.2	4.6	13.6
Homicide and injuries purposely inflicted by other persons . . . . .	1.9	1.6	1.4	1.9	1.6	2.0	4.2	9.2	1.8
Other poisonings . . . . .	1.0	0.9	—	—	0.1	—	0.7	—	0.6
Other external causes . . . . .	1.2	0.9	0.1	0.2	0.1	0.5	2.1	1.2	0.8
Total . . . . .	68.9	68.6	79.2	58.3	71.6	77.7	50.6	123.5	77.0

Source: C.B.C.S. *Causes of Death Bulletin*, 1971.



## TOBACCO AND ALCOHOL

TABLE 20 TOBACCO—ESTIMATED APPARENT CONSUMPTION OF READY-MADE AND HAND-ROLLED CIGARETTES PER ADULT (a)—1962-63 TO 1971-72

<i>Year ended 30 June</i>	<i>Ready-made</i>		<i>Hand-rolled (b) (lb)</i>		<i>Total (lb)</i>	
	<i>lb</i>	<i>Index</i>	<i>Lower limit</i>	<i>Upper limit</i>	<i>Lower limit</i>	<i>Upper limit</i>
1956	4.19	100.0	2.53	2.60	6.72	6.79
1957	4.53	108.1	2.49	2.56	7.02	7.09
1958	4.75	113.4	2.35	2.44	7.10	7.19
1959	5.07	121.0	2.18	2.24	7.25	7.31
1960	5.53	132.0	1.88	2.01	7.41	7.54
1961	5.76	137.5	1.83	1.96	7.59	7.72
1962	5.84	139.4	1.48	1.63	7.32	7.47
1963	5.97	142.5	1.32	1.47	7.29	7.44
1964	6.09	145.3	1.07	1.30	7.16	7.39
1965	6.13	146.3	0.92	1.17	7.05	7.30
1966	6.17	147.3	0.88	1.08	7.05	7.25
1967	5.91	141.1	0.80	1.00	6.71	6.91
1968	6.16	147.0	0.78	1.03	6.94	7.19
1969	6.30	150.4	0.82	1.03	7.12	7.33
1970	6.30	150.4	0.69	1.00	6.99	7.30
1971	6.32	150.8	(c)	(c)	(c)	(c)
1972	6.35	151.6	(c)	(c)	(c)	(c)

(a) An adult is defined as a person 15 years of age and over.

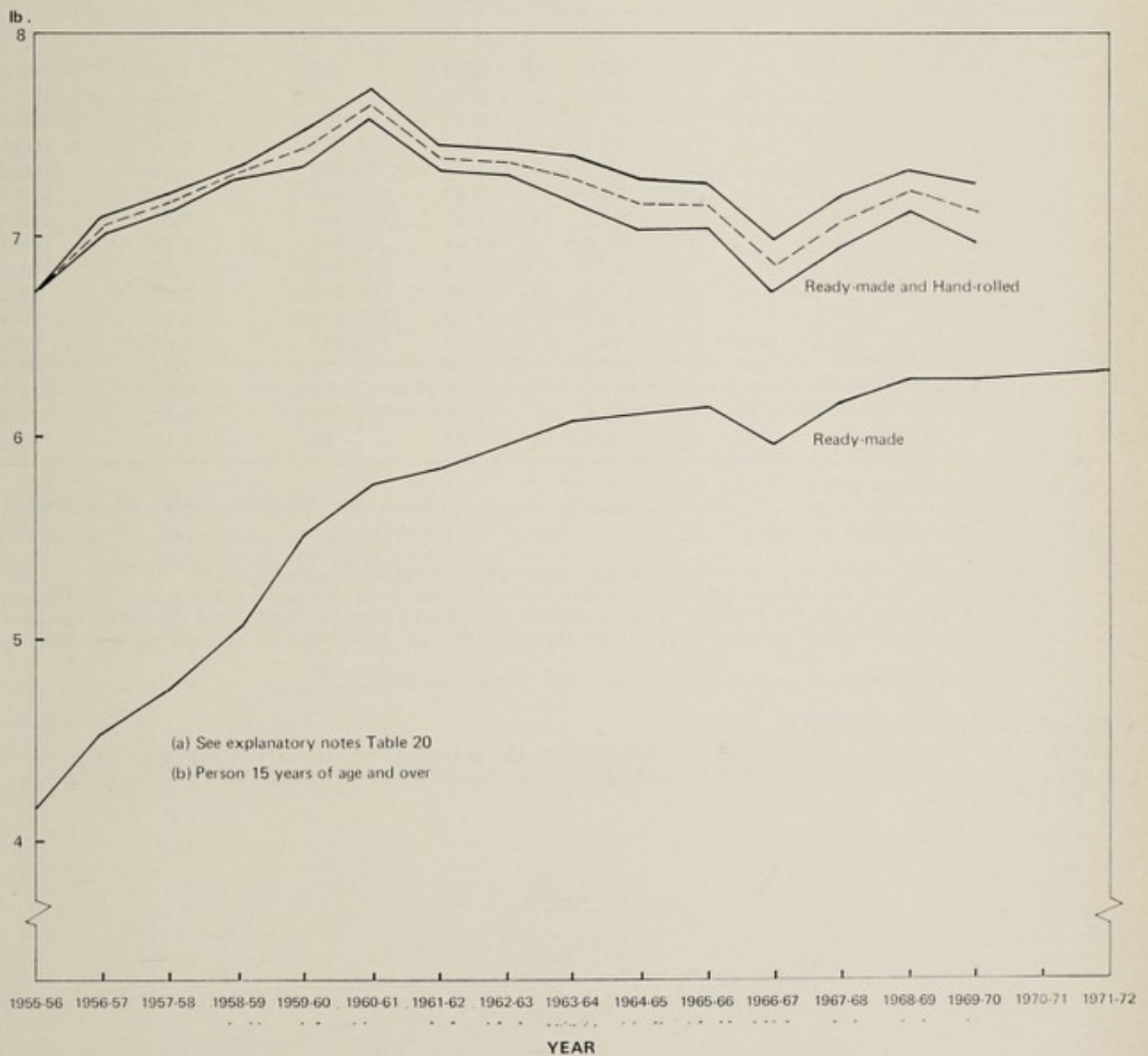
(b) Import and export statistics do not separate tobacco suitable for hand-rolled cigarettes from other cut tobacco used in pipes. An upper limit of the net imports of tobacco for hand-rolled cigarettes can be derived by assuming all imports are of tobacco for hand-rolled cigarettes and all exports are of pipe tobacco. A lower limit can be derived by reversing these assumptions. These limits are then added to the amount of manufactured tobacco suitable for hand-rolled cigarettes manufactured in Australia.

(c) Not available.



## TOBACCO AND ALCOHOL

GRAPH 11 TOBACCO—APPARENT CONSUMPTION FOR READY-MADE CIGARETTES AND ESTIMATES OF UPPER AND LOWER LIMITS (a) OF TOBACCO USED IN BOTH READY-MADE AND HAND-ROLLED CIGARETTES CONSUMED IN AUSTRALIA PER ADULT (b)—1955-56 TO 1971-72





## TOBACCO AND ALCOHOL

TABLE 21 TOBACCO—ESTIMATES OF APPARENT AVERAGE ANNUAL CONSUMPTION OF CIGARETTE TOBACCO FOR BOTH READY-MADE AND HAND-ROLLED CIGARETTES PER ADULT (a)—1956 TO 1971

Year (b)	Australia		United States		United Kingdom	
	lb	Index	lb	Index	lb	Index
1956	6.76	100.0	8.14	100.0	5.79	100.0
1957	7.06	104.4	8.10	99.5	5.94	102.6
1958	7.15	105.8	8.33	102.3	6.05	104.5
1959	7.28	107.7	8.39	103.1	6.16	106.4
1960	7.48	110.7	8.38	102.9	6.34	109.5
1961	7.66	113.3	8.67	106.5	6.41	110.7
1962	7.40	109.5	8.47	104.1	6.02	104.0
1963	7.37	109.0	9.03	110.9	6.16	106.4
1964	7.28	107.7	8.59	105.5	5.95	102.8
1965	7.18	106.2	8.66	106.4	5.67	97.9
1966	7.15	105.8	8.40	103.2	5.70	98.4
1967	6.81	100.7	8.16	100.2	5.66	97.8
1968	7.07	104.6	7.98	98.0	5.61	96.9
1969	7.23	107.0	7.56	92.9	5.51	95.2
1970	7.15	105.8	7.46	91.6	5.47	94.5
1971	(c)	(c)	7.27	89.3	5.16	89.1

(a) An adult is defined as a person 15 years of age and over.

(b) Australian figures relate to financial years. Statistics for the United States and United Kingdom refer to calendar years.

(c) Not available.

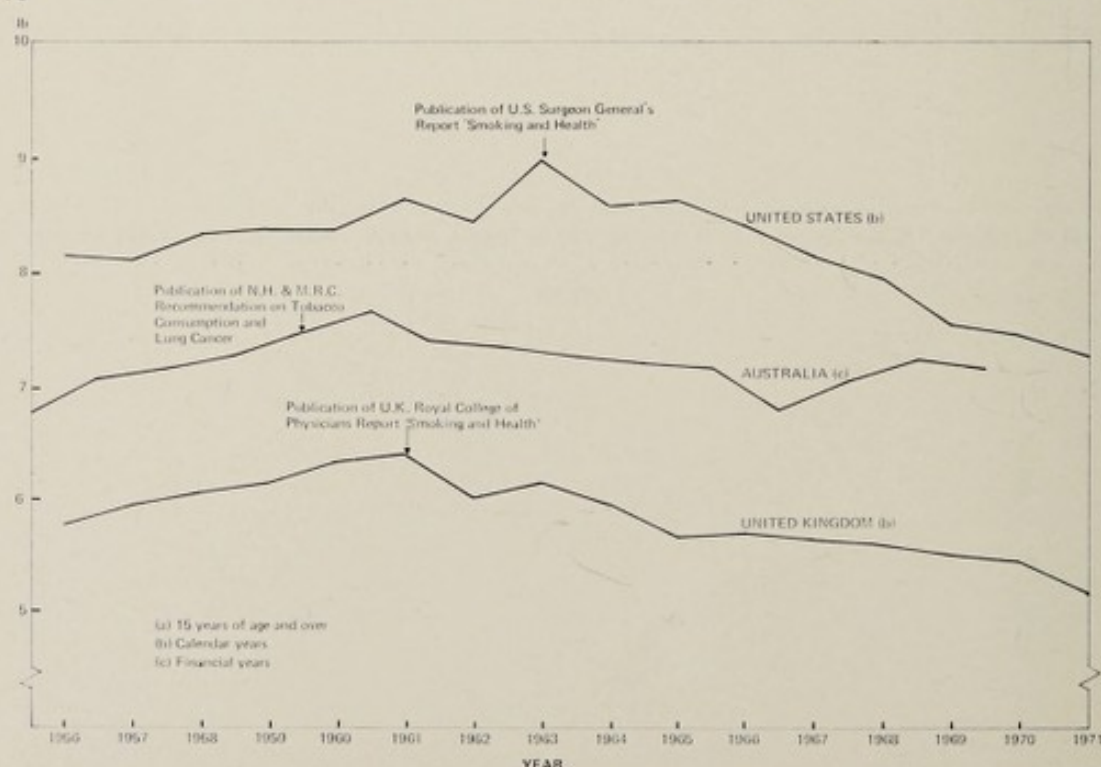
Source: United Kingdom: 'Statistics of Smoking in the United Kingdom' Tobacco Research Council.

United States: Data for ready-made cigarettes has been obtained from 'Tobacco Consumption in Various Countries' Tobacco Research Council. An estimate of the tobacco used in hand-rolled cigarettes has been made which, while subject to some error, would be an insignificant percentage of the total cigarette tobacco consumed.

Australia: A mid-point of the limits derived in Table 20 has been used.

## TOBACCO AND ALCOHOL

GRAPH 12 TOBACCO—ESTIMATES OF APPARENT AVERAGE ANNUAL CONSUMPTION OF CIGARETTE TOBACCO FOR BOTH READY-MADE AND HAND-ROLLED CIGARETTES PER ADULT (a)—1956 TO 1971





## TOBACCO AND ALCOHOL

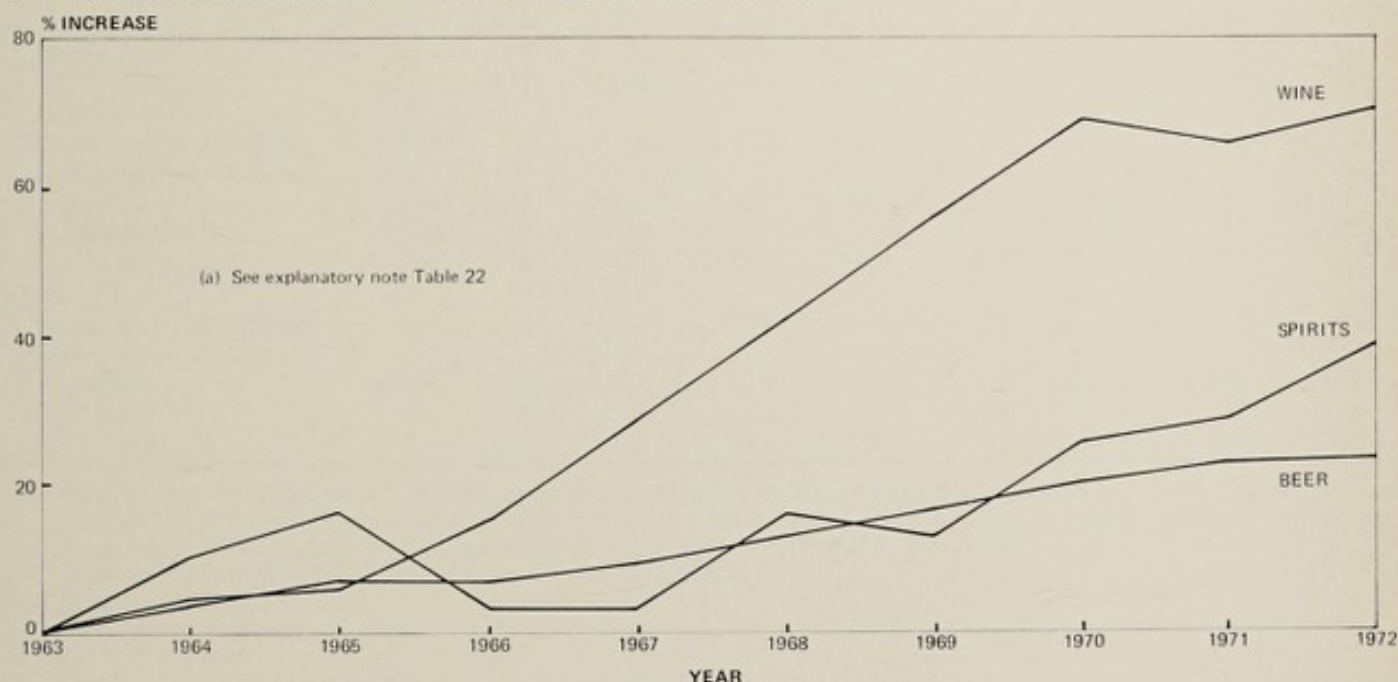
TABLE 22 ALCOHOL—APPARENT CONSUMPTION OF ALCOHOLIC BEVERAGES—1962-63 TO 1971-72

Year ended 30 June	Total consumption			Apparent consumption per head of population		
	Beer ( <sup>'000</sup> galls)	Wine (a) ( <sup>'000</sup> galls)	Spirits ( <sup>'000</sup> proof galls)	Beer (galls)	Wine (a) (galls)	Spirits (proof galls)
1963	245,887	12,554	3,372	22.67	1.16	0.31
1964	259,233	13,403	3,711	23.44	1.21	0.34
1965	272,607	13,845	4,070	24.17	1.23	0.36
1966	278,529	15,310	3,687	24.22	1.23	0.32
1967	291,129	17,513	3,734	24.88	1.50	0.32
1968	306,191	19,823	4,266	25.71	1.66	0.36
1969	321,756	22,037	4,303	26.50	1.81	0.35
1970	337,065	24,385	4,876	27.17	1.97	0.39
1971	352,186	24,419	5,056	27.82	1.93	0.40
1972	360,953	25,579	5,491	27.99	1.98	0.43

(a) Part of the apparent increase in consumption could be due to increased stocks of wine held for maturing.  
Source: C.B.C.S. Report on food production and the apparent consumption of foodstuffs and nutrients.

## TOBACCO AND ALCOHOL

GRAPH 13 ALCOHOL—PERCENTAGE INCREASE IN APPARENT CONSUMPTION OF BEER, WINE AND SPIRITS PER HEAD OF POPULATION (a)—1963 TO 1972





## TOBACCO AND ALCOHOL

TABLE 23 TOBACCO AND ALCOHOL—PERSONAL CONSUMPTION EXPENDITURE AND PERCENTAGE OF ALCOHOL AND TOBACCO EXPENDITURE TO TOTAL CONSUMPTION EXPENDITURE—1967-68 TO 1971-72

	Total expenditure (\$ Million)					Average expenditure per head of population (\$)				
	1967-68	1968-69	1969-70	1970-71	1971-72	1967-68	1968-69	1969-70	1970-71	1971-72
Alcoholic drinks . . . . .	997	1,076	1,182	1,306	1,415	83.71	88.60	95.29	103.18	109.72
Cigarettes and tobacco . . . . .	472	492	503	547	596	39.63	40.51	40.55	43.22	46.21
Food . . . . .	3,235	3,380	3,610	3,850	4,140	271.62	278.33	291.03	304.17	321.02
Rent . . . . .	1,793	1,981	2,226	2,544	2,863	150.55	163.13	179.46	200.99	222.00
Household durables . . . . .	1,105	1,200	1,313	1,428	1,569	92.78	98.81	105.85	112.82	121.66
Travel and communica- tion . . . . .	2,150	2,335	2,597	2,883	3,162	180.52	192.28	209.37	227.78	245.19
Clothing . . . . .	1,479	1,552	1,658	1,790	1,922	124.18	127.80	133.66	141.42	149.04
Other . . . . .	3,778	4,145	4,613	5,071	5,658	317.21	341.32	371.89	400.63	438.73
Total . . . . .	15,009	16,161	17,702	19,419	21,325	1,260.20	1,330.78	1,427.10	1,534.19	1,653.58
Alcohol as % of total . . . . .	6.64	6.66	6.68	6.73	6.64					
Tobacco as % of total . . . . .	3.14	3.04	2.84	2.82	2.79					

Source: C.B.C.S. *Australian National Accounts*—1971-72 Preliminary Statement No. 1.



## MENTAL HEALTH

TABLE 24 NUMBER OF IN-PATIENT INSTITUTIONS, ACCOMMODATION AND STAFF—STATES(a)  
—1962-63 TO 1970-71

States	At 30 June								
	1963	1964	1965	1966	1967	1968	1969	1970	1971
New South Wales									
In-patient institutions	15	15	16	16	16	17	17	17	19
Beds and cots for patients	13,234	13,130	12,885	12,381	12,008	11,522	10,963	10,306	9,929
Staff—Medical	181(b)	199(b)	240(b)	247(b)	232(b)	247(b)	261(b)	278(b)	225(c)
Nursing	2,764	3,137	3,244	3,423	3,362	3,540	3,530	3,600	3,827
Victoria									
In-patient institutions	23(d)	26(d)	26(d)	27(d)	29(d)	29(d)	28(d)	30(e)	32(e)
Beds and cots for patients (f)	9,420(d)	9,586(g)	9,695(g)	9,470(g)	9,434(g)	9,249(g)	9,102(g)	9,127(e)	8,858(e)
Staff—Medical	134(d)	143(d)	136(d)	145(d)	145(d)	150(d)	156(d)	164(e)	166(e)
Nursing	2,760(d)	2,700(d)	2,788(d)	2,866(d)	2,903(d)	3,016(d)	2,969(d)	3,021	3,061(e)
Queensland									
In-patient institutions	5	5	5	5	5	5	7	8	9
Beds and cots for patients	4,308	4,322	4,333	4,165	4,230	3,890	3,577	3,919	3,919
Staff—Medical	18	20	19	21	32	31	33	34	27(h)
Nursing	1,172	1,218	1,198	1,204	1,208	1,232	1,351	1,402	1,439
South Australia									
In-patient institutions	4	4	4	4	4	4	5	5	6
Beds and cots for patients	2,756	2,636	2,523	2,434	2,313	2,230	2,122	2,086	2,161
Staff—Medical	24	28	32	30	27	27	37	39	51
Nursing	600	652	668	686	718	701	735	728	701
Western Australia									
In-patient institutions	6(d)	6	6	6	5	5	5	5	5
Beds and cots for patients	1,926(d)	1,923	1,921	1,921	1,683	1,519	1,514	1,539	1,538
Staff—Medical	16(d)	17	17	15	15	19	19	27	23
Nursing	440(d)	478	470	479	499	584	575	617	682
Tasmania									
In-patient institutions	1	1	2	1	1	1	1	1	1
Beds and cots for patients	850	850	930	930	950	1,030	1,030	1,030	1,030
Staff—Medical	5	6	8	10	9	10	6	12(i)	10
Nursing	212	236	263	284	292	331	321	344	360

(a) Care should be exercised in making comparisons between States, as the types of institutions covered and recording systems vary. There are no in-patient institutions for mental patients in A.C.T. or Northern Territory. Accordingly residents of these Territories are usually included with N.S.W. and S.A. respectively.

(b) Includes visiting specialists who are paid for their services.

(c) Resident staff only.

(d) At 31 December.

(e) At 30 November.

(f) Occupied beds and cots only.

(g) At 31 October.

(h) Full-time staff and full-time equivalent of part-time staff. Figures for previous years include the actual number of part-time staff not the full-time equivalent.

(i) Includes 4 part-time staff.

Source: C.B.C.S. *Hospitals and Nursing Homes*, 1963-67 and 1971.



## MENTAL HEALTH

TABLE 25 STATE GOVERNMENT EXPENDITURE—STATES—1960-61 TO 1969-70  
(\$'000)

States	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70
New South Wales:										
Maintenance	12,820	14,810	15,616	17,755	17,586	18,849	22,827	25,351	23,608	29,634
Capital	2,840	4,160	4,310	3,758	4,695	5,151	6,652	6,256	3,851	4,564
Victoria:										
Maintenance	14,434	15,208	15,702	15,923	15,721	17,286	20,739	22,029	23,727	26,068
Capital	2,160	2,102	1,980	3,522	4,384	4,700	3,577	4,144	2,400	1,893
Queensland:										
Maintenance	4,702	4,778	5,224	5,388	5,287	5,917	6,494	6,785	7,507	8,453
Capital	714	764	334	158	242	439	863	587	645	1,203
South Australia:										
Maintenance	2,356	2,554	2,818	3,405	4,062	4,081	4,620	5,067	5,873	6,201
Capital	186	38	264	349	500	726	578	190	865	2,598
Western Australia:										
Maintenance	1,990	2,618	2,702	2,858	2,956	3,545	3,472	3,177	4,409	5,134
Capital	136	336	478	1,043	863	1,013	781	445	751	482
Tasmania:										
Maintenance	1,010	1,094	1,148	1,252	1,372	1,689	1,902	2,167	2,348	2,524
Capital	224	232	164	732	666	1,586	2,469	1,075	798	215
Total:										
Maintenance	37,312	41,062	43,210	46,582	46,984	51,367	60,054	64,576	67,472	78,014
Capital	6,260	7,632	7,530	9,562	11,350	13,615	14,920	12,697	9,310	10,957

Source: C.B.C.S. *Official Year Books*, 1963 to 1972.

## MENTAL HEALTH

TABLE 26 IN-PATIENTS AT MENTAL HEALTH INSTITUTIONS—STATES(a)—1969-70

	N.S.W.	Vic. (b)	Qld	S.A.	W.A.	Tas.
Total in-patients at 1 July 1969	11,125	10,358 (c)	3,842	2,283	2,127	930
Total admissions and re-admissions during year	19,573	12,749 (d)	2,447	3,378	2,801	1,055
TOTAL IN-PATIENTS (CASES)						
Number treated during year	30,698	23,107 (d)	6,289	5,661	4,928	1,985
Rate per 100,000 population	665	670 (d)	353	462	505	513
Total discharges including deaths	20,361	12,733 (d)	2,481	3,392	2,634	1,017
TOTAL IN-PATIENTS						
Number resident at 30 June 1970	10,337	10,374 (e)	3,808	2,269	2,294	968
Rate per 100,000 population	224	301 (e)	214	185	235	250

(a) See footnote (a) Table 24.

(b) Includes transfers from one institution to another.

(c) At 1 January 1970.

(d) Adjusting these figures to a twelve months basis, they would become 13,908 (12,749), 25,208 (23,107), 731 (670) and 13,891 (12,733).

(e) At 30 November 1970.

Source: C.B.C.S. *Official Year Book*, 1971.



## NOTIFIABLE DISEASES

TABLE 27 NOTIFIABLE DISEASES: NUMBER OF CASES NOTIFIED FOR DISEASES CONCURRENTLY NOTIFIABLE IN ALL STATES AND TERRITORIES(a)—1968 TO 1972

Disease	1968	1969	1970	1971	1972
Anthrax . . . . .	3	1	—	—	11
Brucellosis . . . . .	154	136	137	77	66
Cholera . . . . .	—	1 <sub>r</sub>	—	—	41
Diphtheria . . . . .	29	31	75	31	61
Gonorrhoea . . . . .	9,932	9,648	9,542 <sub>r</sub>	10,539	11,037
Hepatitis, infective . . . . .	8,123	7,450	7,571	7,509	6,118
Hydatid . . . . .	(b)	(b)	37	43	31
Leprosy . . . . .	73	61	67	32	39
Leptospirosis . . . . .	113	69	72	97	67
Malaria . . . . .	(b)	(b)	234	215	189
Ornithosis . . . . .	7 (c)	2 (c)	4 (c)	2 (c)	10
Paratyphoid fever . . . . .	6	13	1	5	7
Plague . . . . .	—	—	—	—	—
Poliomyelitis . . . . .	3	1	1	1	7
Smallpox . . . . .	—	—	—	—	—
Syphilis . . . . .	840	1,072	946 <sub>r</sub>	1,077	1,217
Tetanus . . . . .	18	19	21	24	18
Tuberculosis . . . . .	2,233	1,823	1,712	1,482	1,475
Typhoid fever . . . . .	79	34	19	36	15
Typhus (all forms) . . . . .	7	3	5	7	3
Yellow fever . . . . .	—	—	—	—	—

(a) The figures shown in this table are the number of cases notified to State Health Departments.

(b) Cases previously notified on a financial year basis. The figures for hydatid for years ended 30 June 1968 and 1969 were 49 and 45 respectively. The corresponding figures for malaria were 150 and 189.

(c) Not notifiable in all States and Territories.

## NOTIFIABLE DISEASES

TABLE 28 NOTIFIABLE DISEASES: NUMBER OF CASES NOTIFIED FOR DISEASES CONCURRENTLY NOTIFIABLE IN ALL STATES AND TERRITORIES(a)—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1972

Disease	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	N.T.	Aust.
Anthrax . . . . .	2	9	—	—	—	—	—	—	11
Brucellosis . . . . .	23	30	7	5	—	—	1	—	66
Cholera . . . . .	14	21	2	—	—	2	1	1	41
Diphtheria . . . . .	9	2	45	3	2	—	—	—	61
Gonorrhoea . . . . .	3,698	2,232	2,039	989	1,469	149	57	404	11,037
Hepatitis, infective . . . . .	2,211	1,226	1,379	630	389	93	57	133	6,118
Hydatid . . . . .	10	4	1	10	—	6	—	—	31
Leprosy . . . . .	—	3	4	1	10	—	—	21	39
Leptospirosis . . . . .	11	—	48	3	2	2	—	1	67
Malaria . . . . .	44	20	45	25	14	—	13	28	189
Ornithosis . . . . .	3	3	3	1	—	—	—	—	10
Paratyphoid fever . . . . .	—	—	—	5	—	2	—	—	7
Plague . . . . .	—	—	—	—	—	—	—	—	—
Poliomyelitis . . . . .	—	3	—	—	4	—	—	—	7
Smallpox . . . . .	—	—	—	—	—	—	—	—	—
Syphilis . . . . .	328	112	231	205	258	7	2	74	1,217
Tetanus . . . . .	9	5	3	—	—	1	—	—	18
Tuberculosis . . . . .	480	371	229	121	144	48	21	61	1,475
Typhoid fever . . . . .	4	8	1	—	2	—	—	—	15
Typhus (all forms) . . . . .	—	—	2	—	1	—	—	—	3
Yellow fever . . . . .	—	—	—	—	—	—	—	—	—

(a) The figures shown in this table are the number of cases notified to State Health Departments.



## NOTIFIABLE DISEASES

TABLE 29 ADDITIONAL NOTIFIABLE DISEASES: NUMBER OF CASES NOTIFIED FOR DISEASES NOT CONCURRENTLY NOTIFIABLE IN ALL STATES AND TERRITORIES(a)—1968 TO 1972

<i>Disease</i>	1968	1969	1970	1971	1972
Acute rheumatism . . . . .	82	55	56	36	25
Amoebiasis . . . . .	9	16	24	7	11
Ankylostomiasis . . . . .	463	180	94	82	254
Arbovirus infection . . . . .	—	—	—	—	—
Diarrhoea, infantile . . . . .	1,412	668	738	982	1,044
Dysentery bacillary . . . . .	690	639	544	268	736
Encephalitis . . . . .	178	83	76	64	52
Hepatitis, serum . . . . .	—	18	—	72	90
Puerperal fever . . . . .	9	21	16	12	11
Q fever . . . . .	106	148	140	168	140
Rubella . . . . .	2,939	1,506	1,134	731	827
Salmonella infection . . . . .	430	562	664	641	455
Scarlet fever . . . . .	565	480	383	370	248
Shigella . . . . .	—	181	218	241	272
Trachoma . . . . .	12	4	4	12	2

(a) The figures shown in this table are the number of cases notified to State Health Departments.

## NOTIFIABLE DISEASES

TABLE 30 ADDITIONAL NOTIFIABLE DISEASES: NUMBER OF CASES NOTIFIED FOR DISEASES NOT CONCURRENTLY NOTIFIABLE IN ALL STATES AND TERRITORIES(a)—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1972

<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>	<i>Aust.</i>
Acute rheumatism . . . . .	(b)	3	20	2	(b)	(b)	—	—	25
Amoebiasis . . . . .	(b)	3	1	1	2	—	—	4	11
Ankylostomiasis . . . . .	(b)	—	4	1	2	—	—	247	254
Arbovirus infection . . . . .	—	—	(b)	—	(b)	—	—	—	—
Diarrhoea, infantile . . . . .	763	(b)	203	22	(b)	(b)	56	—	1,044
Dysentery bacillary . . . . .	(b)	37	222	277	145	(b)	—	55	736
Encephalitis . . . . .	14	25	6	5	—	(b)	2	—	52
Hepatitis, serum . . . . .	26	62	(b)	—	—	2	—	—	90
Puerperal fever . . . . .	(b)	1	—	9	—	—	—	1	11
Q fever . . . . .	7	1	132	(b)	—	—	(b)	—	140
Rubella . . . . .	(b)	623	27	168	(b)	(b)	7	2	827
Salmonella infection . . . . .	(b)	75	(b)	150	123	20	22	65	455
Scarlet fever . . . . .	(b)	154	40	28	22	(b)	4	—	248
Shigella . . . . .	(b)	—	—	227	—	8	1	36	272
Trachoma . . . . .	—	(b)	(b)	1	(b)	(b)	—	1	2

(a) The figures shown in this table are the number of cases notified to State Health Departments.

(b) Not notifiable.



## NOTIFIABLE DISEASES

TABLE 31 VENEREAL DISEASE—ALL FORMS—NOTIFICATIONS AND DEATHS—STATES AND TERRITORIES—1963 TO 1971

State or Territory	1963	1964	1965	1966	1967	1968	1969	1970	1971
NOTIFICATIONS									
New South Wales . . .	4,118	4,336	4,539	4,991	4,841	5,343	4,463	3,945	4,305
Victoria . . .	1,287	1,361	1,625	1,811	1,927	1,639	1,750	2,151	2,229
Queensland . . .	1,292	1,396	1,490	1,630	1,553	1,693	2,087	1,739	2,052
South Australia . . .	(a)	(a)	4 (a)	263	420	548	741	724 r	939
Western Australia . . .	390	403	462	701	838	778	1,026	1,325 r	1,492
Tasmania . . .	228	198	202	173	220	179	99	82	127
Australian Capital Territory . . .	83	41	54	28	36	61	53	59	40
Northern Territory . . .	86	77	219	237	508	531	501	463	432
Australia . . .	7,484 (a)	7,812 (a)	8,595 (a)	9,834	10,343	10,772	10,720	10,488 r	11,616
Rate per 100,000 population . . .	75.29 (b)	77.11 (b)	83.26 (b)	84.75	87.61	89.61	87.34	83.71	90.87
DEATHS (c)									
New South Wales . . .	20	22	35	26	30	11	3	12	6
Victoria . . .	26	27	27	22	18	9	6	7	4
Queensland . . .	17	10	7	11	6	9	6	4	5
South Australia . . .	4	7	6	3	2	1	2	3	1
Western Australia . . .	9	3	1	7	4	2	3	1	5
Tasmania . . .	1	3	1	2	1	2	1	1	—
Australian Capital Territory . . .	—	—	—	—	—	1	—	—	—
Northern Territory . . .	—	—	—	—	1	—	—	1	—
Australia . . .	77	72	77	71	62	35	21	29	21 p

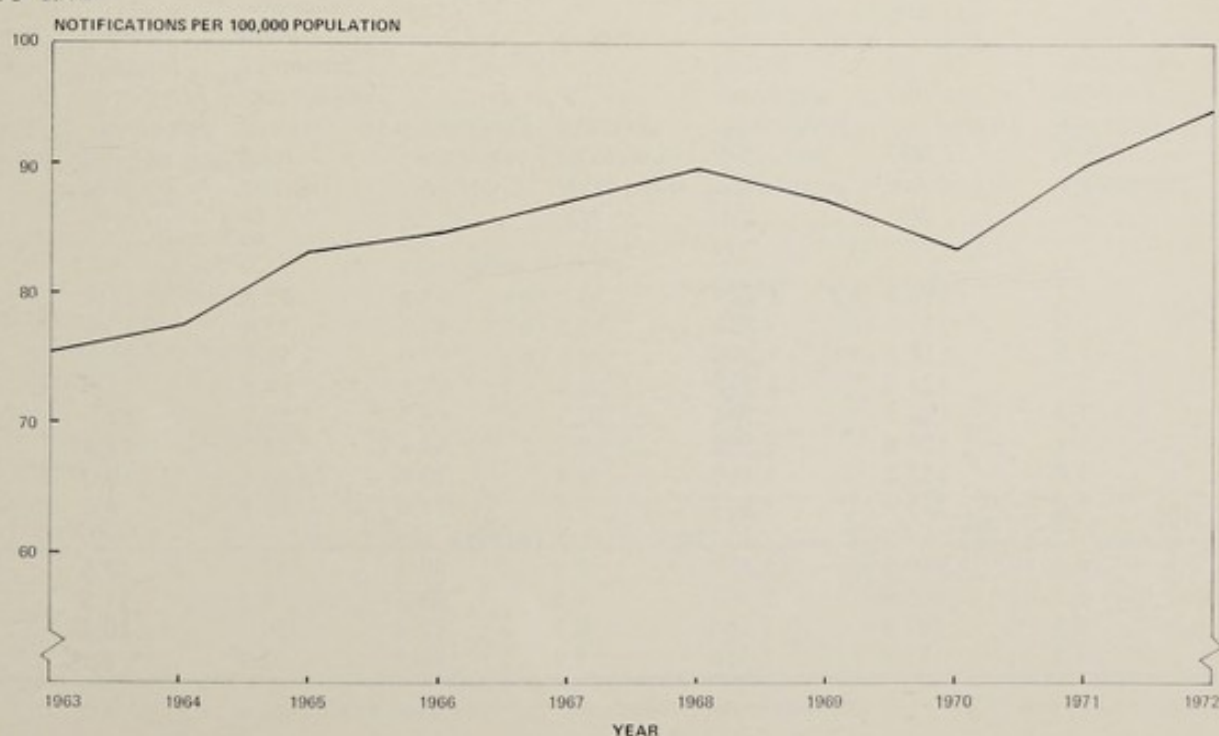
(a) Not notifiable in South Australia prior to 4 November 1965.

(b) Based on population excluding South Australia.

(c) Source: C.B.C.S. *Causes of Death Bulletins*, 1963 to 1971.

## NOTIFIABLE DISEASES

GRAPH 14 VENEREAL DISEASE—ALL FORMS—NOTIFICATIONS PER 100,000 POPULATION—1963 TO 1972





## HOSPITAL AND HEALTH SERVICES

## HOSPITALS SURVEY

The Department has undertaken surveys of public and private hospitals to assist in providing an overall perspective of hospital services. Details relating to public hospitals were obtained from departmental records, State hospital authorities and, in some cases, from individual hospitals. Details of in-patients, types of Federal benefit and current account income for private hospitals are estimates based on data obtained from a sample survey of the accounts of patients admitted to private hospitals in all States.

**Notes:** The statistical information contained in the tables which have been included in this section relate to hospitals approved under the *National Health Act* for the payment of Federal hospital benefits.

The primary classification for approval of hospitals under the *National Health Act* is Public and Private. A secondary classification has been used in a number of tables:

**Public State:** hospitals whose administration is controlled by State hospital authorities.

**Public Voluntary Non-profit:** hospitals operated by religious bodies and other charitable or philanthropic organisations, eligible to receive State Government assistance or licensed by State authorities as public hospitals.

**Private Profit:** hospitals operated by a person, partnership or company for the purpose of deriving a profit.

**Private Voluntary Non-profit:** non-public hospitals operated by religious bodies and other charitable or philanthropic organisations.

For Federal hospital benefit purposes, hospital patients can be identified under four basic headings; insured, uninsured, pensioner and non-qualified. It is to be noted that "pensioner" relates to those enrolled in the Pensioner Medical Service receiving free public ward treatment in public hospitals, and "non-qualified" relates to those in-patients in respect of whom Federal hospital benefits are not payable and comprise mainly patients whose expenses are covered under compulsory third party and workers' compensation provisions.

## HOSPITALS SURVEY

TABLE 32 SELECTED HOSPITAL INDICATORS—PUBLIC AND PRIVATE HOSPITALS—1963-64 TO 1970-71

Year ended 30 June	No. of approved hospital beds per 1,000 population	No. of in-patients treated per 1,000 population	No. of days hospitalisation per 1,000 population	Average length of stay (days)	Percentage occupancy of beds	Government assistance as percentage of total income	Federal hospital benefits as percentage of total income	Cost per bed day (including outpatients' costs)
	No.	No.	No.	No.	%	%	%	\$
PUBLIC HOSPITALS								
1964 (a)	5.2	113.9 (b)	1,276	10.7 (b)	67.4	55.5	13.4	15.21
1965	5.2	117.9 (b)	1,289	10.5 (b)	67.3	55.4	12.6	16.14
1966	5.2	118.3 (b)	1,296	10.6 (b)	67.0	56.9	12.1	17.32
1967	5.2	124.6	1,291	10.3	67.1	54.5	12.0	19.24
1968	5.2	126.8	1,302	10.3	68.5	53.2	12.5	20.81
1969	5.1	129.8	1,309	10.1	69.4	54.7	11.4	23.08
1970	5.0	133.2	1,310	9.8	70.8	56.1	10.0	25.59
1971	5.0	135.3	1,297	9.6	71.0	59.5	8.6	30.68
PUBLIC AND PRIVATE HOSPITALS								
1968	6.2	159.3	1,558	9.8	68.1	47.4	12.6	(c)
1969	6.1	163.8	1,567	9.6	69.5	48.5	11.5	(c)
1970	6.1	167.9	1,566	9.3	70.4	50.0	10.1	(c)
1971	6.1	175.3	1,556	8.9	70.3	52.9	8.7	(c)

(a) Excludes A.C.T. and N.T.

(b) Excludes Queensland.

(c) Not available.



**HOSPITALS SURVEY****TABLE 33 DAYS HOSPITALISATION (a)—PERCENTAGE DISTRIBUTION BY TYPE OF PATIENT—1963-64 TO 1970-71**

( % )

<i>Year ended 30 June</i>	<i>Insured</i>	<i>Uninsured</i>	<i>Pensioner</i>	<i>Non-qualified</i>	<i>Total</i>
PUBLIC HOSPITALS					
1964 (b)	47.1	21.6	26.1	5.2	100.0
1965	47.6	20.4	25.9	6.1	100.0
1966	48.0	19.5	27.3	5.2	100.0
1967	46.6	18.3	29.9	5.2	100.0
1968	47.0	17.3	30.5	5.2	100.0
1969	47.9	16.2	30.7	5.2	100.0
1970	49.3	15.0	29.6	6.1	100.0
1971	53.0	13.3	28.3	5.4	100.0
PUBLIC AND PRIVATE HOSPITALS					
1968	54.1	15.6	25.5	4.8	100.0
1969	54.8	14.8	25.7	4.8	100.0
1970	55.9	13.8	24.7	5.6	100.0
1971	59.2	12.1	23.6	5.1	100.0

(a) Days hospitalisation in respect of T.B. Patients in Public Hospitals are not included for the years prior to 1969-70. For 1969-70 and 1970-71, T.B. days are included under Non-qualified.

(b) Excludes A.C.T. and N.T.

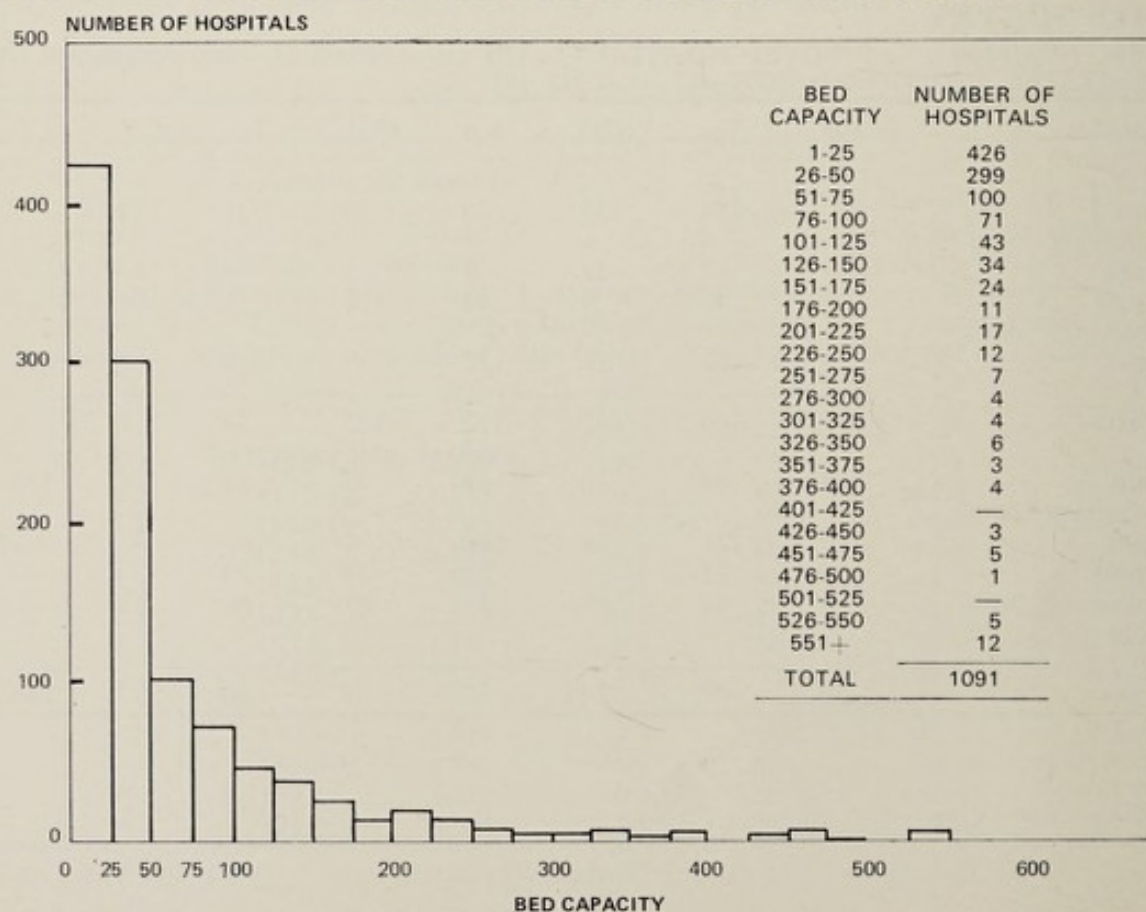
**HOSPITALS SURVEY****TABLE 34 NUMBER OF APPROVED HOSPITALS—TYPE OF APPROVAL AND AVERAGE BED CAPACITY—STATES AND TERRITORIES—AT 30 JUNE 1971**

<i>Type of approval</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>	<i>Aust.</i>
NUMBER OF HOSPITALS									
Public—State	221	154	137	63	99	26	2	5	707
Voluntary Non-profit	31	7	13	3	5	—	—	—	59
Private—Profit	78	46	9	44	8	3	—	—	188
Voluntary Non-profit	21	57	28	12	13	5	1	—	137
Total	351	264	187	122	125	34	3	5	1,091
AVERAGE BED CAPACITY									
Public—State	93	86	80	68	55	88	328	140	82
Voluntary Non-profit	110	121	49	206	9	—	—	—	94
Private—Profit	30	35	36	33	19	20	—	—	32
Voluntary Non-profit	76	40	69	53	85	80	24	—	58
Total	79	68	74	57	54	80	227	140	71



**HOSPITALS SURVEY****TABLE 35** NUMBER AND PERCENTAGE DISTRIBUTION OF APPROVED HOSPITALS—TYPE OF APPROVAL AND AVERAGE BED CAPACITY—AT 30 JUNE 1971

		<i>Public</i>		<i>Private</i>		
		<i>State</i>	<i>Voluntary non-profit</i>	<i>Profit</i>	<i>Voluntary non-profit</i>	<i>Total</i>
<i>Number of beds</i>						
NUMBER OF HOSPITALS						
1- 10	.	66	12	16	22	116
11- 25	.	181	6	78	45	310
26- 50	.	202	9	71	17	299
51-100	.	114	10	20	27	171
101-200	.	75	15	3	19	112
201 +	.	69	7	—	7	83
Total	.	707	59	188	137	1,091
Average bed capacity	.	82	94	32	58	71
PERCENTAGE DISTRIBUTION						
1- 10	.	9.3	20.3	8.5	16.1	10.6
11- 25	.	25.6	10.2	41.5	32.8	28.4
26- 50	.	28.6	15.3	37.8	12.4	27.4
51-100	.	16.1	16.9	10.6	19.7	15.7
101-200	.	10.6	25.4	1.6	13.9	10.3
201 +	.	9.8	11.9	—	5.1	7.6
Total	.	100.0	100.0	100.0	100.0	100.0

**HOSPITALS SURVEY****GRAPH 15** DISTRIBUTION OF HOSPITALS BY BED CAPACITY—AT 30 JUNE 1971



## HOSPITALS SURVEY

TABLE 36 NUMBER OF APPROVED HOSPITAL BEDS—TYPE OF APPROVAL—STATES AND TERRITORIES—1967-68 TO 1970-71

<i>At 30 June</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>	<i>Aust.</i>
1968									
Public—State . . .	20,519	12,793	10,762	3,795	5,226	2,110	587	571	56,363
Voluntary Non-Profit . . .	3,142	686	1,082	555	54	—	—	—	5,519
Total Public . . .	23,661	13,479	11,844	4,350	5,280	2,110	587	571	61,882
Private—Profit . . .	2,089	1,066	399	1,579	161	47	—	—	5,341
Voluntary Non-Profit . . .	1,649	2,060	1,458	580	1,069	360	—	—	7,176
Total Private . . .	3,738	3,126	1,857	2,159	1,230	407	—	—	12,517
<b>Total Public and Private . . .</b>	27,399	16,605	13,701	6,509	6,510	2,517	587	571	74,399
1969									
Public—State . . .	20,526	12,950	10,827	3,985	5,335	2,204	611	583	57,021
Voluntary Non-Profit . . .	3,282	686	1,082	580	54	—	—	—	5,684
Total Public . . .	23,808	13,636	11,909	4,565	5,389	2,204	611	583	62,705
Private—Profit . . .	2,116	1,169	343	1,408	161	48	—	—	5,245
Voluntary Non-Profit . . .	1,505	2,029	1,449	607	1,105	380	—	—	7,075
Total Private . . .	3,621	3,198	1,792	2,015	1,266	428	—	—	12,320
<b>Total Public and Private . . .</b>	27,429	16,834	13,701	6,580	6,655	2,632	611	583	75,025
1970									
Public—State . . .	20,530	13,253	10,930	4,006	5,227	2,307	681	688	57,622
Voluntary Non-Profit . . .	3,414	703	631	604	54	—	—	—	5,406
Total Public . . .	23,944	13,956	11,561	4,610	5,281	2,307	681	688	63,028
Private—Profit . . .	2,159	1,267	343	1,395	148	59	—	—	5,371
Voluntary Non-Profit . . .	1,559	2,068	1,923	637	1,106	395	24	—	7,712
Total Private . . .	3,718	3,335	2,266	2,032	1,254	454	24	—	13,083
<b>Total Public and Private . . .</b>	27,662	17,291	13,827	6,642	6,535	2,761	705	688	76,111
1971									
Public—State . . .	20,542	13,295	10,941	4,254	5,409	2,278	656	698	58,073
Voluntary Non-Profit . . .	3,414	848	631	619	46	—	—	—	5,558
Total Public . . .	23,956	14,143	11,572	4,873	5,455	2,278	656	698	63,631
Private—Profit . . .	2,346	1,628	320	1,439	151	59	—	—	5,943
Voluntary Non-Profit . . .	1,600	2,255	1,945	637	1,111	399	24	—	7,971
Total Private . . .	3,946	3,883	2,265	2,076	1,262	458	24	—	13,914
<b>Total Public and Private . . .</b>	27,902	18,026	13,837	6,949	6,717	2,736	680	698	77,545



## HOSPITALS SURVEY

TABLE 37 NUMBER OF APPROVED HOSPITAL BEDS—TYPE OF APPROVAL AND LOCATION (a)—STATES AND TERRITORIES—AT 30 JUNE 1971

	<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>
Public State									
Metropolitan . . .	9,471	7,221	3,709	1,844	2,520	740	656	353	26,514
Non-metropolitan . . .	11,071	6,074	7,232	2,410	2,889	1,538	—	345	31,559
Total . . .	20,542	13,295	10,941	4,254	5,409	2,278	656	698	58,073
Public Voluntary Non-profit									
Metropolitan . . .	2,664	848	552	619	—	—	—	—	4,683
Non-metropolitan . . .	750	—	79	—	46	—	—	—	875
Total . . .	3,414	848	631	619	46	—	—	—	5,558
Total Public									
Metropolitan . . .	12,135	8,069	4,261	2,463	2,520	740	656	353	31,197
Non-metropolitan . . .	11,821	6,074	7,311	2,410	2,935	1,538	—	345	32,434
Total . . .	23,956	14,143	11,572	4,873	5,455	2,278	656	698	63,631
Private Profit									
Metropolitan . . .	1,796	1,566	169	1,245	151	50	—	—	4,977
Non-metropolitan . . .	550	62	151	194	—	9	—	—	966
Total . . .	2,346	1,628	320	1,439	151	59	—	—	5,943
Private Voluntary Non-profit									
Metropolitan . . .	1,432	1,455	1,060	606	892	278	24	—	5,747
Non-metropolitan . . .	168	800	885	31	219	121	—	—	2,224
Total . . .	1,600	2,255	1,945	637	1,111	399	24	—	7,971
Total Private									
Metropolitan . . .	3,228	3,021	1,229	1,851	1,043	328	24	—	10,724
Non-metropolitan . . .	718	862	1,036	225	219	130	—	—	3,190
Total . . .	3,946	3,883	2,265	2,076	1,262	458	24	—	13,914
Total Public and Private									
Metropolitan . . .	15,363	11,090	5,490	4,314	3,563	1,068	680	353	41,921
Non-metropolitan . . .	12,539	6,936	8,347	2,635	3,154	1,668	—	345	35,624
Total . . .	27,902	18,026	13,837	6,949	6,717	2,736	680	698	77,545

(a) When allocating hospitals and populations to metropolitan and non-metropolitan areas, capital city statistical divisions have been used to define the metropolitan area.



## HOSPITALS SURVEY

TABLE 38 APPROVED HOSPITAL BEDS—PERCENTAGE DISTRIBUTION BY TYPE OF APPROVAL AND LOCATION (a)—STATES AND TERRITORIES—AT 30 JUNE 1971  
(%)

	<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>
Public State									
Metropolitan . . .	33.9	40.1	26.8	26.5	37.5	27.0	96.5	50.6	34.2
Non-metropolitan . . .	39.7	33.7	52.3	34.7	43.0	56.2	—	49.4	40.7
Total . . .	73.6	73.8	79.1	61.2	80.5	83.3	96.5	100.0	74.9
Public Voluntary Non-profit									
Metropolitan . . .	9.5	4.7	4.0	8.9	—	—	—	—	6.0
Non-metropolitan . . .	2.7	—	0.6	—	0.7	—	—	—	1.1
Total . . .	12.2	4.7	4.6	8.9	0.7	—	—	—	7.2
Total Public									
Metropolitan . . .	43.5	44.8	30.8	35.4	37.5	27.0	96.5	50.6	40.2
Non-metropolitan . . .	42.4	33.7	52.8	34.7	43.7	56.2	—	49.4	41.8
Total . . .	85.9	78.5	83.6	70.1	81.2	83.3	96.5	100.0	82.1
Private Profit									
Metropolitan . . .	6.4	8.7	1.2	17.9	2.2	1.8	—	—	6.4
Non-metropolitan . . .	2.0	0.3	1.1	2.8	—	0.3	—	—	1.2
Total . . .	8.4	9.0	2.3	20.7	2.2	2.2	—	—	7.7
Private Voluntary Non-profit									
Metropolitan . . .	5.1	8.1	7.7	8.7	13.3	10.2	3.5	—	7.4
Non-metropolitan . . .	0.6	4.4	6.4	0.4	3.3	4.4	—	—	2.9
Total . . .	5.7	12.5	14.1	9.2	16.5	14.6	3.5	—	10.3
Total Private									
Metropolitan . . .	11.6	16.8	8.9	26.6	15.5	12.0	3.5	—	13.8
Non-metropolitan . . .	2.6	4.8	7.5	3.2	3.3	4.8	—	—	4.1
Total . . .	14.1	21.5	16.4	29.9	18.8	16.7	3.5	—	17.9
Total Public and Private									
Metropolitan . . .	55.1	61.5	39.7	62.1	53.0	39.0	100.0	50.6	54.1
Non-metropolitan . . .	44.9	38.5	60.3	37.9	47.0	61.0	—	49.4	45.9
Total . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) See footnote (a) Table 37.



**HOSPITALS SURVEY****TABLE 39** NUMBER OF APPROVED HOSPITAL BEDS PER 1,000 POPULATION IN AREA OF LOCATION (a)—TYPE OF APPROVAL AND LOCATION—STATES AND TERRITORIES—AT 30 JUNE 1971

	<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>
Public State									
Metropolitan . .	3.4	2.9	4.3	2.2	3.6	4.8	4.6	9.6	3.3
Non-metropolitan .	6.2	6.1	7.6	7.3	8.9	6.5	—	7.1	6.7
Total . .	4.5	3.8	6.0	3.6	5.3	5.8	4.6	8.2	4.6
Public Voluntary Non-profit									
Metropolitan . .	1.0	0.3	0.6	0.7	—	—	—	—	0.6
Non-metropolitan .	0.4	—	0.1	—	0.1	—	—	—	0.2
Total . .	0.7	0.2	0.3	0.5	0.0	—	—	—	0.4
Total Public									
Metropolitan . .	4.3	3.2	4.9	2.9	3.6	4.8	4.6	9.6	3.9
Non-metropolitan .	6.6	6.1	7.6	7.3	9.0	6.5	—	7.1	6.9
Total . .	5.2	4.0	6.3	4.2	5.3	5.8	4.6	8.2	5.0
Private Profit . .									
Metropolitan . .	0.6	0.6	0.2	1.5	0.2	0.3	—	—	0.6
Non-metropolitan .	0.3	0.1	0.2	0.6	—	0.0	—	—	0.2
Total . .	0.5	0.5	0.2	1.2	0.1	0.2	—	—	0.5
Private Voluntary Non-profit									
Metropolitan . .	0.5	0.6	1.2	0.7	1.3	1.8	0.2	—	0.7
Non-metropolitan .	0.1	0.8	0.9	0.1	0.7	0.5	—	—	0.5
Total . .	0.3	0.6	1.1	0.5	1.1	1.0	0.2	—	0.6
Total Private									
Metropolitan . .	1.2	1.2	1.4	2.2	1.5	2.1	0.2	—	1.3
Non-metropolitan .	0.4	0.9	1.1	0.7	0.7	0.5	—	—	0.7
Total . .	0.9	1.1	1.2	1.8	1.2	1.2	0.2	—	1.1
Total Public and Private									
Metropolitan . .	5.5	4.4	6.3	5.1	5.1	7.0	4.8	9.6	5.2
Non-metropolitan .	7.0	6.9	8.7	8.0	9.7	7.0	—	7.1	7.6
Total . .	6.1	5.2	7.6	5.9	6.5	7.0	4.7	8.2	6.1

(a) See footnote (a) Table 37.



## HOSPITALS SURVEY

TABLE 40 NUMBER OF IN-PATIENTS TREATED—PUBLIC AND PRIVATE HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71

('000)

Year ended 30 June	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	N.T.	Aust.
1968									
Public Hospitals	591	345	261	107	131	44	18	13	1,510
Private Hospitals	91	106	59	73	43	15	—	—	387
Total	682	451	320	180	174	59	18	13	1,897
1969									
Public Hospitals	618	357	269	111	138	47	20	16	1,576
Private Hospitals	102	122	57	75	43	14	—	—	413
Total	720	479	326	186	181	61	20	16	1,989
1970	(a)								
Public Hospitals	657	373	280	127	149	48	(a)	18	1,652
Private Hospitals	116	133	68	60	38	15	(a)	—	431
Total	773	506	349	187	187	63	(a)	18	2,083
1971	(a)								
Public Hospitals	701	390	264	132	159	49	(a)	18	1,713
Private Hospitals	114	161	97	77	38	19	(a)	—	506
Total	815	551	361	209	197	68	(a)	18	2,218

(a) A.C.T. included in N.S.W.

The relevant figures for Public Hospitals were—

1969-70:—N.S.W. 636; A.C.T. 21.

1970-71:—N.S.W. 679; A.C.T. 22.

## HOSPITALS SURVEY

TABLE 41 NUMBER OF IN-PATIENTS TREATED PER 1,000 POPULATION—PUBLIC AND PRIVATE HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71

Year ended 30 June	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	N.T.	Aust.
1968									
Public Hospitals	136.5	104.5	152.2	95.9	146.1	116.5	167.0	201.2	126.8
Private Hospitals	21.0	32.1	34.4	65.4	47.9	39.7	—	—	32.5
Total	157.5	136.6	186.5	161.3	194.0	156.3	167.0	201.2	159.3
1969									
Public Hospitals	140.4	106.4	153.9	98.1	147.4	122.8	171.2	227.3	129.8
Private Hospitals	23.2	36.3	32.6	66.3	45.9	36.6	—	—	34.0
Total	163.5	142.7	186.6	164.4	193.4	159.4	171.2	227.3	163.8
1970	(a)								
Public Hospitals	142.3	109.1	157.6	110.9	153.0	123.0	(a)	230.4	133.2
Private Hospitals	25.2	38.7	38.2	52.3	39.1	39.7	(a)	—	34.7
Total	167.5	147.8	195.8	163.1	192.1	162.7	(a)	230.4	167.9
1971	(a)								
Public Hospitals	148.8	111.9	145.6	113.0	156.8	125.7	(a)	221.4	135.3
Private Hospitals	24.1	46.3	53.8	65.5	37.8	48.0	(a)	—	40.0
Total	172.9	158.2	199.4	178.6	194.6	173.7	(a)	221.4	175.3

(a) A.C.T. included in N.S.W.

The relevant figures for Public Hospitals were—

1969-70:—N.S.W. 141.6; A.C.T. 166.0.

1970-71:—N.S.W. 148.6; A.C.T. 157.1



**HOSPITALS SURVEY****TABLE 42** NUMBER OF DAYS HOSPITALISATION—PUBLIC AND PRIVATE HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71

('000)

<i>Year ended 30 June</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>	<i>Aust.</i>
1968									
Public Hospitals	6,197	3,496	2,682	1,098	1,243	477	169	142	15,504
Private Hospitals	893	776	395	541	355	93	—	—	3,053
Total	7,090	4,271	3,077	1,638	1,599	570	169	142	18,557
1969									
Public Hospitals	6,292	3,587	2,709	1,145	1,301	506	188	167	15,895
Private Hospitals	929	853	415	503	324	106	—	—	3,131
Total	7,221	4,440	3,124	1,648	1,626	612	188	167	19,026
1970	(a)								
Public Hospitals	6,601	3,662	2,687	1,234	1,349	526	(a)	189	16,249
Private Hospitals	1,062	848	446	424	296	97	(a)	—	3,173
Total	7,664	4,510	3,133	1,658	1,645	623	(a)	189	19,422
1971	(a)								
Public Hospitals	6,704	3,727	2,586	1,276	1,381	539	(a)	208	16,422
Private Hospitals	891	852	671	504	257	105	(a)	—	3,279
Total	7,596	4,578	3,257	1,780	1,638	645	(a)	208	19,701

(a) A.C.T. included in N.S.W.

The relevant figures for Public Hospitals were—

1969-70:—N.S.W. 6,403; A.C.T. 198.

1970-71:—N.S.W. 6,504; A.C.T. 200.

**HOSPITALS SURVEY****TABLE 43** NUMBER OF DAYS HOSPITALISATION PER 1,000 POPULATION—PUBLIC AND PRIVATE HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71

<i>Year ended 30 June</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>	<i>Aust.</i>
1968									
Public Hospitals	1,431	1,059	1,563	984	1,386	1,263	1,568	2,198	1,302
Private Hospitals	206	235	230	485	396	246	—	—	256
Total	1,637	1,293	1,794	1,468	1,783	1,510	1,568	2,198	1,558
1969									
Public Hospitals	1,429	1,069	1,550	1,012	1,390	1,322	1,610	2,372	1,309
Private Hospitals	211	254	237	445	346	277	—	—	258
Total	1,640	1,323	1,788	1,457	1,737	1,599	1,610	2,372	1,567
1970	(a)								
Public Hospitals	1,430	1,071	1,510	1,074	1,383	1,359	(a)	2,484	1,310
Private Hospitals	230	248	250	369	303	252	(a)	—	256
Total	1,660	1,318	1,760	1,443	1,687	1,611	(a)	2,484	1,566
1971	(a)								
Public Hospitals	1,423	1,070	1,427	1,092	1,363	1,384	(a)	2,511	1,297
Private Hospitals	189	245	370	431	253	270	(a)	—	259
Total	1,613	1,315	1,797	1,524	1,616	1,654	(a)	2,511	1,556

(a) A.C.T. included in N.S.W.

The relevant figures for Public Hospitals were—

1969-70:—N.S.W. 1,426; A.C.T. 1,566.

1970-71:—N.S.W. 1,423; A.C.T. 1,450.



## HOSPITALS SURVEY

TABLE 44 NUMBER OF DAYS HOSPITALISATION—TYPE OF FEDERAL BENEFIT ENTITLEMENT—PUBLIC HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71  
(000)

<i>Year ended 30 June</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>	<i>Aust.</i>
1968 (a)									
Insured . . .	3,377	1,736	716	531	548	239	113	27	7,287
Uninsured . . .	709	423	1,102	106	179	51	13	98	2,683
Pensioner . . .	1,785	1,068	857	399	431	156	32	8	4,734
Non-qualified . . .	326	269	7	61	86	31	11	8	799
Total . . .	6,197	3,496	2,682	1,098	1,243	477	169	142	15,504
1969 (a)									
Insured . . .	3,466	1,825	801	563	565	243	122	34	7,618
Uninsured . . .	680	406	1,037	101	170	51	16	111	2,572
Pensioner . . .	1,801	1,094	865	417	479	176	39	11	4,881
Non-qualified . . .	345	263	5	63	88	37	12	10	823
Total . . .	6,292	3,587	2,709	1,145	1,301	506	188	167	15,895
1970									
Insured . . .	3,493	1,938	849	662	642	249	132	37	8,003
Uninsured . . .	642	357	1,010	91	162	52	14	113	2,441
Pensioner . . .	1,806	1,070	809	412	456	193	39	18	4,804
Tuberculosis . . .	41	30	1	3	16	3	1	8	101
Non-qualified . . .	422	267	18	66	73	29	12	13	900
Total . . .	6,403	3,662	2,687	1,234	1,349	526	198	189	16,249
1971									
Insured . . .	3,899	2,085	840	742	705	259	131	40	8,700
Uninsured . . .	519	301	973	71	149	38	15	115	2,181
Pensioner . . .	1,706	1,068	762	396	441	212	41	18	4,643
Tuberculosis . . .	25	23	1	3	12	2	—	7	73
Non-qualified . . .	356	250	11	64	75	28	13	28	825
Total . . .	6,504	3,727	2,586	1,276	1,381	539	200	208	16,422

(a) Excludes Tuberculosis Patients.



## HOSPITALS SURVEY

TABLE 45 DAYS HOSPITALISATION—PERCENTAGE DISTRIBUTION BY TYPE OF FEDERAL BENEFIT ENTITLEMENT—PUBLIC HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71  
(%)

<i>Year ended 30 June</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>	<i>Aust.</i>
1968 (a)									
Insured . . . . .	54.5	49.7	26.7	48.4	44.1	50.1	66.9	19.3	47.0
Uninsured . . . . .	11.4	12.1	41.1	9.7	14.4	10.8	7.8	69.2	17.3
Pensioner . . . . .	28.8	30.5	31.9	36.4	34.6	32.7	18.8	5.6	30.5
Non-qualified . . . . .	5.3	7.7	0.3	5.5	6.9	6.4	6.5	5.9	5.2
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1969 (a)									
Insured . . . . .	55.1	50.9	29.6	49.2	43.4	47.9	64.7	20.4	47.9
Uninsured . . . . .	10.8	11.3	38.3	8.8	13.1	10.1	8.3	66.7	16.2
Pensioner . . . . .	28.6	30.5	31.9	36.5	36.8	34.7	20.8	6.8	30.7
Non-qualified . . . . .	5.5	7.3	0.2	5.5	6.7	7.3	6.2	6.1	5.2
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1970									
Insured . . . . .	54.5	52.9	31.6	53.6	47.6	47.5	66.7	19.5	49.3
Uninsured . . . . .	10.0	9.7	37.6	7.3	12.0	9.8	7.2	60.0	15.0
Pensioner . . . . .	28.2	29.2	30.1	33.4	33.8	36.7	19.8	9.6	29.6
Tuberculosis . . . . .	0.6	0.8	—	0.2	1.2	0.5	0.4	4.0	0.6
Non-qualified . . . . .	6.6	7.3	0.7	5.4	5.4	5.6	5.9	6.9	5.5
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971									
Insured . . . . .	59.9	55.9	32.5	58.1	51.1	48.1	65.4	19.2	53.0
Uninsured . . . . .	8.0	8.1	37.6	5.5	10.8	7.1	7.4	55.4	13.3
Pensioner . . . . .	26.2	28.7	29.4	31.1	31.9	39.3	20.4	8.5	28.3
Tuberculosis . . . . .	0.4	0.6	—	0.3	0.8	0.4	0.2	3.3	0.4
Non-qualified . . . . .	5.5	6.7	0.4	5.0	5.4	5.1	6.5	13.6	5.0
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Excludes Tuberculosis Patients.



## HOSPITALS SURVEY

TABLE 46 NUMBER OF DAYS HOSPITALISATION—TYPE OF FEDERAL BENEFIT ENTITLEMENT—PRIVATE HOSPITALS (a)—STATES (b)—1967-68 TO 1970-71

('000)

<i>Year ended 30 June</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>
1968							
Insured . . .	790	708	341	499	330	85	2,753
Uninsured . . .	61	54	54	21	16	7	213
Non-qualified . . .	42	14	—	21	9	—	86
Total . . .	893	776	395	541	355	93	3,053
1969							
Insured . . .	818	771	358	458	300	100	2,805
Uninsured . . .	76	59	56	23	18	5	237
Non-qualified . . .	35	23	1	23	7	—	89
Total . . .	929	853	415	503	324	106	3,131
1970	(c)						
Insured . . .	974	751	394	397	248	87	2,851
Uninsured . . .	50	71	50	19	38	6	235
Non-qualified . . .	38	26	1	8	10	4	87
Total . . .	1,062	848	446	424	296	97	3,173
1971	(c)						
Insured . . .	820	776	563	484	229	99	2,971
Uninsured . . .	55	34	78	7	18	6	199
Non-qualified . . .	16	41	30	13	10	—	109
Total . . .	891	852	671	504	257	105	3,279

(a) Pensioner Medical Service entitlement is not available in Private Hospitals.

(b) There are no Private Hospitals in Northern Territory.

(c) Includes John James Memorial Private Hospital, Canberra.



## HOSPITALS SURVEY

TABLE 47 DAYS HOSPITALISATION—PERCENTAGE DISTRIBUTION BY TYPE OF FEDERAL BENEFIT ENTITLEMENT—PRIVATE HOSPITALS (a)—STATES (b)—1967-68 TO 1970-71 (%)

<i>Year ended 30 June</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>
1968							
Insured . . .	88.5	91.2	86.3	92.2	93.0	92.4	90.2
Uninsured . . .	6.8	7.0	13.7	3.9	4.5	7.6	7.0
Non-qualified . . .	4.7	1.8	—	3.9	2.5	—	2.8
Total . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1969							
Insured . . .	88.0	90.4	86.1	91.0	92.4	94.9	89.6
Uninsured . . .	8.2	6.9	13.6	4.5	5.6	4.9	7.6
Non-qualified . . .	3.8	2.7	0.3	4.5	2.0	0.2	2.8
Total . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1970	(c)						
Insured . . .	91.7	88.6	88.4	93.6	83.7	89.9	89.8
Uninsured . . .	4.8	8.4	11.3	4.5	12.9	6.0	7.4
Non-qualified . . .	3.5	3.0	0.3	1.9	3.4	4.2	2.7
Total . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971	(c)						
Insured . . .	92.0	91.1	84.0	96.0	89.3	94.1	90.6
Uninsured . . .	6.2	4.0	11.6	1.5	7.0	5.6	6.1
Non-qualified . . .	1.8	4.8	4.4	2.5	3.7	0.2	3.3
Total . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Pensioner Medical Service entitlement is not available in Private Hospitals.

(b) There are no Private Hospitals in Northern Territory.

(c) Includes John James Memorial Private Hospital, Canberra.



## HOSPITALS SURVEY

TABLE 48 NUMBER AND PERCENTAGE DISTRIBUTION OF DAYS HOSPITALISATION—TYPE OF FEDERAL BENEFIT ENTITLEMENT—PUBLIC AND PRIVATE HOSPITALS—1967-68 TO 1970-71

Year ended 30 June	Number of days hospitalisation			Percentage distribution		
	Public	Private (a)	Total	Public	Private (a)	Total
	'000	'000	'000	%	%	%
1968 (b)						
Insured . . . . .	7,287	2,753	10,040	47.0	90.2	54.1
Uninsured . . . . .	2,683	213	2,896	17.3	7.0	15.6
Pensioner . . . . .	4,734	—	4,734	30.5	—	25.5
Non-qualified . . . . .	799	86	885	5.2	2.8	4.8
Total . . . . .	15,504	3,053	18,557	100.0	100.0	100.0
1969 (b)						
Insured . . . . .	7,618	2,805	10,423	47.9	89.6	54.8
Uninsured . . . . .	2,572	237	2,809	16.2	7.6	14.8
Pensioner . . . . .	4,881	—	4,881	30.7	—	25.7
Non-qualified . . . . .	823	89	912	5.2	2.8	4.8
Total . . . . .	15,895	3,131	19,026	100.0	100.0	100.0
1970						
Insured . . . . .	8,003	2,851	10,854	49.3	89.8	55.9
Uninsured . . . . .	2,441	235	2,676	15.0	7.4	13.8
Pensioner . . . . .	4,804	—	4,804	29.6	—	24.7
Tuberculosis . . . . .	101	—	101	0.6	—	0.5
Non-qualified . . . . .	900	87	987	5.5	2.7	5.1
Total . . . . .	16,249	3,173	19,422	100.0	100.0	100.0
1971						
Insured . . . . .	8,700	2,971	11,671	53.0	90.6	59.2
Uninsured . . . . .	2,181	199	2,380	13.3	6.1	12.1
Pensioner . . . . .	4,643	—	4,643	28.3	—	23.6
Tuberculosis . . . . .	73	—	73	0.4	—	0.4
Non-qualified . . . . .	825	109	934	5.0	3.3	4.7
Total . . . . .	16,422	3,279	19,701	100.0	100.0	100.0

(a) Pensioner Medical Service entitlement is not available in Private Hospitals.

(b) Excludes Tuberculosis Patients.

## HOSPITALS SURVEY

TABLE 49 COST PER OCCUPIED BED DAY (a)—PUBLIC HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71

(\$)											
Year ended 30 June	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	A.C.T.	N.T.	Aust.		
INCLUDING OUT-PATIENT COSTS											
1968 . . . . .	20.79	22.90	16.12	22.42	22.32	22.73	24.01	23.05	20.81		
1969 . . . . .	23.28	25.32	17.95	23.66	25.19	24.42	24.51	24.17	23.08		
1970 . . . . .	26.27	28.13	18.52	26.30	27.93	26.21	27.57	29.32	25.59		
1971 . . . . .	31.09	33.79	22.03	33.68	33.63	29.05	34.07	32.55	30.68		
EXCLUDING OUT-PATIENT COSTS											
1968 . . . . .	18.22	19.35	12.92	19.30	20.11	20.12	20.84	15.23	18.31		
1969 . . . . .	19.86	21.04	14.53	20.67	22.17	21.51	21.54	16.48	19.50		
1970 . . . . .	23.10	23.83	14.45	22.50	25.60	22.79	24.54	19.60	21.96		
1971 . . . . .	27.05	28.37	17.81	27.58	30.38	25.30	30.02	21.50	26.12		

(a) Most public hospitals do not allocate their costs between in-patients and out-patients. In such cases, this allocation has been made on the basis of occupied bed days. For this purpose, 2,100 out-patient attendances were taken as equivalent to 365 occupied bed days. Where the number of out-patient attendances was not available, 700 registered out-patients were taken as equivalent to 365 occupied bed days.



**HOSPITALS SURVEY****TABLE 50 AVERAGE LENGTH OF STAY—PUBLIC AND PRIVATE HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71**

(days)									
<i>Year ended 30 June</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>	<i>Aust.</i>
1968									
Public Hospitals	10.5	10.1	10.3	10.2	9.5	10.7	9.4	10.9	10.3
Private Hospitals	9.8	7.4	6.7	7.4	8.1	6.2	—	—	7.9
All Hospitals	10.4	9.5	9.6	9.1	9.2	9.7	9.4	10.9	9.8
1969									
Public Hospitals	10.2	10.1	10.1	10.3	9.4	10.8	9.5	10.6	10.1
Private Hospitals	9.1	7.0	7.3	6.8	7.6	7.3	—	—	7.6
All Hospitals	10.0	9.8	9.6	9.7	9.0	11.1	(a)	10.8	9.8
1970	(a)								
Public Hospitals	10.0	9.3	9.6	8.9	9.0	10.0	9.5	10.6	9.6
Private Hospitals	9.1	6.4	6.5	7.1	7.8	6.3	(a)	—	7.4
All Hospitals	9.9	8.9	9.0	8.8	8.8	9.9	(a)	10.8	9.3
1971	(a)								
Public Hospitals	9.6	9.6	9.8	9.7	8.7	11.0	(a)	11.3	9.6
Private Hospitals	7.9	5.3	6.9	6.6	6.7	5.6	(a)	—	6.5
All Hospitals	9.3	8.3	9.0	8.5	8.3	9.5	(a)	11.3	8.9

(a) A.C.T. included in N.S.W.  
 The relevant figures for Public Hospitals were—  
 1969-70:—N.S.W. 10.1; A.C.T. 9.4.  
 1970-71:—N.S.W. 9.6; A.C.T. 9.2.

**HOSPITALS SURVEY****TABLE 51 PERCENTAGE OCCUPANCY OF BEDS—PUBLIC AND PRIVATE HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71**

(%)									
<i>Year ended 30 June</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>	<i>Aust.</i>
1968									
Public Hospitals	71.6	70.9	61.9	68.9	64.3	61.7	78.6	67.9	68.5
Private Hospitals	65.3	67.8	58.1	68.5	78.9	62.4	—	—	66.6
All Hospitals	70.6	70.3	61.4	68.8	67.1	61.9	78.6	67.9	68.1
1969									
Public Hospitals	72.4	72.1	62.3	68.7	66.2	62.9	84.4	78.3	69.4
Private Hospitals	70.3	73.1	63.5	68.5	70.2	67.6	—	—	69.6
All Hospitals	72.1	72.3	62.5	68.6	66.9	63.7	84.4	78.3	69.5
1970	(a)								
Public Hospitals	73.8	72.7	62.7	73.7	69.3	63.9	(a)	81.5	70.8
Private Hospitals	79.1	71.7	60.2	57.4	64.3	60.4	(a)	—	68.4
All Hospitals	74.4	72.4	62.4	68.7	68.3	63.3	(a)	81.5	70.4
1971	(a)								
Public Hospitals	74.6	72.7	61.3	73.7	70.5	64.5	(a)	82.4	71.0
Private Hospitals	63.3	64.6	81.1	67.2	55.9	63.1	(a)	—	66.6
All Hospitals	73.1	71.0	64.5	71.8	67.7	64.2	(a)	82.4	70.3

(a) A.C.T. included in N.S.W.  
 The relevant figures for Public Hospitals were—  
 1969-70:—N.S.W. 73.5; A.C.T. 84.1.  
 1970-71:—N.S.W. 74.4; A.C.T. 81.8.



## HOSPITALS SURVEY

TABLE 52 CURRENT ACCOUNT INCOME—SOURCE OF FUNDS—PUBLIC HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71

(\$'000)

<i>Year ended 30 June</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>	<i>Aust.</i>
1968 (a)									
Government Assistance (b)	64,484	38,410	30,415	12,938	15,067	6,005	2,573	2,805	172,697
Federal Hospital Benefits	16,245	9,148	6,596	3,143	3,391	1,297	397	173	40,390
Pharmaceutical Benefits	4,946	4,147	1,856	1,226	1,184	511	115	(c)	13,985
Repatriation Payments (d)	1,176	839	279	101	67	103	(d)	(d)	2,565
Patients' Fees	40,336	26,135	3,284	6,675	8,168	2,862	1,026	295	88,781
Other Income	1,679	2,769	711	522	178	26	69	—	5,954
Total	128,866	81,448	43,141	24,605	28,055	10,804	4,180	3,273	324,372
1969 (a)									
Government Assistance (b)	74,827	44,653	35,140	14,631	18,130	7,248	2,639	3,421	200,689
Federal Hospital Benefits	16,479	9,442	6,756	3,293	3,660	1,405	452	214	41,700
Pharmaceutical Benefits	5,864	4,873	2,385	1,320	1,568	540	164	(c)	16,715
Repatriation Payments (d)	1,450	982	282	109	67	104	(d)	(d)	2,994
Patients' Fees	46,211	27,206	3,393	7,214	9,215	2,980	1,440	392	98,051
Other Income	2,001	3,244	677	510	190	25	85	1	6,734
Total	146,832	90,400	48,633	27,077	32,830	12,302	4,780	4,028	366,882
1970									
Government Assistance (b)	86,216	54,807	43,245	16,986	21,461	8,445	2,992	4,618	238,770
Federal Hospital Benefits	16,529	10,092	6,553	3,457	3,695	1,504	473	255	42,557
Pharmaceutical Benefits	7,469	5,636	2,893	1,613	1,772	786	194	(c)	20,363
Repatriation Payments (d)	1,619	1,011	316	106	74	99	(d)	(d)	3,225
Tuberculosis Payments	1,359	728	289	71	462	36	19	223	3,187
Patients' Fees	54,190	29,276	2,079	8,879	10,002	3,158	1,783	446	109,813
Other Income	2,168	3,112	159	1,348	426	29	101	1	7,346
Total	169,550	104,663	55,533	32,460	37,893	14,057	5,562	5,543	425,261
1971									
Government Assistance (b)	110,643	71,523	51,338	25,733	27,487	9,783	4,213	5,641	306,361
Federal Hospital Benefits	16,806	10,362	7,344	3,535	3,734	1,611	478	364	44,233
Pharmaceutical Benefits	8,948	6,850	3,607	1,945	2,488	776	212	(c)	24,828
Repatriation Payments (d)	1,869	1,222	402	137	83	83	(d)	(d)	3,796
Tuberculosis Payments	819	658	395	70	441	27	15	226	2,652
Patients' Fees	60,414	33,299	3,111	11,103	11,684	3,415	1,788	552	125,367
Other Income	2,855	3,491	85	517	475	41	122	2	7,587
Total	202,355	127,405	66,283	43,041	46,392	15,736	6,828	6,785	514,825

(a) Excludes Tuberculosis Payments.

(b) Government Assistance includes University Commission recurrent grants for Teaching Hospitals.

(c) Pharmaceutical Benefits for N.T. Hospitals are included in Government Assistance.

(d) Repatriation Payments: A.C.T. included with N.S.W.—N.T. included with S.A.



## HOSPITALS SURVEY

TABLE 53 CURRENT ACCOUNT INCOME—PERCENTAGE DISTRIBUTION BY SOURCE OF FUNDS—PUBLIC HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71  
(%)

<i>Year ended 30 June</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>	<i>Aust.</i>
1968 (a)									
Government Assistance (b) . . . . .	50.0	47.2	70.5	52.6	53.7	55.6	61.6	85.7	53.2
Federal Hospital Benefits . . . . .	12.6	11.2	15.3	12.8	12.1	12.0	9.5	5.3	12.5
Pharmaceutical Benefits Repatriation Payments (d) . . . . .	3.8	5.0	4.3	5.0	4.2	4.7	2.8	(c)	4.3
Patients' Fees . . . . .	0.9	1.0	0.6	0.4	0.2	1.0	(d)	(d)	0.8
Other Income . . . . .	31.3	32.1	7.6	27.1	29.1	26.5	24.5	9.0	27.4
	1.3	3.4	1.6	2.1	0.6	0.2	1.7	—	1.8
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1969 (a)									
Government Assistance (b) . . . . .	51.0	49.4	72.2	54.0	55.2	58.9	55.2	84.9	54.7
Federal Hospital Benefits . . . . .	11.2	10.4	13.9	12.2	11.1	11.4	9.5	5.3	11.4
Pharmaceutical Benefits Repatriation Payments (d) . . . . .	4.0	5.4	4.9	4.9	4.8	4.4	3.4	(c)	4.6
Patients' Fees . . . . .	1.0	1.1	0.6	0.4	0.2	0.8	(d)	(d)	0.8
Other Income . . . . .	31.4	30.1	7.0	26.6	28.1	24.3	30.1	9.8	26.7
	1.4	3.6	1.4	1.9	0.6	0.2	1.8	0.0	1.8
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1970									
Government Assistance (b) . . . . .	50.8	52.4	77.9	52.3	56.6	60.1	53.8	83.3	56.1
Federal Hospital Benefits . . . . .	9.7	9.6	11.8	10.7	9.8	10.7	8.5	4.6	10.0
Pharmaceutical Benefits Repatriation Payments (d) . . . . .	4.4	5.4	5.2	5.0	4.7	5.6	3.5	(c)	4.8
Tuberculosis Payments . . . . .	1.0	1.0	0.6	0.3	0.2	0.7	(d)	(d)	0.8
Patients' Fees . . . . .	0.8	0.7	0.5	0.2	1.2	0.3	0.3	4.0	0.7
Other Income . . . . .	32.0	28.0	3.7	27.4	26.4	22.5	32.0	8.0	25.8
	1.3	3.0	0.3	4.2	1.1	0.2	1.8	0.0	1.7
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971									
Government Assistance (b) . . . . .	54.7	56.1	77.5	59.8	59.2	62.2	61.7	83.1	59.5
Federal Hospital Benefits . . . . .	8.3	8.1	11.1	8.2	8.0	10.2	7.0	5.4	8.6
Pharmaceutical Benefits Repatriation Payments (d) . . . . .	4.4	5.4	5.4	4.5	5.4	4.9	3.1	(c)	4.8
Tuberculosis Payments . . . . .	0.9	1.0	0.6	0.3	0.2	0.5	(d)	(d)	0.7
Patients' Fees . . . . .	0.4	0.5	0.6	0.2	1.0	0.2	0.2	3.3	0.5
Other Income . . . . .	29.9	26.1	4.7	25.8	25.2	21.7	26.2	8.1	24.4
	1.4	2.7	0.1	1.2	1.0	0.3	1.8	0.0	1.5
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Excludes Tuberculosis Payments.

(b) Government Assistance includes University Commission recurrent grants for Teaching Hospitals.

(c) Pharmaceutical Benefits for N.T. Hospitals are included in Government Assistance.

(d) Repatriation Payments: A.C.T. included with N.S.W.—N.T. included with S.A.



**HOSPITALS SURVEY****TABLE 54** CURRENT ACCOUNT INCOME—SOURCE OF FUNDS—PUBLIC AND PRIVATE HOSPITALS—1967-68 TO 1970-71

	(\$'000)			
	1967-68	1968-69	1969-70	1970-71
	PRIVATE HOSPITALS			
Federal Hospital Benefits . . . . .	5,678	5,799	5,890	6,117
Patients' Fees (a) . . . . .	35,421	41,515	46,432	57,784
Total Income . . . . .	41,099 (b)	47,314	52,322	63,901
	PUBLIC AND PRIVATE HOSPITALS			
Government Assistance (c) . . . . .	173,441	200,689	238,770	306,361
Federal Payments				
Hospital Benefits . . . . .	46,068	47,499	48,447	50,350
Pharmaceutical Benefits . . . . .	13,985	16,715	20,363	24,828
Repatriation Payments . . . . .	2,565	2,994	3,225	3,796
Tuberculosis Payments . . . . .	(d)	(d)	3,187	2,652
Total . . . . .	62,618	67,208	75,222	81,626
Patients' Fees (e) . . . . .				
Fund Benefit (f) . . . . .	81,789	97,083	118,632	132,346
Patients' Contribution . . . . .	42,413	42,483	37,613	50,805
Total . . . . .	124,202	139,566	156,245	183,151
Other Income . . . . .	5,954	6,734	7,346	7,587
Total Income . . . . .	366,215	414,196	477,583	578,726

(a) Includes Fund Benefit.

(b) In addition, Private Hospitals received State Government Assistance of \$744,000.

(c) Includes Australian University Commission recurrent grants for Teaching Hospitals.

(d) Not available.

(e) Excludes Federal Hospital Benefits and Repatriation Payments.

(f) Includes Ancillary Benefit and Federal Payments in the form of Special Account Deficits and Reimbursements under the Subsidised Health Benefits Plan (S.H.B.P.). In 1970-71 these amounts for Australia were:—Ancillary Benefit: \$3,736,834; Special Account Deficits: \$19,604,794; S.H.B.P. Reimbursements: \$3,615,690.



## HOSPITALS SURVEY

TABLE 55 CURRENT ACCOUNT INCOME—PERCENTAGE DISTRIBUTION BY SOURCE OF FUNDS—PUBLIC AND PRIVATE HOSPITALS—1967-68 TO 1970-71

	(%)			
	1967-68	1968-69	1969-70	1970-71
		PRIVATE HOSPITALS		
Federal Hospital Benefits . . .	13.8	12.3	11.3	9.6
Patients' Fees (a) . . .	86.2	87.7	88.7	90.4
Total Income . . .	100.0 (b)	100.0	100.0	100.0
		PUBLIC AND PRIVATE HOSPITALS		
Government Assistance (c) . .	47.4	48.5	50.0	52.9
Federal Payments				
Hospital Benefits . . .	12.6	11.5	10.1	8.7
Pharmaceutical Benefits . . .	3.8	4.0	4.3	4.3
Repatriation Payments . . .	0.7	0.7	0.7	0.7
Tuberculosis Payments . . .	(d)	(d)	0.7	0.5
Total . . .	17.1	16.2	15.8	14.1
Patients' Fees (e) . . .				
Fund Benefit (f) . . .	22.3	23.4	24.8	22.9
Patients' Contribution . . .	11.6	10.3	7.9	8.8
Total . . .	33.9	33.7	32.7	31.6
Other Income . . .	1.6	1.6	1.5	1.3
Total Income . . .	100.0	100.0	100.0	100.0

(a) Includes Fund Benefit.

(b) Excludes State Government Assistance.

(c) Includes Australian University Commission recurrent grants for Teaching Hospitals.

(d) Not available.

(e) Excludes Federal Hospital Benefits and Repatriation Payments.

(f) Includes Ancillary Benefit and Federal Payments in the form of Special Account Deficits and Reimbursements under the Subsidised Health Benefits Plan.



## HOSPITALS SURVEY

TABLE 56 CURRENT ACCOUNT INCOME—SOURCE OF FUNDS—PUBLIC AND PRIVATE HOSPITALS—STATES—1970-71

	(\$'000)						
	<i>N.S.W. (a)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A. (b)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
PRIVATE HOSPITALS							
Federal Hospital Benefits . . .	1,688	1,580	1,196	978	473	203	6,117
Patients' Fees (c) . . .	14,155	18,332	10,500	8,797	4,038	1,962	57,784
Total Income . . .	15,843	19,911	11,696	9,775	4,511	2,164	63,901
PUBLIC AND PRIVATE HOSPITALS							
Government Assistance (d) . . .	114,856	71,523	51,338	31,374	27,487	9,783	306,361
Federal Payments							
Hospital Benefits . . .	18,972	11,941	8,540	4,877	4,207	1,814	50,350
Pharmaceutical Benefits . . .	9,160	6,850	3,607	1,945	2,488	776	24,828
Repatriation Payments . . .	1,869	1,222	402	137	83	83	3,796
Tuberculosis Payments . . .	834	658	395	297	441	27	2,652
Total . . .	30,835	20,672	12,944	7,256	7,219	2,700	81,626
Patients' Fees (e) . . .							
Fund Benefit (f) . . .	57,390	35,003	10,753	14,576	10,922	3,701	132,346
Patients' Contribution . . .	18,968	16,628	2,858	5,877	4,799	1,676	50,805
Total . . .	76,357	51,631	13,612	20,453	15,722	5,377	183,151
Other Income . . .	2,977	3,491	85	520	475	41	7,587
Total Income . . .	225,025	147,317	77,979	59,602	50,902	17,900	578,726

(a) Includes A.C.T.

(b) Includes N.T.

(c) Includes Fund Benefit.

(d) Includes Australian University Commission recurrent grants for Teaching Hospitals.

(e) Excludes Federal Hospital Benefits and Repatriation Payments.

(f) Includes Ancillary Benefit and Federal Payments in the form of Special Account Deficits and Reimbursements under the Subsidised Health Benefits Plan (S.H.B.P.). In 1970-71 these amounts for Australia were:—Ancillary Benefit: \$3,736,834; Special Account Deficits: \$19,604,794; S.H.B.P. Reimbursements: \$3,615,690.



## HOSPITALS SURVEY

TABLE 57 CURRENT ACCOUNT INCOME—PERCENTAGE DISTRIBUTION BY SOURCE OF FUNDS—PUBLIC AND PRIVATE HOSPITALS—STATES—1970-71

	(%)						
	<i>N.S.W. (a)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A. (b)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
PRIVATE HOSPITALS							
Federal Hospital Benefits . . . . .	10.7	7.9	10.2	10.0	10.5	9.4	9.6
Patients' Fees (c) . . . . .	89.3	92.1	89.8	90.0	89.5	90.6	90.4
Total Income . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PUBLIC AND PRIVATE HOSPITALS							
Government Assistance (d) . . . . .	51.0	48.6	65.8	52.6	54.0	54.7	52.9
Federal Payments							
Hospital Benefits . . . . .	8.4	8.1	11.0	8.2	8.3	10.1	8.7
Pharmaceutical Benefits . . . . .	4.1	4.6	4.6	3.3	4.9	4.3	4.3
Repatriation Payments . . . . .	0.8	0.8	0.5	0.2	0.2	0.5	0.7
Tuberculosis Payments . . . . .	0.4	0.4	0.5	0.5	0.9	0.2	0.5
Total . . . . .	13.7	14.0	16.6	12.2	14.2	15.1	14.1
Patients' Fees (e) . . . . .							
Fund Benefit (f) . . . . .	25.5	23.8	13.8	24.5	21.5	20.7	22.9
Patients' Contribution . . . . .	8.4	11.3	3.7	9.9	9.4	9.4	8.8
Total . . . . .	33.9	35.0	17.5	34.3	30.9	30.0	31.6
Other Income . . . . .	1.3	2.4	0.1	0.9	0.9	0.2	1.3
Total Income . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes A.C.T.

(b) Includes N.T.

(c) Includes Fund Benefit.

(d) Includes Australian University Commission recurrent grants for Teaching Hospitals.

(e) Excludes Federal Hospital Benefits and Repatriation Payments.

(f) Includes Ancillary Benefit and Federal Payments in the form of Special Account Deficits and Reimbursements under the Subsidised Health Benefits Plan.



## HOSPITALS SURVEY

TABLE 58 CURRENT ACCOUNT INCOME—SOURCE OF FUNDS PER HEAD OF POPULATION—PUBLIC AND PRIVATE HOSPITALS—1967-68 TO 1970-71

	(\$)			
	1967-68	1968-69	1969-70	1970-71
		PRIVATE HOSPITALS		
Federal Hospital Benefits . . .	0.48	0.48	0.47	0.48
Patients' Fees (a) . . .	2.97	3.42	3.74	4.57
Total Income . . .	3.45 (b)	3.90	4.22	5.05
		PUBLIC AND PRIVATE HOSPITALS		
Government Assistance (c) . .	14.56	16.53	19.25	24.20
Federal Payments				
Hospital Benefits . . .	3.87	3.91	3.91	3.98
Pharmaceutical Benefits . . .	1.17	1.38	1.64	1.96
Repatriation Payments . . .	0.22	0.25	0.26	0.30
Tuberculosis Payments . . .	(d)	(d)	0.26	0.21
Total . . .	5.26	5.53	6.06	6.45
Patients' Fees (e) . . .				
Fund Benefit (f) . . .	6.87	7.99	9.56	10.46
Patients' Contribution . . .	3.56	3.50	3.03	4.01
Total . . .	10.43	11.49	12.60	14.47
Other Income . . .	0.50	0.55	0.59	0.60
Total Income . . .	30.75	34.11	38.50	45.72

(a) Includes Fund Benefit.

(b) Excludes State Government Assistance.

(c) Includes Australian University Commission recurrent grants for Teaching Hospitals.

(d) Not available.

(e) Excludes Federal Hospital Benefits and Repatriation Payments.

(f) Includes Ancillary Benefit and Federal Payments in the form of Special Account Deficits and Reimbursements under the Subsidised Health Benefits Plan.



## HOSPITALS SURVEY

TABLE 59 CURRENT ACCOUNT INCOME—SOURCE OF FUNDS PER HEAD OF POPULATION—PUBLIC AND PRIVATE HOSPITALS—STATES—1970-71

	(\$)						
	<i>N.S.W. (a)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A. (b)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
PRIVATE HOSPITALS							
Federal Hospital Benefits . . . . .	0.36	0.45	0.66	0.78	0.47	0.52	0.48
Patients' Fees (c) . . . . .	3.01	5.27	5.79	7.03	3.98	5.03	4.57
Total Income . . . . .	3.36	5.72	6.45	7.81	4.45	5.55	5.05
PUBLIC AND PRIVATE HOSPITALS							
Government Assistance (d) . . . . .	24.39	20.54	28.33	25.08	27.12	25.10	24.20
Federal Payments							
Hospital Benefits . . . . .	4.03	3.43	4.71	3.90	4.15	4.65	3.98
Pharmaceutical Benefits . . . . .	1.95	1.97	1.99	1.55	2.46	1.99	1.96
Repatriation Payments . . . . .	0.40	0.35	0.22	0.11	0.08	0.21	0.30
Tuberculosis Payments . . . . .	0.18	0.19	0.22	0.24	0.44	0.07	0.21
Total . . . . .	6.55	5.94	7.14	5.80	7.12	6.93	6.45
Patients' Fees (e) . . . . .							
Fund Benefit (f) . . . . .	12.19	10.05	5.93	11.65	10.78	9.50	10.46
Patients' Contribution . . . . .	4.03	4.78	1.58	4.70	4.74	4.31	4.01
Total . . . . .	16.21	14.83	7.51	16.35	15.51	13.80	14.47
Other Income . . . . .	0.63	1.00	0.05	0.42	0.47	0.10	0.60
Total Income . . . . .	47.78	42.32	43.03	47.64	50.22	45.93	45.72

(a) Includes A.C.T.

(b) Includes N.T.

(c) Includes Fund Benefit.

(d) Includes Australian University Commission recurrent grants for Teaching Hospitals.

(e) Excludes Federal Hospital Benefits and Repatriation Payments.

(f) Includes Ancillary Benefit and Federal Payments in the form of Special Account Deficits and Reimbursements under the Subsidised Health Benefits Plan.



## HOSPITALS SURVEY

TABLE 60 CURRENT ACCOUNT EXPENDITURE—MAIN ITEMS OF OUTLAY—PUBLIC HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71

(\$'000)

<i>Year ended 30 June</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>	<i>Aust.</i>
1968									
Salaries and Wages .	87,926	55,367	26,614	15,223	17,788	7,479	2,705	2,091	215,193
Provisions .	8,739	4,788	2,954	1,618	2,190	688	314	(a)	21,291
Medical and Surgical .	13,490	8,052	4,109	1,718	2,277	1,081	344	(a)	31,071
Other .	18,683	11,826	9,544	6,046	5,491	1,587	692	1,183(b)	55,052
Total .	128,838	80,033	43,221	24,605	27,746	10,835	4,055	3,274	322,607
1969									
Salaries and Wages .	100,348	61,228	29,843	16,843	21,066	8,653	3,054	2,533	243,566
Provisions .	9,072	5,084	3,142	1,722	2,595	735	333	263	22,946
Medical and Surgical .	11,210	9,285	4,660	2,353	2,600	1,224	429	347	32,109
Other .	25,841	15,241	10,967	6,159	6,519	1,747	799	885	68,159
Total .	146,471	90,837	48,613	27,077	32,780	12,359	4,616	4,028	366,780
1970									
Salaries and Wages .	116,529	71,746	34,621	20,061	24,609	9,614	3,697	3,422	284,299
Provisions .	9,415	5,216	3,276	1,872	2,758	762	366	340	24,006
Medical and Surgical .	13,115	11,012	5,650	2,823	3,075	1,428	531	556	38,188
Other .	29,148	15,028	6,212	7,704	7,220	1,973	873	1,225	69,384
Total .	168,207	103,001	49,760	32,460	37,662	13,777	5,467	5,543	415,878
1971									
Salaries and Wages .	142,126	90,300	43,750	29,319	30,455	11,221	4,966	4,378	356,516
Provisions .	9,891	5,563	3,432	1,881	2,802	798	371	385	25,123
Medical and Surgical .	15,057	12,891	6,538	4,801	5,186	1,480	587	664	47,203
Other .	35,155	17,164	3,244	6,977	8,006	2,173	875	1,358	74,952
Total .	202,229	125,917	56,964	42,977	46,449	15,672	6,799	6,785	503,793

(a) Included in 'Other'.

(b) Includes 'Provisions' and 'Medical and Surgical'.



## APPENDIX 1 — STATISTICS

## HOSPITALS SURVEY

TABLE 61 CURRENT ACCOUNT EXPENDITURE—PERCENTAGE DISTRIBUTION BY MAIN ITEMS OF OUTLAY—PUBLIC HOSPITALS—STATES AND TERRITORIES—1967-68 TO 1970-71  
(%)

<i>Year ended 30 June</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>	<i>Aust.</i>
1968									
Salaries and Wages . . .	68.2	69.2	61.6	61.9	64.1	69.0	66.7	63.9	66.7
Provisions . . . . .	6.8	6.0	6.8	6.6	7.9	6.3	7.7	(a)	6.6
Medical and Surgical . .	10.5	10.0	9.5	7.0	8.2	10.0	8.5	(a)	9.6
Other . . . . .	14.5	14.8	22.1	24.5	19.8	14.7	17.1	36.1 (b)	17.1
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1969									
Salaries and Wages . . .	68.5	67.4	61.4	62.2	64.3	70.0	66.2	62.9	66.4
Provisions . . . . .	6.2	5.6	6.5	6.4	7.9	6.0	7.2	6.5	6.3
Medical and Surgical . .	7.7	10.2	9.6	8.7	7.9	9.9	9.3	8.6	8.7
Other . . . . .	17.6	16.8	22.5	22.7	19.9	14.1	17.3	22.0	18.6
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1970									
Salaries and Wages . . .	69.3	69.7	69.6	61.8	65.3	69.8	67.6	61.7	68.4
Provisions . . . . .	5.6	5.1	6.6	5.8	7.3	5.5	6.7	6.1	5.8
Medical and Surgical . .	7.8	10.7	11.4	8.7	8.2	10.4	9.7	10.0	9.2
Other . . . . .	17.3	14.6	12.5	23.7	19.2	14.3	16.0	22.1	16.7
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971									
Salaries and Wages . . .	70.3	71.7	76.8	68.2	65.6	71.6	73.0	64.5	70.8
Provisions . . . . .	4.9	4.4	6.0	4.4	6.0	5.1	5.5	5.7	5.0
Medical and Surgical . .	7.4	10.2	11.5	11.2	11.2	9.4	8.6	9.8	9.4
Other . . . . .	17.4	13.6	5.7	16.2	17.2	13.9	12.9	20.0	14.9
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Included in 'Other'.

(b) Includes 'Provisions' and 'Medical and Surgical'.



## HOME NURSING ORGANISATIONS

The Home Nursing Subsidy Scheme which came into operation on 1 January, 1957, was designed to assist in the extension of home nursing activities, either by the expansion of existing organisations or the formation of new ones. To be eligible to receive the subsidy, an organisation must provide a home nursing service, be non-profit making, employ registered nurses and be in receipt of assistance from a State government, a local government body or other authority established under a State Act. The amount of subsidy paid by the Australian Government is limited to the assistance received from the State and/or local government. The continued expansion of home nursing services is of interest to the Government in its overall consideration of health care services in Australia.

Since 1966-67 reports have been prepared annually in the Research Section on the growth in home nursing services and the financial operations of the organisations involved. For the past five years, each organisation in receipt of federal subsidy has been asked to complete a standard form setting out details of its financial operations. Since 1967-68 the organisations have been asked also to indicate the number of patients treated. Additional information relating to the number of nurses employed by home nursing organisations and the number of visits made by those nurses from 1963-64 onwards has been derived from the quarterly claim forms submitted to the Department by the organisations.

## HOME NURSING ORGANISATIONS

TABLE 62 NUMBER OF HOME NURSING ORGANISATIONS—STATES—1966-67 TO 1970-71

<i>At 30 June</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
1967 . . .	37	13	5	1	1	4	61
1968 . . .	39	15	5	1	1	5	66
1969 . . .	44	19	7	1	1	6	78
1970 . . .	50	25	7	1	2	9	94
1971 . . .	52	31	7	1	4	12	107

## HOME NURSING ORGANISATIONS

TABLE 63 NUMBER OF VISITS MADE BY HOME NURSING ORGANISATIONS—STATES—1963-64 TO 1970-71

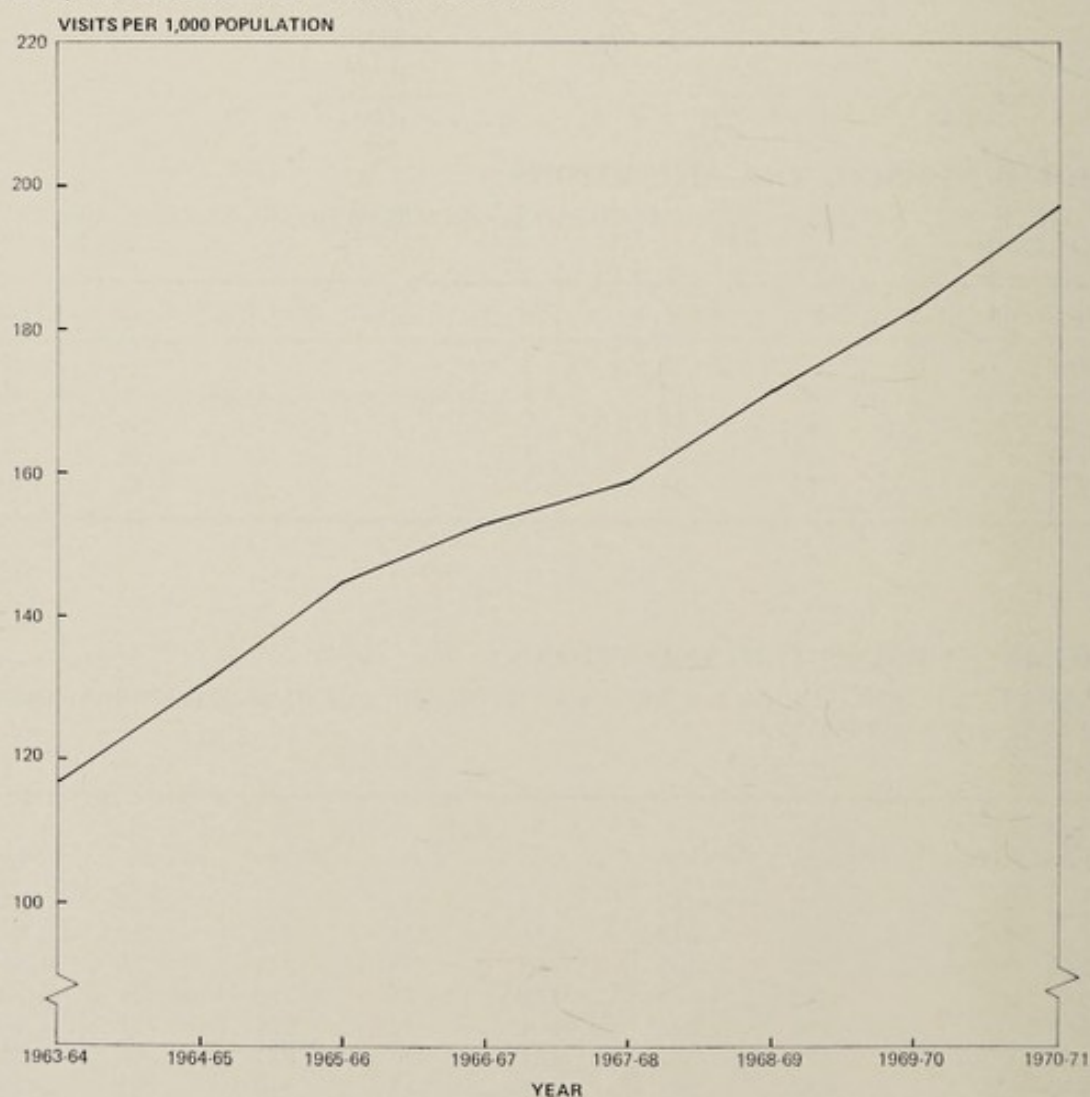
( '000 )

<i>Year ended 30 June</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
1964 . . .	334	358	230	145	193	18	1,278
1965 . . .	372	418	271	146	224	21	1,452
1966 . . .	432	442	338	154	249	25	1,640
1967 . . .	484	458	379	150	265	26	1,762
1968 . . .	519	486	416	147	268	32	1,868
1969 . . .	579	506	484	168	287	40	2,064
1970 . . .	632	541	521	181	310	55	2,240
1971 . . .	706	567	574	197	355	66	2,465



**HOME NURSING ORGANISATIONS****TABLE 64** NUMBER OF VISITS MADE BY HOME NURSING ORGANISATIONS PER 1,000 POPULATION—STATES—1963-64 TO 1970-71

<i>Year ended 30 June</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
1964	82	116	144	142	242	51	117
1965	90	133	167	139	274	58	130
1966	103	138	204	142	298	68	145
1967	113	141	225	136	307	70	153
1968	119	147	242	131	300	85	159
1969	131	151	276	148	309	104	172
1970	140	158	292	157	322	142	183
1971	155	163	317	168	351	169	198

**HOME NURSING ORGANISATIONS****GRAPH 16** NUMBER OF VISITS MADE BY HOME NURSING ORGANISATIONS PER 1,000 POPULATION—1963-64 TO 1970-71



**HOME NURSING ORGANISATIONS****TABLE 65** AVERAGE NUMBER OF NURSES EMPLOYED (a) BY HOME NURSING ORGANISATIONS—STATES—1961-62 TO 1970-71

<i>Year ended 30 June</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld (b)</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
1962 . . .	103	113	64	42	50	5	377
1963 . . .	116	132	73	50	54	5	430
1964 . . .	127	146	79	53	61	8	474
1965 . . .	144	169	88	52	69	10	532
1966 . . .	158	195	108	53	80	10	604
1967 . . .	169	208	115	52	87	10	641
1968 . . .	191	229	127	53	90	12	702
1969 . . .	206	242	154	54	94	15	765
1970 . . .	226	254	164	60	101	21	826
1971 . . .	248	268	178	63	118	26	901

(a) Federal subsidies to home nursing organisations are based on the number of nurses employed over and above the number employed at 30 September 1956 in the case of organisations existing at that date, and on the total number of nurses employed by home nursing organisations formed after that date. The actual numbers of nurses employed at 30.9.56 were: N.S.W., 42; Vic., 83; Qld, 16; S.A., 38; W.A., 29; Tas., 2 Total: 210.

(b) From 1 July 1968 includes part-time nurses employed by Blue Nursing Service expressed as full-time equivalents. Figures for earlier years not strictly comparable with those for other states.

**HOME NURSING ORGANISATIONS****TABLE 66** NUMBER OF VISITS PER NURSE EMPLOYED BY HOME NURSING ORGANISATIONS—STATES—1967-68 TO 1970-71

<i>State</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>
New South Wales . . .	2,718	2,813	2,796	2,848
Victoria . . .	2,123	2,092	2,131	2,114
Queensland (a) . . .	3,273	3,140	3,175	3,225
South Australia . . .	2,770	3,118	3,024	3,127
Western Australia . . .	2,972	3,052	3,074	3,005
Tasmania . . .	2,699	2,680	2,633	2,525
Total . . .	2,661	2,699	2,713	2,735

(a) From 1 July 1968 includes part-time nurses employed by Blue Nursing Service expressed as full-time equivalents. Figures for 1967-68 not strictly comparable with those for other states.

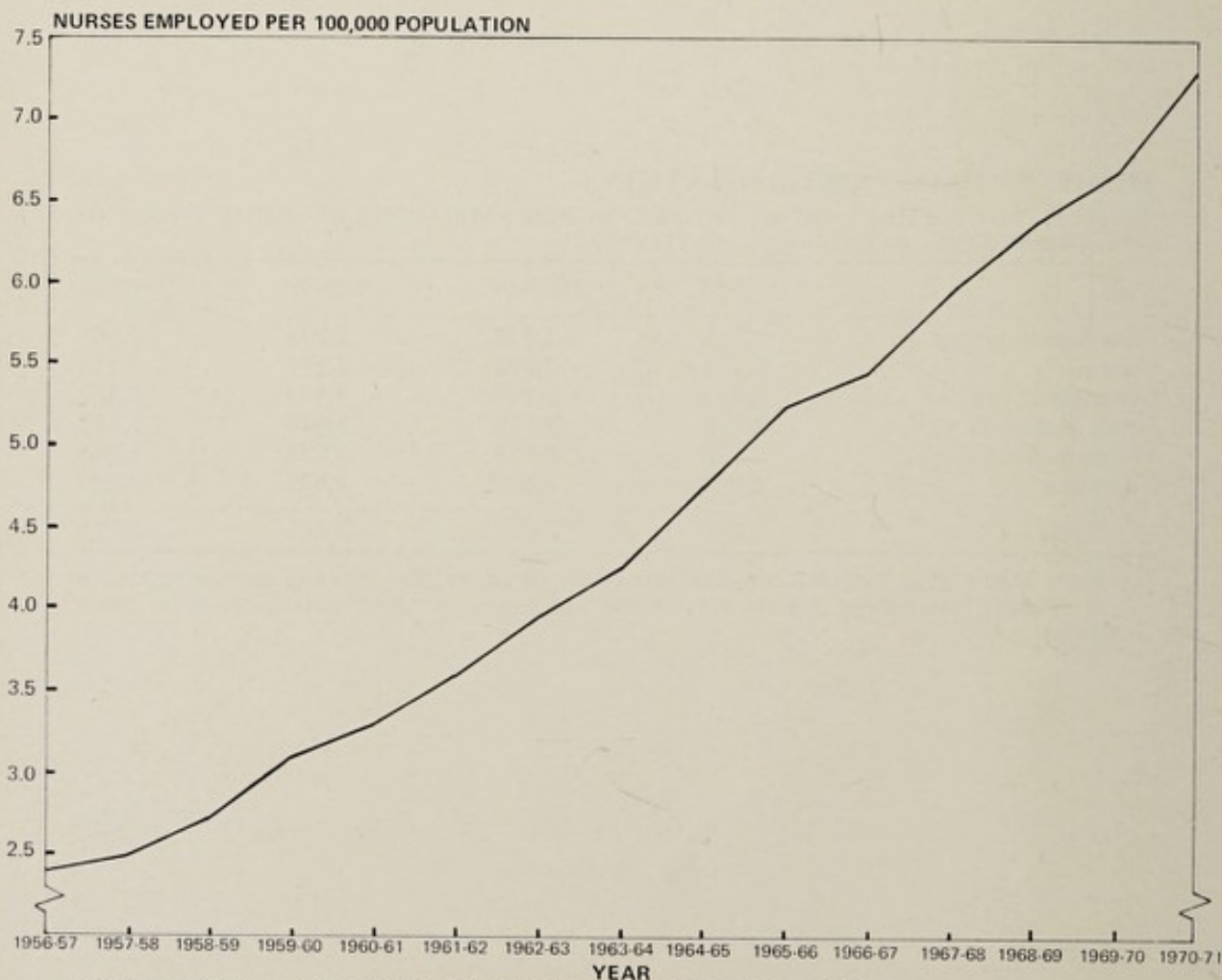


**HOME NURSING ORGANISATIONS****TABLE 67** AVERAGE NUMBER OF NURSES EMPLOYED (a) BY HOME NURSING ORGANISATIONS PER 100,000 POPULATION—STATES—1961-62 TO 1970-71

<i>Year ended 30 June</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld (b)</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
1962 . . .	2.6	3.8	4.2	4.3	6.6	1.4	3.6
1963 . . .	2.9	4.4	4.7	5.0	6.9	1.4	4.0
1964 . . .	3.1	4.8	4.9	5.2	7.6	2.2	4.3
1965 . . .	3.5	5.4	5.4	5.0	8.4	2.7	4.8
1966 . . .	3.8	6.1	6.5	4.9	9.5	2.7	5.3
1967 . . .	4.0	6.4	6.8	4.7	10.1	2.7	5.5
1968 . . .	4.4	6.9	7.4	4.7	10.1	3.2	6.0
1969 . . .	4.6	7.2	8.8	4.8	10.1	3.9	6.4
1970 . . .	5.0	7.4	9.2	5.2	10.4	5.5	6.7
1971 . . .	5.4	7.7	9.8	5.4	11.7	6.6	7.3

(a) Federal subsidies to home nursing organisations are based on the number of nurses employed over and above the number employed at 30 September 1956 in the case of organisations existing at that date, and on the total number of nurses employed by home nursing organisations formed after that date. The actual numbers of nurses employed per 100,000 population at 30.9.56 were: N.S.W., 1.2; Vic., 3.2; Qld, 1.2; S.A., 4.5; W.A., 4.4; Tas., 0.6; Total: 2.3.

(b) From 1 July 1968 includes part-time nurses employed by Blue Nursing Service expressed as full-time equivalents. Figures for earlier years not strictly comparable with those for other states.

**HOME NURSING ORGANISATIONS****GRAPH 17** AVERAGE NUMBER OF NURSES EMPLOYED BY HOME NURSING ORGANISATIONS PER 100,000 POPULATION—1956-57 TO 1970-71 (a)

(a) Number of nurses employed per 100,000 population at 30 September 1956 was 2.3.



**HOME NURSING ORGANISATIONS****TABLE 68 INCOME OF HOME NURSING ORGANISATIONS—1966-67 TO 1970-71**  
(\$'000)

<i>Source of funds</i>	<i>1966-67</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>
Government Assistance					
State . . . . .	799	975	1,115	1,445	1,849
Local Authority . . . . .	118	122	124	136	137
Federal Subsidy . . . . .	672	783	956	1,117	1,478
Total Government Assistance . . . . .	1,589	1,880	2,195	2,698	3,464
Patient Contribution . . . . .	413	457	490	525	585
Donations and Fund Raising . . . . .	206	180	251	113	236
Investment Income . . . . .	14	17	24	23	26
Miscellaneous Receipts . . . . .	86	88	9 (a)	13 (a)	21 (a)
Total Income . . . . .	2,308	2,622	2,969	3,372	4,331

(a) The decline in miscellaneous receipts over the period is due to a change in methodology used in the survey.

**HOME NURSING ORGANISATIONS****TABLE 69 INCOME OF HOME NURSING ORGANISATIONS—PERCENTAGE DISTRIBUTION BY SOURCE OF FUNDS—1966-67 TO 1970-71**  
(%)

<i>Source of funds</i>	<i>1966-67</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>
Government Assistance					
State . . . . .	34.7	37.2	37.6	42.8	42.7
Local Authority . . . . .	5.0	4.7	4.2	4.0	3.2
Federal Subsidy . . . . .	29.1	29.9	32.2	33.1	34.1
Total Government Assistance . . . . .	68.8	71.8	74.0	79.9	80.0
Patient Contribution . . . . .	17.9	17.4	16.5	15.6	13.5
Donations and Fund Raising . . . . .	9.0	6.8	8.4	3.4	5.4
Investment Income . . . . .	0.6	0.6	0.8	0.7	0.6
Miscellaneous Receipts . . . . .	3.7	3.4	0.3 (a)	0.4 (a)	0.5 (a)
Total Income . . . . .	100.0	100.0	100.0	100.0	100.0

(a) See footnote (a) Table 68.



**HOME NURSING ORGANISATIONS****TABLE 70 INCOME OF HOME NURSING ORGANISATIONS—STATES—1970-71**  
(S'000)

<i>Source of funds</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
Government Assistance							
State . . . . .	565	661	212	74	282	54	1,849
Local Authority . . . .	112	2	2	16	2	2	137
Federal Subsidy . . . .	446	480	200	70	249	33	1,478
Total Government Assistance . . . .	1,123	1,143	414	160	533	89	3,464
Patient Contribution . . . .	131	242	80	49	81	2	585
Donations and Fund Raising . . . .	23	34	115	57	—	7	236
Investment Income . . . .	3	4	2	16	—	1	26
Miscellaneous Receipts . . . .	7	10	4	—	—	—	21
Total Income . . . .	1,288	1,433	614	282	614	99	4,331

**HOME NURSING ORGANISATIONS****TABLE 71 INCOME OF HOME NURSING ORGANISATIONS—PERCENTAGE DISTRIBUTION BY SOURCE OF FUNDS—STATES—1970-71**

<i>Source of funds</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
Government Assistance							
State . . . . .	43.9	46.1	34.5	26.2	45.9	54.6	42.7
Local Authority . . . .	8.7	0.1	0.3	5.7	0.3	2.0	3.2
Federal Subsidy . . . .	34.6	33.5	32.6	24.8	40.6	33.3	34.1
Total Government Assistance . . . .	87.3	79.7	67.4	56.7	86.8	89.9	80.0
Patient Contribution . . . .	10.2	16.9	13.0	17.4	13.2	2.0	13.5
Donations and Fund Raising . . . .	1.8	2.4	18.7	20.2	—	7.1	5.4
Investment Income . . . .	0.2	0.3	0.3	5.7	—	1.0	0.6
Miscellaneous Receipts . . . .	0.5	0.7	0.6	—	—	—	0.5
Total Income . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0



**HOME NURSING ORGANISATIONS****TABLE 72** EXPENDITURE OF HOME NURSING ORGANISATIONS—1966-67 TO 1970-71

	(\$'000)				
<i>Items of outlay</i>	<i>1966-67</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>
Salaries, Wages and Super-annuation . . . . .	1,773	2,079	2,338	2,757	3,593
Medical Equipment and Supplies . . . . .	40	48	62	80	87
Travel Expenses . . . . .	216	225	246	278	327
Administration Expenses . . . . .	99	106	131	145	157
Miscellaneous Payments . . . . .	80	95	36	53	93
Total Expenditure . . . . .	2,208	2,553	2,813	3,313	4,257
Operating Surplus . . . . .	99	69	156	59	75

**HOME NURSING ORGANISATIONS****TABLE 73** EXPENDITURE OF HOME NURSING ORGANISATIONS—PERCENTAGE DISTRIBUTION BY MAIN ITEMS OF OUTLAY—1966-67 TO 1970-71 (%)

<i>Items of outlay</i>	<i>1966-67</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>
Salaries, Wages and Super-annuation . . . . .	80.3	81.5	83.1	83.2	84.4
Medical Equipment and Supplies . . . . .	1.8	1.9	2.2	2.4	2.0
Travel Expenses . . . . .	9.8	8.8	8.8	8.4	7.7
Administration Expenses . . . . .	4.5	4.1	4.6	4.4	3.7
Miscellaneous Payments . . . . .	3.6	3.7	1.3	1.6	2.2
Total Expenditure . . . . .	100.0	100.0	100.0	100.0	100.0
Operating Surplus (a) . . . . .	4.5	2.7	5.5	1.8	1.8

(a) As a percentage of total expenditure.



**HOME NURSING ORGANISATIONS****TABLE 74 EXPENDITURE OF HOME NURSING ORGANISATIONS—STATES—1970-71**  
(S'000)

<i>Items of outlay</i>	<i>N.S.W</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
Salaries, Wages and Super-annuation . . . . .	1,071	1,152	524	240	525	81	3,593
Medical Equipment and Supplies . . . . .	30	32	4	2	15	4	87
Travel Expenses . . . . .	94	101	57	17	48	10	327
Administration Expenses . . . . .	22	75	27	4	26	3	157
Miscellaneous Payments . . . . .	20	56	2	13	1	1	93
Total Expenditure . . . . .	1,237	1,416	614	276	615	99	4,257
Operating Surplus . . . . .	51	17	—	7	—	—	75

**HOME NURSING ORGANISATIONS****TABLE 75 EXPENDITURE OF HOME NURSING ORGANISATIONS—PERCENTAGE DISTRIBUTION BY MAIN ITEMS OF OUTLAY—STATES—1970-71**

<i>Items of outlay</i>	<i>N.S.W</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
Salaries, Wages and Super-annuation . . . . .	86.6	81.4	85.3	86.9	85.4	81.8	84.4
Medical Equipment and Supplies . . . . .	2.4	2.3	0.7	0.7	2.4	4.1	2.0
Travel Expenses . . . . .	7.6	7.1	9.3	6.2	7.8	10.1	7.7
Administration Expenses . . . . .	1.8	5.3	4.4	1.5	4.2	3.0	3.7
Miscellaneous Payments . . . . .	1.6	3.9	0.3	4.7	0.2	1.0	2.2
Total Expenditure . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Operating Surplus (a) . . . . .	4.1	1.2	—	2.5	—	2.4	1.8

(a) As a percentage of total expenditure.



**HOME NURSING ORGANISATIONS****TABLE 76 INCOME PER VISIT OF HOME NURSING ORGANISATIONS—1966-67 TO 1970-71**

<i>Source of funds</i>	<i>1966-67</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>
Government Assistance					
State . . . . .	0.45	0.52	0.53	0.64	0.75
Local Authority . . . . .	0.07	0.06	0.06	0.06	0.06
Federal Subsidy . . . . .	0.38	0.42	0.46	0.50	0.60
Total Government Assistance . . . . .	0.90	1.00	1.05	1.20	1.41
Patient Contribution . . . . .	0.23	0.24	0.24	0.23	0.24
Donations and Fund Raising . . . . .	0.12	0.10	0.13	0.05	0.09
Investment Income . . . . .	0.01	0.01	0.01	0.01	0.01
Miscellaneous Receipts . . . . .	0.05	0.05	—	0.01	0.01
Total Income . . . . .	1.31	1.40	1.44	1.50	1.76

**HOME NURSING ORGANISATIONS****TABLE 77 EXPENDITURE PER VISIT OF HOME NURSING ORGANISATIONS—1966-67 TO 1970-71**

<i>Items of Outlay</i>	<i>1966-67</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>
Salaries, Wages and Super-annuation . . . . .	1.01	1.11	1.13	1.24	1.46
Medical Equipment and Supplies . . . . .	0.02	0.02	0.03	0.04	0.04
Travel Expenses . . . . .	0.12	0.12	0.12	0.12	0.13
Administration Expenses . . . . .	0.06	0.06	0.06	0.06	0.06
Miscellaneous Payments . . . . .	0.06	0.05	0.02	0.02	0.04
Operating Surplus (a) . . . . .	0.04	0.04	0.08	0.03	0.03
Total Expenditure . . . . .	1.27	1.36	1.36	1.48	1.73

(a) Not included in Total Expenditure.

**HOME NURSING ORGANISATIONS****TABLE 78 HOME NURSING VISITS AND OTHER HEALTH CARE INDICATORS—(INDEX BASE 1963-64 = 100)—1963-64 TO 1970-71**

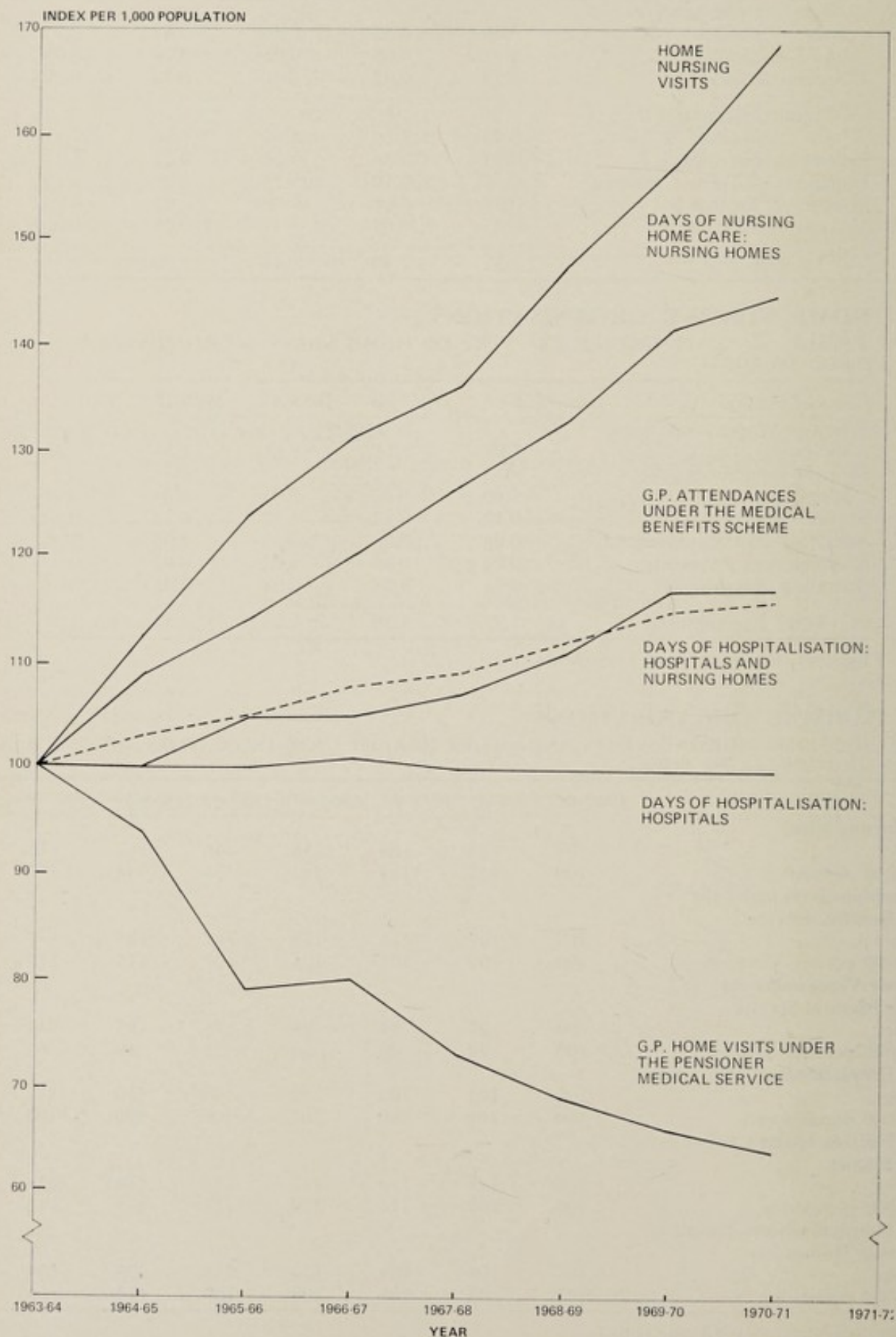
<i>Item</i>	<i>1963-64</i>	<i>1964-65</i>	<i>1965-66</i>	<i>1966-67</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>
<b>Home Nursing Visits</b>								
Number . . . . .	100	114	128	138	146	162	175	193
Per 1,000 population . . . . .	100	112	124	131	136	148	157	169
<b>G.P. Attendances (a) under the Medical Benefits Scheme</b>								
Number . . . . .	100	107	114	115	117	125	137	142
Per 1,000 persons covered . . . . .	100	100	105	105	107	111	117	117
<b>G.P. Home Visits under the Pensioner Medical Service</b>								
Number . . . . .	100	95	94	98	96	95	93	92
Per 1,000 persons covered . . . . .	100	94	79	80	73	69	66	64
<b>Days of Hospitalisation—Hospitals</b>								
Number . . . . .	100	102	104	107	108	110	113	115
Per 1,000 population . . . . .	100	100	100	101	100	100	100	100
<b>Days of Nursing Home Care—Nursing Homes</b>								
Number . . . . .	100	111	119	127	137	146	159	166
Per 1,000 population . . . . .	100	109	114	120	127	133	142	145
<b>Days of Hospitalisation—Hospitals and Nursing Homes</b>								
Number . . . . .	100	105	109	114	118	123	129	133
Per 1,000 population . . . . .	100	103	105	108	109	112	115	116

(a) Surgery consultations and home visits.



# HOME NURSING ORGANISATIONS

GRAPH 18 HOME NURSING VISITS AND OTHER HEALTH CARE INDICATORS—(INDEX BASE 1963-64 = 100)—1963-64 TO 1970-71





## MEDICAL PRACTITIONERS

The tables below contain the results of a special survey undertaken primarily in response to a request from the Committee on Medical Schools of the Australian Universities Commission for current and comprehensive statistics of medical practitioners active in Australia.

A representative sample of registered medical practitioners was selected and their relevant particulars checked against various sources of information to determine principally, activity and if resident in Australia. Where necessary individual cases were followed up. From these results, estimates were made of the total number of active resident medical practitioners in Australia at 30 June 1972.

### MEDICAL PRACTITIONERS

TABLE 79 ESTIMATES OF THE TOTAL NUMBER OF REGISTERED, RESIDENT AND ACTIVE MEDICAL PRACTITIONERS (a)—AT 30 JUNE 1972

	<i>Number</i>
Registrations of medical practitioners (b)	28,269
Less: Duplications of registration between states	4,406
Registered medical practitioners	23,863
Less: Medical practitioners with registered addresses overseas	1,935
	21,928
Less: Medical practitioners with registered addresses in Australia but absent overseas (c)	2,451
	19,477
Less: Medical practitioners found to be resident in Australia but inactive (d)	1,505
Total Registered, Resident and Active Medical Practitioners in Australia	17,972

- (a) The estimates are based on a sample selected from state medical board registers and are thus subject to sample error. The standard error of the total number of registered, resident and active medical practitioners in Australia of 17,972 is 380. There are 19 chances in 20 that the true value lies within two standard errors of the estimate, that is in the range 17,212 to 18,732.
- (b) Estimate based on number of listings in medical board registers (including amendments) of all states and territories. Resident medical officers are included in these estimates.
- (c) Medical practitioners found to be absent overseas at 30 June 1972.
- (d) Medical practitioners found to be inactive at 30 June 1972.

### MEDICAL PRACTITIONERS

TABLE 80 ESTIMATES OF THE TOTAL NUMBER OF REGISTERED, RESIDENT AND ACTIVE MEDICAL PRACTITIONERS (a)—STATES (b)—AT 30 JUNE 1972

<i>State</i>	<i>Number</i>	<i>Standard error</i>
New South Wales (including Australian Capital Territory)	7,256	210
Victoria	5,248	220
Queensland	2,199	130
South Australia (including Northern Territory)	1,631	140
Western Australia and Tasmania (c)	1,638	130
Australia	17,972	380

- (a) See footnote (a) Table 79.
- (b) Medical practitioners registered in more than one state have been assigned to the main state of practice.
- (c) Western Australia and Tasmania have been combined on account of the relatively large sample errors for the individual states.



## INFANT WELFARE

TABLE 81 NUMBER OF CENTRES, ATTENDANCES AND VISITS BY NURSES—STATES AND TERRITORIES—1970 AND 1971

	N.S.W.	Vic.	Qld (a)	S.A. (a)	W.A.	Tas.	A.C.T.	N.T. (a)	Aust.
1970									
Number of centres (b)	442	727	280	285	82	111	36	20	1,983
Attendances at centres	1,126,681	1,560,805	515,214	286,768	273,368	148,971	63,311	27,075	4,002,193
Visits by nurses to homes	46,810(c)	157,560	2,305	35,554	31,375	72,650	10,744	8,425	365,423
Visits by nurses to hospitals	57,403	26,482	31,912	(d)	19,919	(d)	52	1,551	(d)
1971									
Number of centres (b)	440	730	284	287	88	111	40	20	2,000
Attendances at centres	1,157,877	1,627,988	534,994	303,214	276,056	155,195	80,963	30,116	4,166,403
Visits by nurses to homes	201,418(e)	162,129	2,474	37,045	31,697	73,502	17,905	8,000	534,170
Visits by nurses to hospitals	64,371	26,611	33,272	(d)	17,569	(d)	104	1,856	(d)

(a) Year ended 30 June.

(b) At end of year.

(c) Effective visits; patient seen.

(d) Not available.

(e) Total calls, whether effective or not effective calls unknown.

Source: C.B.C.S. *Official Year Books*, 1971 and 1972.

## INFANT WELFARE

TABLE 82 BIRTHS AND INFANT WELFARE—1962 TO 1971

Year ended 31 December	Live births	Number of infant welfare centres (a)	Attendances at infant welfare centres (b)	Average annual attendance per live birth (b)
1962	237,081	1,749	3,689,606	15.56
1963	235,689	1,796	3,644,631	15.46
1964	229,149	1,818	3,636,738	15.87
1965	222,854	1,847	3,598,781	16.15
1966	222,626	1,870	3,599,664	16.17
1967	229,296 (c)	1,902	3,656,821	15.95
1968	240,906	1,952	3,682,139	15.28
1969	250,176	1,993	3,870,950	15.47
1970	257,516	1,983	4,002,193	15.54
1971	276,362	2,000	4,166,403	15.08

(a) At end of year.

(b) For Queensland, South Australia and Northern Territory year ended 30 June.

(c) Prior to 1967 full-blood Aborigines were excluded.

Source: C.B.C.S. *Demography Bulletins and Official Year Books*, 1963 to 1972.



## PHARMACEUTICAL BENEFITS

Note: The figures in tables 83, 85 and 86 have been prepared on the basis of cash payments made in the year and, for some years, are not strictly comparable with similar figures in tables 87 to 94 which have been adjusted to an 'accrual' basis. In the former tables an amount of \$703,416 for benefit prescriptions, paid in 1972-73 but relating to 1971-72, is included in the figures for 1972-73, whereas in the latter tables it is included in the figures for 1971-72.

### PHARMACEUTICAL BENEFITS

TABLE 83 COST OF PHARMACEUTICAL BENEFITS—1963-64 TO 1972-73  
(S'000)

Year ended 30 June	Federal payments			Patients' contribu- tions on general benefit prescrip- tions	Total cost of benefit prescrip- tions	Federal payments to public hospitals and through miscel- laneous services		Total cost of pharma- ceutical benefits	Total Federal payments
	Benefit prescriptions								
	General (a)	Pensioner (b)	Total						
1964	46,461	20,602	67,063	15,574	82,637	11,776	94,412	78,839	
1965	48,930	21,564	70,494	16,841	87,336	11,708	99,044	82,203	
1966	53,078	24,071	77,149	17,481	94,630	14,635	109,265	91,784	
1967	56,656	29,280	85,936	18,347	104,283	15,344	119,628	101,281	
1968	56,800	32,115	88,915	18,504	107,420	16,219	123,639	105,134	
1969	64,025	36,609	100,634	20,129	120,764	17,739	138,503	118,373	
1970	73,228	41,069	114,297	21,942	136,238	22,422	158,660	136,718	
1971	88,176	45,181	133,357	24,384	157,741	26,918	184,659	160,275	
1972	90,062	52,005	142,067	35,467	177,534	31,201	208,735	173,268	
1973	87,431	58,139	145,571	48,640	194,211	32,062	226,273	177,633	

(a) Benefit prescriptions supplied to persons other than those eligible to receive pensioner pharmaceutical benefits.

(b) Benefit prescriptions supplied to persons eligible to receive pensioner benefits.

### PHARMACEUTICAL BENEFITS

TABLE 84 NUMBER OF PHARMACEUTICAL CHEMISTS AND MEDICAL PRACTITIONERS DISPENSING PHARMACEUTICAL BENEFITS PRESCRIPTIONS—STATES AND TERRITORIES—1963-64 TO 1972-73

A. *Pharmaceutical Chemists* approved under Section 90 of the *National Health Act* 1953-1973 for the purpose of supplying pharmaceutical benefits.

B. *Medical Practitioners* approved under Section 92 of the *National Health Act* 1953-1973 for the purpose of supplying pharmaceutical benefits in areas in which there are no other pharmaceutical services available.

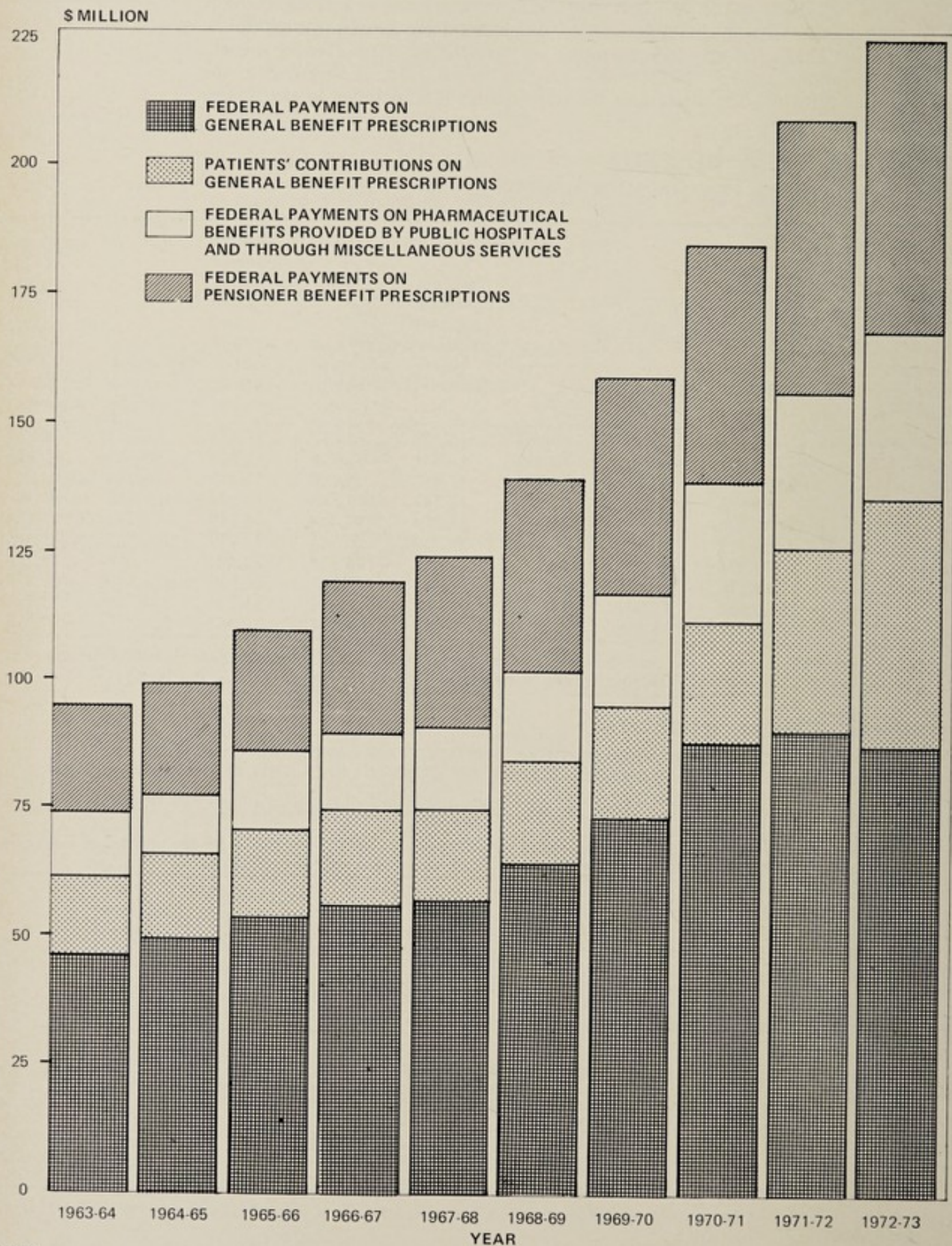
At 30 June	New South Wales (a)		Victoria		Queensland		South Australia (a)		Western Australia		Tasmania		Australian Capital Territory (a)		Northern Territory (a)		Australia	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1964	2,065	31	1,482	7	750	6	474	12	338	8	134	12	—	—	—	—	5,243	76
1965	2,101	32	1,520	7	775	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	—	—	—	—	5,836	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
1972	2,257	33	1,617	2	922	5	534	5	410	5	151	15	—	—	—	—	5,891	65
1973	2,154	29	1,587	1	920	6	510	6	408	6	148	15	69	—	21	—	5,817	63

(a) Prior to 1973, figures for Australian Capital Territory are included in New South Wales and Northern Territory in South Australia.

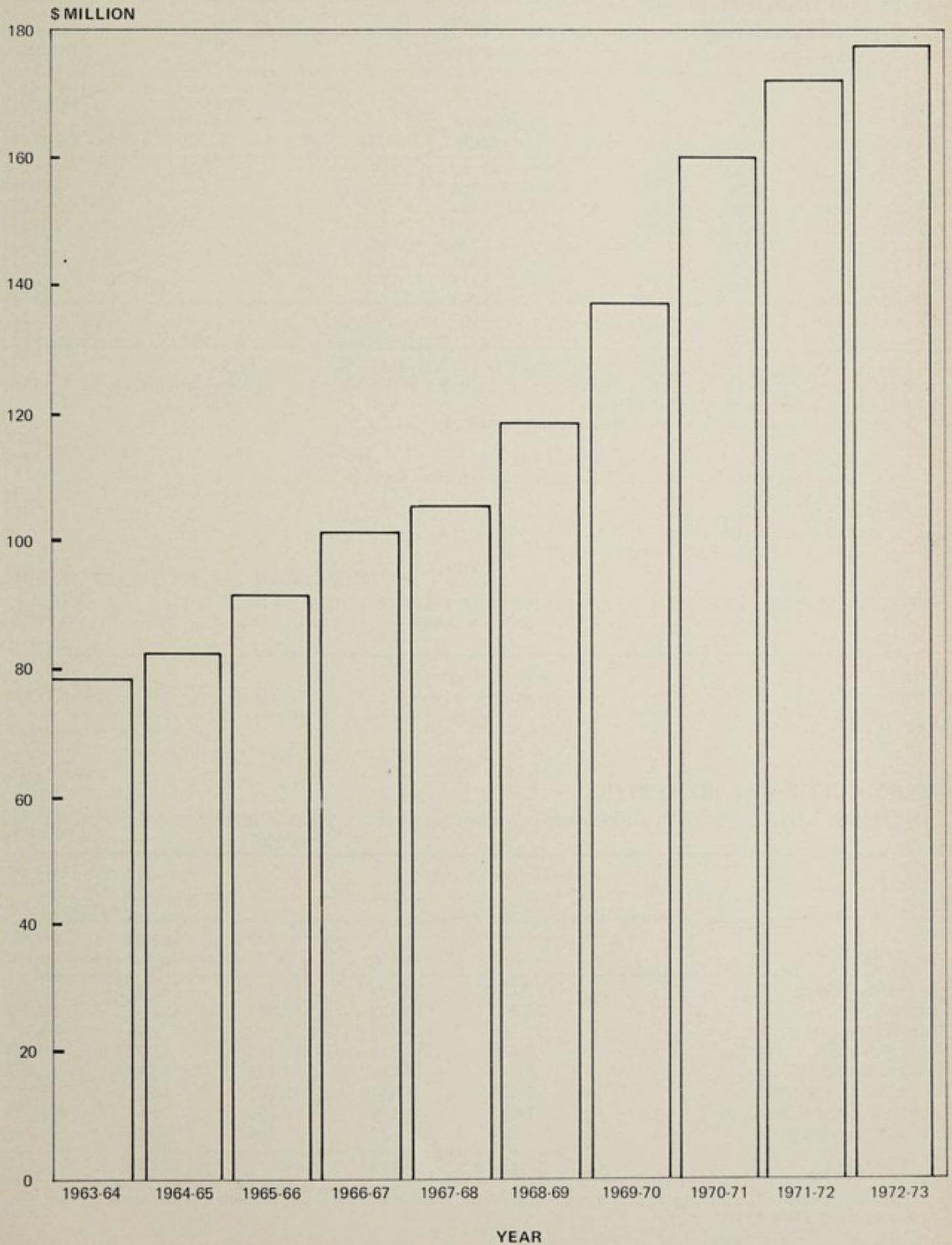


# PHARMACEUTICAL BENEFITS

GRAPH 19 COST OF PHARMACEUTICAL BENEFITS—1963-64 TO 1972-73





**PHARMACEUTICAL BENEFITS****GRAPH 20 TOTAL FEDERAL PAYMENTS—1963-64 TO 1972-73**



## PHARMACEUTICAL BENEFITS

TABLE 85 PAYMENTS TO PUBLIC HOSPITALS AND THROUGH MISCELLANEOUS SERVICES—STATES AND TERRITORIES—1963-64 TO 1972-73

(\$'000)

<i>Payments to public hospitals</i>										
<i>Year ended 30 June</i>	<i>New South Wales</i>	<i>Victoria</i>	<i>Queensland</i>	<i>South Australia</i>	<i>Western Australia</i>	<i>Tasmania</i>	<i>Australian Capital Territory (a)</i>	<i>Northern Territory (b)</i>	<i>Miscellaneous</i>	<i>Total</i>
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
1972	10,920	8,874	4,618	2,150	3,065	796	—	—	778	31,201
1973	11,600	6,218	5,324	2,714	3,751	995	255	251	955 (c)	32,062

(a) Prior to 1973 figures for Australian Capital Territory are included in New South Wales.

(b) Prior to 1973 figures for Northern Territory are not included in this table. Related costs were charged to Northern Territory expenditure as Medical Supplies.

(c) In 1972-73 miscellaneous services expenditure consisted of:—

	\$'000
Biological products and prophylactic materials	496
Commonwealth Medical Officers and Immigration Medical Services	53
Royal Flying Doctor Service	81
Bush Nursing Organisations	101
Special Issues for Research	59
Colostomy and Ileostomy Association	165
Total	955

## PHARMACEUTICAL BENEFITS

TABLE 86 COST OF BENEFIT PRESCRIPTIONS—STATES AND TERRITORIES—1972-73

(\$'000)

						(5 000)				
						Federal payments (a)		Patients' contributions on general benefit prescriptions	Total cost of benefit prescriptions	
						Benefit prescriptions				
State or Territory						General	Pensioner	Total		
New South Wales						33,756	23,498	57,254	18,292	75,546
Victoria						24,743	14,139	38,882	13,737	52,619
Queensland						12,310	9,487	21,797	7,094	28,891
South Australia						7,428	5,354	12,782	4,202	16,985
Western Australia						5,695	3,758	9,453	3,342	12,796
Tasmania						2,221	1,681	3,902	1,283	5,185
Australian Capital Territory						1,057	199	1,256	564	1,820
Northern Territory						221	23	244	126	370
Australia						87,431	58,139	145,571	48,640	194,211

(a) Excludes payments for pharmaceutical benefits provided by public hospitals and through miscellaneous services (see footnote (c) Table 85).



## PHARMACEUTICAL BENEFITS

TABLE 87 DISSECTION OF BENEFIT PRESCRIPTION COSTS(a) INTO INGREDIENT COST AND APPROVED SUPPLIERS' REMUNERATION—1963-64 TO 1972-73

(\$'000)

<i>Year ended 30 June</i>	<i>Cost of ingredients and containers (b)</i>	<i>Suppliers' remuneration (c)</i>	<i>Total cost of benefit prescriptions</i>
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	104,283
1968 . . . . .	66,662	40,758	107,420
1969 . . . . .	75,314	45,450	120,764
1970 . . . . .	85,821	50,418	136,238
1971 . . . . .	99,620	58,121	157,741
1972 . . . . .	113,414	64,824 r	178,237 r
1973 . . . . .	120,529	72,979	193,508

(a) Includes patients' contributions. Excludes costs in relation to pharmaceutical benefits provided by public hospitals and through miscellaneous services (see footnote (c) Table 85).

(b) Includes payments to suppliers for wastage on broken quantities of ready-prepared items.

(c) Includes mark-up on wholesale price and professional fees but does not include discount allowed to suppliers by wholesalers and manufacturers.

## PHARMACEUTICAL BENEFITS

TABLE 88 DISSECTION OF BENEFIT PRESCRIPTION COSTS(a) INTO INGREDIENT COST AND APPROVED SUPPLIERS' REMUNERATION—STATES AND TERRITORIES—1972-73

(\$'000)

<i>State or territory</i>	<i>Cost of ingredients and containers (b)</i>	<i>Suppliers' remuneration (c)</i>	<i>Total cost of benefit prescriptions</i>
New South Wales . . . . .	46,831	28,197	75,028
Victoria . . . . .	32,817	19,720	52,537
Queensland . . . . .	17,846	10,997	28,843
South Australia . . . . .	10,514	6,443	16,957
Western Australia . . . . .	7,916	4,859	12,775
Tasmania . . . . .	3,218	1,959	5,177
Australian Capital Territory . . . . .	1,151	669	1,820
Northern Territory . . . . .	236	134	370
Australia . . . . .	120,529	72,979	193,508

(a) See footnote (a) Table 87.

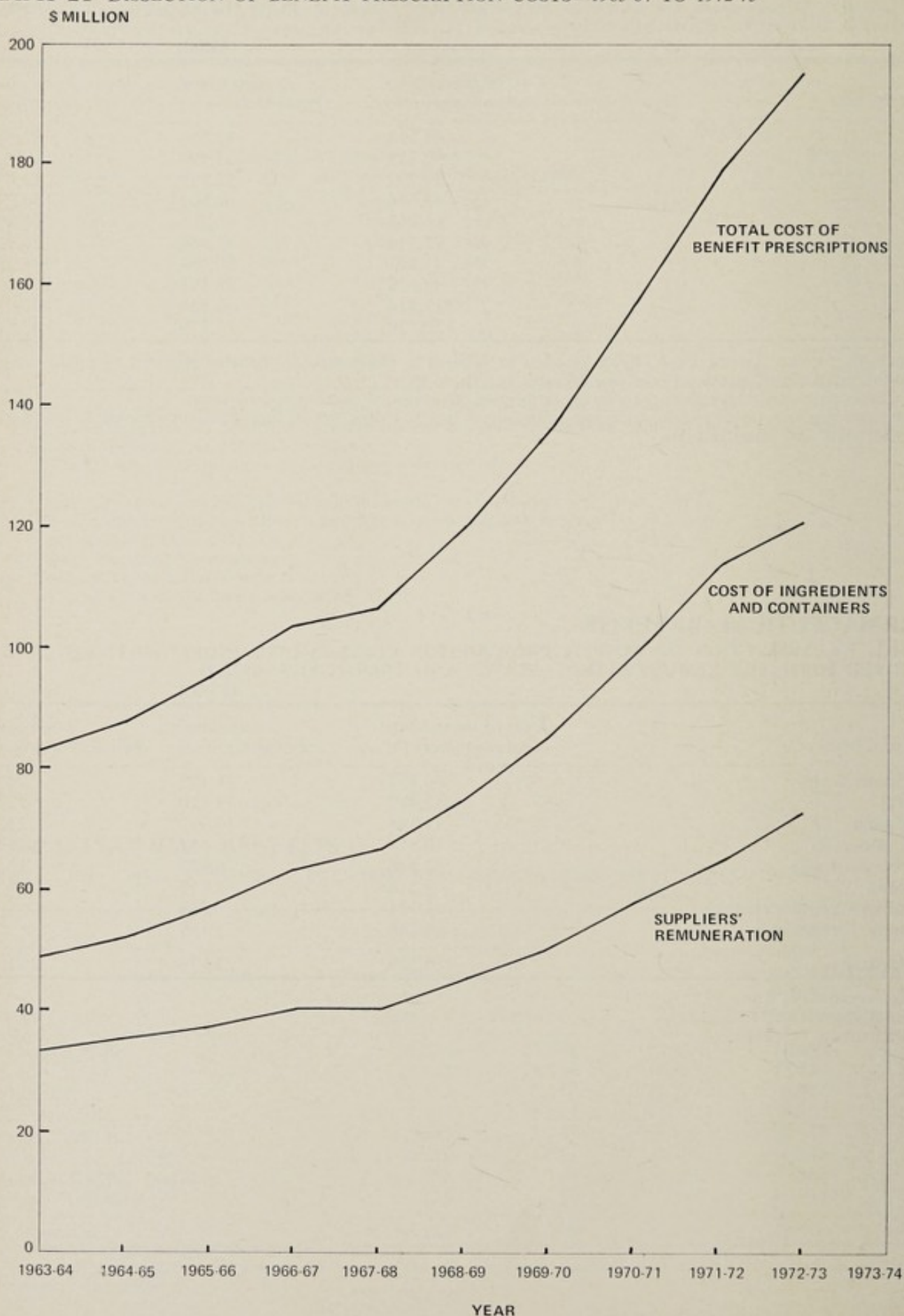
(b) See footnote (b) Table 87.

(c) See footnote (c) Table 87.



**PHARMACEUTICAL BENEFITS**

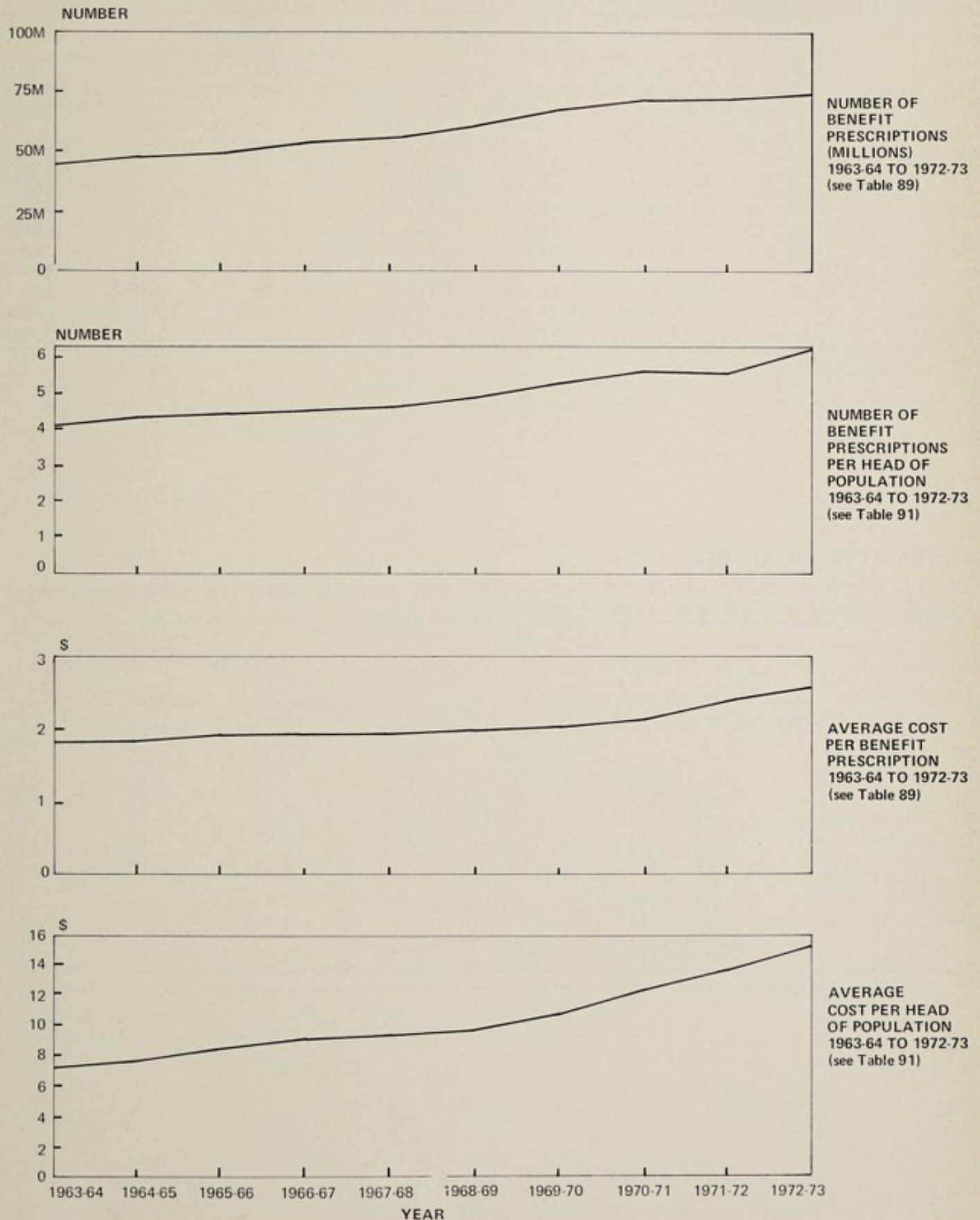
**GRAPH 21** DISSECTION OF BENEFIT PRESCRIPTION COSTS—1963-64 TO 1972-73





# PHARMACEUTICAL BENEFITS

GRAPH 22 PHARMACEUTICAL BENEFIT PRESCRIPTIONS—1963-64 TO 1972-73





## PHARMACEUTICAL BENEFITS

TABLE 89 NUMBER OF BENEFIT PRESCRIPTIONS AND AVERAGE COST PER BENEFIT PRESCRIPTION(a)—1963-64 TO 1972-73

Year ended 30 June	Benefit prescriptions			Average cost per benefit prescription		
	General	Pensioner	Total	General	Pensioner	Total
	'000	'000	'000	\$	\$	\$
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
1972 . . . . .	48,492	23,951	72,442	2.60 r	2.18 r	2.46 r
1973 . . . . .	49,115	25,561	74,676	2.76	2.26	2.59

(a) See footnote (a) Table 87.

## PHARMACEUTICAL BENEFITS

TABLE 90 NUMBER OF BENEFIT PRESCRIPTIONS AND AVERAGE COST PER BENEFIT PRESCRIPTION(a)—STATES AND TERRITORIES—1972-73

State or territory	Benefit prescriptions			Average cost per benefit prescription		
	General	Pensioner	Total	General	Pensioner	Total
	'000	'000	'000	\$	\$	\$
New South Wales . . . . .	18,469	10,300	28,770	2.80	2.26	2.61
Victoria . . . . .	13,871	6,095	19,967	2.77	2.32	2.63
Queensland . . . . .	7,147	4,304	11,452	2.71	2.20	2.52
South Australia . . . . .	4,251	2,375	6,626	2.73	2.25	2.56
Western Australia . . . . .	3,381	1,667	5,048	2.67	2.25	2.53
Tasmania . . . . .	1,294	728	2,022	2.70	2.30	2.56
Australian Capital Territory . . . . .	575	82	656	2.82	2.43	2.77
Northern Territory . . . . .	127	9	136	2.75	2.54	2.73
Australia . . . . .	49,115	25,561	74,676	2.76	2.26	2.59

(a) See footnote (a) Table 87.



## PHARMACEUTICAL BENEFITS

TABLE 91 NUMBER OF BENEFIT PRESCRIPTIONS PER HEAD OF POPULATION AND AVERAGE COST PER HEAD OF POPULATION(a)—1963-64 TO 1972-73

Year ended 30 June	Benefit prescriptions per head of population			Average cost per head of population		
	General population (b)	Pensioner population (c)	Total population	General population (b)	Pensioner population (c)	Total population
				\$	\$	\$
1964	3.04	15.82	4.01	6.07	24.47	7.47
1965	3.23	16.42	4.22	6.30	25.57	7.74
1966	3.31	16.66	4.35	6.65	26.91	8.23
1967	3.44	16.59	4.59	7.02	28.68	8.91
1968	3.43	16.81	4.65 r	6.96 r	29.39	9.02 r
1969	3.67 r	17.61	4.97 r	7.64 r	32.31	9.94 r
1970	3.92 r	18.46	5.29	8.47 r	35.25	10.98 r
1971	4.28 r	18.69	5.65 r	9.83 r	37.50	12.46 r
1972	4.16 r	19.40 r	5.62 r	10.81 r	42.33 r	13.82 r
1973	4.16	19.74	5.71	11.50	44.71	14.78

(a) See footnote (a) Table 87.

(b) Population excluding persons eligible to receive pensioner pharmaceutical benefits.

(c) Population of persons eligible to receive pensioner pharmaceutical benefits.

## PHARMACEUTICAL BENEFITS

TABLE 92 NUMBER OF BENEFIT PRESCRIPTIONS PER HEAD OF POPULATION AND AVERAGE COST PER HEAD OF POPULATION(a)—STATES AND TERRITORIES—1972-73

State or territory	Benefit prescriptions per head of population			Average cost per head of population		
	General population (b)	Pensioner population (c)	Total population	General population (b)	Pensioner population (c)	Total population
				\$	\$	\$
New South Wales	4.38	21.45	6.12	12.26	48.55	15.97
Victoria	4.28	18.15	5.58	11.85	42.02	14.68
Queensland	4.23	20.90	6.04	11.47	45.98	15.22
South Australia	3.96	19.18	5.54	10.82	43.16	14.17
Western Australia	3.49	17.43	4.74	9.31	39.24	12.00
Tasmania	3.69	16.49	5.12	9.98	38.00	13.11
Australian Capital Territory	3.61	17.54	4.00	10.17	42.68	11.10
Northern Territory	1.39	1.91	1.42	3.82	4.85	3.87
Australia	4.16	19.74	5.71	11.50	44.71	14.78

(a) See footnote (a) Table 87.

(b) See footnote (b) Table 91.

(c) See footnote (c) Table 91.



## PHARMACEUTICAL BENEFITS

TABLE 93 RESTRICTED AND UNRESTRICTED DRUGS—COST AND PRESCRIPTION VOLUME(a)—1972-73

	Benefit prescriptions		Total cost of benefit prescriptions	
	Number	Percentage of total	Amount	Percentage of total
	'000	%	\$'000	%
TYPE OF RESTRICTION:				
Authority required . . . . .	1,015	1.36	10,523	5.44
Authority not required—purpose specified . . . . .	7,698	10.31	29,757	15.38
Available as a pensioner benefit only . . . . .	2,240	3.00	3,149	1.63
For use in approved private hospitals only . . . . .	1	0.00	30	0.02
UNRESTRICTED BENEFITS . . . . .	63,722	85.33	150,049	77.54
Total . . . . .	74,676	100.00	193,508	100.00

(a) See footnote (a) Table 87.

## PHARMACEUTICAL BENEFITS

TABLE 94 NUMBER OF BENEFIT PRESCRIPTIONS AND COST OF MORE FREQUENTLY PRESCRIBED THERAPEUTIC CATEGORIES(a)—1972-73

Therapeutic category	Benefit prescriptions		Total cost of benefit prescriptions	
	Number	Percentage of total	Amount	Percentage of total
	'000	%	\$'000	%
Analgesics . . . . .	6,965	9.33	16,618	8.59
Antacids . . . . .	2,389	3.20	3,947	2.04
Anti-cholinergics . . . . .	1,199	1.61	4,257	2.20
Anti-convulsants . . . . .	445	0.60	1,927	1.00
Anti-depressants . . . . .	2,759	3.69	6,941	3.59
Anti-diabetics . . . . .	714	0.96	3,670	1.90
Anti-histamines . . . . .	4,255	5.70	8,625	4.46
Blood vessels—Drugs acting on . . . . .	3,749	5.02	15,609	8.07
Broad spectrum antibiotics . . . . .	6,907	9.25	21,749	11.24
Bronchial spasm preparations . . . . .	2,633	3.53	9,844	5.09
Corticosteroids . . . . .	765	1.02	2,775	1.43
Diuretics . . . . .	4,113	5.51	14,858	7.68
Expectorants and cough suppressants . . . . .	475	0.64	464	0.24
Eye drops . . . . .	1,413	1.89	2,583	1.33
Gastro intestinal sedatives . . . . .	733	0.98	1,524	0.79
Genito-urinary infections—Drugs acting on . . . . .	1,378	1.85	4,357	2.25
Heart—Drugs acting on . . . . .	1,541	2.07	4,884	2.52
Iron preparations . . . . .	1,226	1.64	1,581	0.82
Parkinsons—Drugs used for . . . . .	376	0.50	1,761	0.91
Penicillins . . . . .	5,522	7.40	16,077	8.31
Sedatives and hypnotics . . . . .	4,678	6.26	5,515	2.85
Sera vaccines . . . . .	897	1.20	1,324	0.68
Sulphonamides . . . . .	1,230	1.65	3,124	1.61
Tranquillisers . . . . .	3,569	4.78	9,911	5.12
Water and electrolyte replacement . . . . .	1,877	2.51	3,902	2.02
Other drugs . . . . .	12,868	17.21	25,681	13.26
Total . . . . .	74,676	100.00	193,508	100.00

(a) See footnote (a) Table 87.



# PUBLIC HEALTH SERVICES

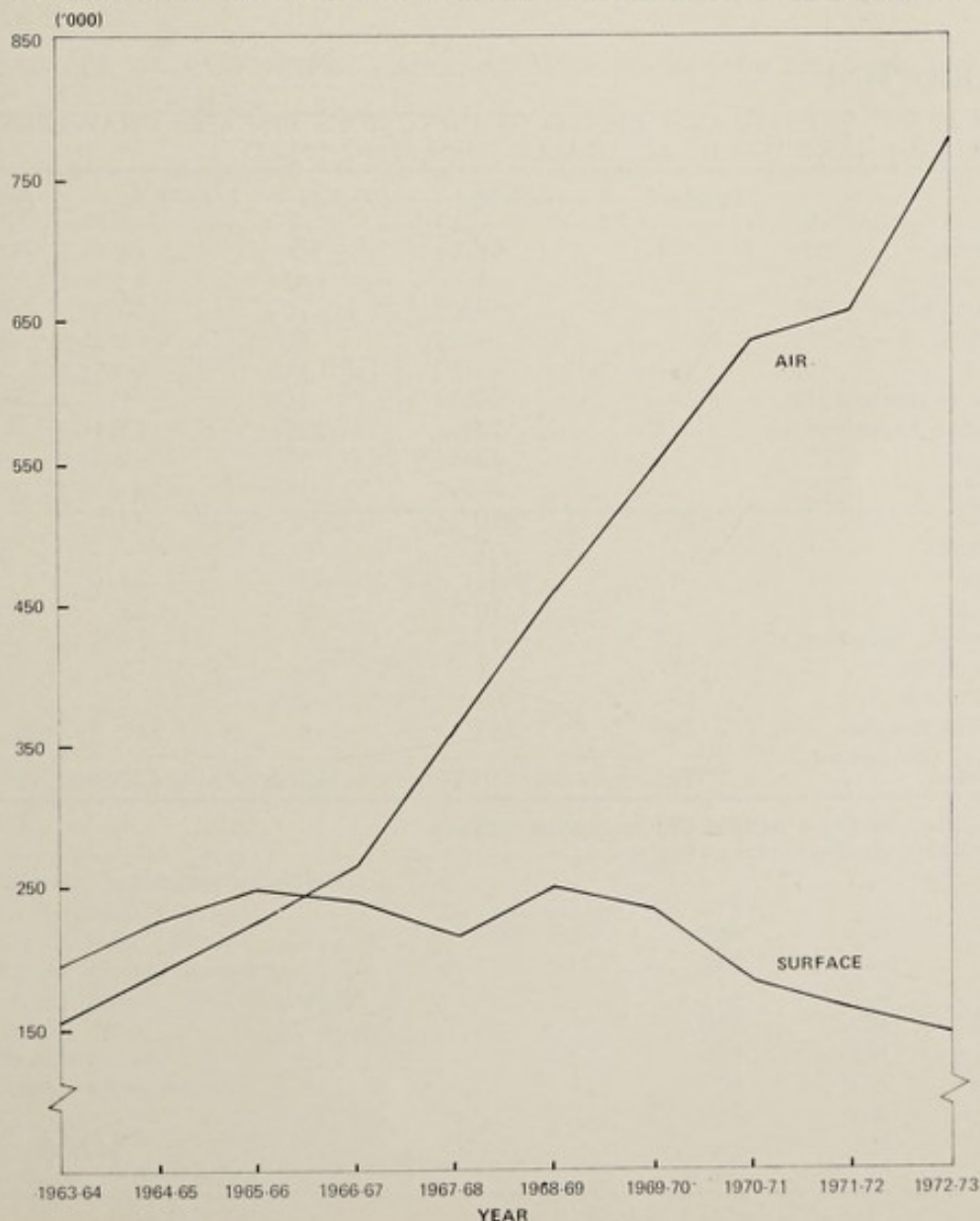
## QUARANTINE

TABLE 95 VESSELS BOARDED AND CLEARED—1963-64 TO 1972-73

Year ended 30 June	Surface			Air		
	Vessels	Crew	Passengers	Vessels	Crew	Passengers
1964	3,184	207,352	196,806	2,620	26,305	150,578
1965	3,359	220,229	220,355	2,936	31,566	188,033
1966	3,488	229,448	247,310	3,297	33,688	223,369
1967	4,040	240,833	238,646	3,918	39,316	262,961
1968	4,440	245,306	213,521	4,968	51,150	363,757
1969	4,813	276,853	248,852	5,896	57,936	460,773
1970	5,297	268,942	231,937	6,887	66,627	546,070
1971	6,233	302,632	183,743	8,127	86,425	633,672
1972	5,872	272,876	160,121	7,895	86,153	652,264
1973	5,975	256,232	144,042	11,879	92,289	777,812

## QUARANTINE

GRAPH 23 NUMBER OF PASSENGERS ON VESSELS BOARDED AND CLEARED—1963-64 TO 1972-73





## QUARANTINE

TABLE 96 VESSELS BOARDED AND CLEARED—STATES AND TERRITORIES—1972-73

State or Territory	Surface			Air		
	Vessels	Crew	Passengers	Vessels	Crew	Passengers
New South Wales . . . . .	1,406	65,444	36,635	8,388	57,518	508,551
Victoria . . . . .	420	19,570	17,260	413	5,574	47,315
Queensland . . . . .	1,149	46,679	11,820	544	4,655	35,554
South Australia . . . . .	205	9,974	5,852	1	10	—
Western Australia . . . . .	1,908	92,338	72,235	1,010	11,879	99,153
Tasmania . . . . .	555	12,507	38	n.a.	n.a.	n.a.
Australian Capital Territory . . . . .	n.a.	n.a.	n.a.	9	320	458
Northern Territory . . . . .	332	9,720	202	1,514	12,333	86,781
Australia . . . . .	5,975	256,232	144,042	11,879	92,289	777,812

## QUARANTINE

TABLE 97 NUMBER OF CASES (a) OF INFECTIOUS DISEASES ON OVERSEAS VESSELS (b) ARRIVING IN AUSTRALIA— 1968-69 TO 1972-73

Disease	1968-69	1969-70	1970-71	1971-72	1972-73
Chickenpox . . . . .	41	89	54	33	36
Dysentery . . . . .	—	1	—	—	2
Gastroenteritis . . . . .	—	4	1	12	45
Glandular fever . . . . .	—	—	2	2	2
Herpes . . . . .	—	—	1	—	—
Infectious dermatitis . . . . .	—	—	1	1	5
Infectious hepatitis . . . . .	2	21	22	12	4
Influenza . . . . .	—	25	5	1	13
Leprosy . . . . .	—	—	1	—	15
Measles . . . . .	204	410	223	44	53
Meningitis . . . . .	—	1	—	—	5
Mumps . . . . .	17	33	23	24	16
Rubella . . . . .	8	10	9	32	2
Salmonella infection . . . . .	1	—	—	—	4
Scarlet fever . . . . .	—	1	—	2	—
Tuberculosis . . . . .	—	—	2	2	1
Venereal disease . . . . .	248	245	218	312	308
Total . . . . .	521	840	562	477	511

(a) As diagnosed and notified by Quarantine Officers.

(b) Includes air and surface vessels.



## QUARANTINE

TABLE 98 NUMBER OF PEOPLE QUARANTINED—1963-64 TO 1972-73

<i>Year ended 30 June</i>	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Darwin</i>	<i>Total</i>
1964 . . .	10	—	—	—	7	(a)	17
1965 . . .	17	—	—	1	1	(a)	19
1966 . . .	33	2	1	—	4	9	49
1967 . . .	57	3	6	1	4	(a)	71
1968 . . .	76	—	18	1	13	(a)	108
1969 . . .	103	—	15	—	17	9	144
1970 . . .	70	—	2	—	17	16	105
1971 . . .	121	7	6	—	24	37	195
1972 . . .	131	25	5	—	1	20	182
1973 . . .	214	20	18	—	35	48	335

(a) Not available.

## QUARANTINE

TABLE 99 NUMBER OF PASSENGERS VACCINATED AGAINST SMALLPOX ON ARRIVAL IN AUSTRALIA—1963-64 TO 1972-73

<i>Year ended 30 June</i>	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Darwin</i>	<i>Total</i>
1964 . . .	481	2	(a)	—	191	(a)	674
1965 . . .	1,284	1	(a)	—	160	(a)	1,445
1966 . . .	2,102	2	94	—	160	763	3,121
1967 . . .	1,860	7	120	—	189	(a)	2,176
1968 . . .	2,417	15	130	—	185	(a)	2,747
1969 . . .	2,374	21	101	—	243	779	3,518
1970 . . .	3,847	13	195	1	251	958	5,265
1971 . . .	5,021	342	249	—	494	639	6,745
1972 . . .	6,386	301	398	—	579	510	8,174
1973 . . .	3,176	165	242	—	423	653	4,659

(a) Not available.

## QUARANTINE

TABLE 100 NUMBER OF ANIMALS IMPORTED—1968-69 TO 1972-73

<i>Type</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>	<i>1971-72</i>	<i>1972-73</i>
Animals for permanent quarantine in registered zoological gardens and circuses . . . . .	271	587	111	252	299
Cats and dogs—from New Zealand . . . . .	609	580	644	694	861
from United Kingdom . . . . .	913	287	—	752	852
from Papua New Guinea . . . . .	—	—	—	—	49
Cattle—from New Zealand . . . . .	52	802	1,471	2,509	2,959
Horses—from New Zealand . . . . .	757	895	964	924	1,124
from United Kingdom . . . . .	87	98	175	170	58
Monkeys . . . . .	375	404	300	—	630
Pigs—from New Zealand . . . . .	—	—	9	23	16
Laboratory animals for scientific institutions . . . . .	647	1,269	3,682	4,718	8,185



## QUARANTINE

TABLE 101 NUMBER OF LIVESTOCK EXPORTS—1972-73

Type	Number	Type	Number
Birds . . . . .	1,928	Horses . . . . .	905
Cats . . . . .	817	Laboratory animals . . . . .	483
Cattle . . . . .	16,614	Pigs . . . . .	959
Dogs . . . . .	3,997	Poultry . . . . .	615,214
Fish . . . . .	4,247 (a)	Sheep . . . . .	990,555
Goats . . . . .	1,903	Zoological animals . . . . .	2,180

(a) Excludes 95 consignments of unspecified numbers of fish.

## QUARANTINE

TABLE 102 IMPORTATION OF CATTLE SEMEN—NUMBER OF DOSES—1972-73

Type	Importations from			
	Canada	New Zealand	United Kingdom	Total
Aberdeen Angus . . . . .	—	2,000	2,684	4,684
Ayrshire . . . . .	—	220	403	623
Charollais . . . . .	3,136	26,773	86,475	116,384
Chianina . . . . .	3,672	—	—	3,672
Devon . . . . .	—	—	903	903
Friesian (Holstein) . . . . .	7,140	24,385	41,014	72,539
Galloway . . . . .	—	—	469	469
Guernsey . . . . .	—	—	714	714
Hereford . . . . .	—	1,443	15,222	16,665
Jersey . . . . .	—	2,719	1,392	4,111
Limousin . . . . .	2,915	—	44,310	47,225
Lincoln Red . . . . .	—	—	2,485	2,485
Maine Anjou . . . . .	7,033	—	—	7,033
Meuse/Rhine/Issel . . . . .	—	—	1,510	1,510
Red Poll . . . . .	—	—	216	216
Shorthorn . . . . .	—	—	2,325	2,325
Simmental . . . . .	15,712	11,894	137,318	164,924
South Devon . . . . .	—	—	9,164	9,164
Sussex . . . . .	—	—	5,058	5,058
Welsh Black . . . . .	—	—	482	482
Total . . . . .	39,608	69,434	352,144	461,186



## QUARANTINE

TABLE 103 EXPORTS OF CATTLE SEMEN—NUMBER OF DOSES—1972-73

Type	<i>Export to</i>									Total
	<i>Fiji</i>	<i>India</i>	<i>Indo- nesia</i>	<i>Malay- sia</i>	<i>New Guinea</i>	<i>New Zealand</i>	<i>Philip- pines</i>	<i>United States of America</i>	<i>Other</i>	
Aberdeen Angus .	—	—	—	—	180	500	30	—	—	710
Australian Illa- warra Shorthorn	—	150	—	650	—	172	—	—	—	972
Australian Milking Zebu . . .	82	—	—	1,500	—	—	—	—	—	1,582
Beef Shorthorn .	—	—	—	—	—	340	—	—	—	340
Bradford . . .	—	—	—	—	—	—	30	—	—	30
Brahman . . .	140	—	650	—	305	810	30	—	—	1,935
Dairy Shorthorn .	—	—	—	—	—	861	—	—	—	861
Droughtmaster .	—	—	—	—	40	—	—	—	—	40
Friesian (Holstein)	175	250	1,050	1,268	70	2,337	100	—	300	5,550
									(HONG KONG)	
Hereford . . .	—	—	—	—	—	680	30	—	—	710
Jersey . . . .	—	450	—	380	—	111	100	—	—	1,041
Murray Grey .	—	—	—	—	15	12,892	30	17,673	4,747	35,357
									(CANADA)	
Poll Hereford .	—	—	50	140	—	3,654	30	—	—	3,874
Poll Shorthorn .	—	—	—	—	—	366	—	770	100	1,236
									(SOUTH AFRICA)	
Red Poll . . .	—	—	—	—	—	147	—	—	—	147
Sahiwal . . . .	—	—	—	550	—	—	—	—	—	550
Santa Gertrudis .	240	—	569	—	60	2,710	30	—	100	3,709
									(KENYA)	
Tasmanian Grey .	—	—	—	—	—	50	—	1,000	500	1,550
									(CANADA)	
Total . . . .	637	850	2,319	4,488	670	25,630	410	19,443	5,747	60,194



## TUBERCULOSIS

TABLE 104 NUMBER OF ALLOWANCES, NOTIFICATIONS AND MORTALITY—1963 TO 1972

Year ended 31 December	Allowances current at 31 December	Notifications (a)		Deaths	
		Pulmonary	All forms	Pulmonary per 100,000 of popu- lation	All forms per 100,000 of popu- lation
1963	1,796	3,574	3,883	32.6	35.5
1964	1,573	3,113	3,446	27.9	30.9
1965	1,378	2,624	2,903	23.0	25.5
1966	1,177	2,276	2,549	19.6	22.0
1967	1,009	2,005	2,293	17.0	19.4
1968	858	1,926	2,233	16.0	18.6
1969	625	1,570	1,823	12.8	14.9
1970	532	1,455	1,712	11.6	13.7
1971	420	1,247	1,482	9.8	11.6
1972	457	1,260	1,475	9.7	11.4

(a) Excludes reactivations.

## TUBERCULOSIS

TABLE 105 NUMBER OF ALLOWANCES, NOTIFICATIONS AND MORTALITY—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1972

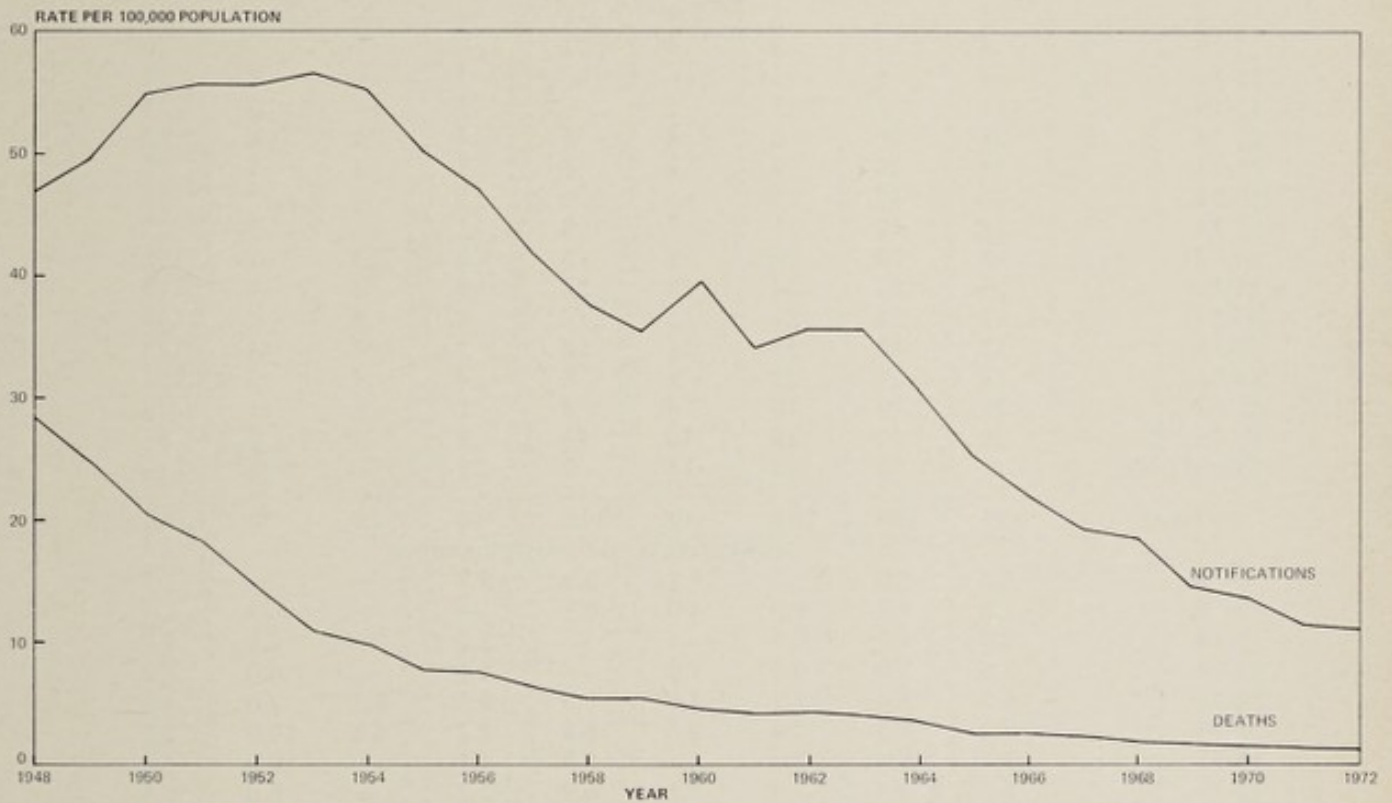
State or territory	Allowances current at 31 Decem- ber 1972	Notifications (a) 1972		Deaths 1972	
		Pulmonary	All forms	Pulmonary per 100,000 of popu- lation	All forms per 100,000 of popu- lation
New South Wales	125	429	480	9.2	10.3
Victoria	128	299	371	8.4	10.4
Queensland	82	205	229	10.9	12.2
South Australia	45	99	121	8.3	10.2
Western Australia	33	116	144	11.0	13.6
Tasmania	16	46	48	11.7	12.2
Australian Capital Territory	2	16	21	10.1	13.3
Northern Territory	26	50	61	53.7	65.5
Australia	457	1,260	1,475	9.7	11.4

(a) Excludes reactivations.



**TUBERCULOSIS**

**GRAPH 24** NOTIFICATIONS (EXCLUDING REACTIVATIONS) PER 100,000 POPULATION—  
ALL FORMS—1948 TO 1972  
DEATHS PER 100,000 POPULATION—ALL FORMS—1948 TO 1971





## TUBERCULOSIS

TABLE 106 NUMBER AND PERCENTAGE OF NOTIFICATIONS OF PULMONARY DISEASE (EXCLUDING REACTIVATIONS)—AGE GROUPS—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1972

Age group	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	N.T.	Aust.
NUMBER OF NOTIFICATIONS									
0-4	5	6	3	9	1	4	—	—	28
5-9	8	5	2	4	1	—	—	—	20
10-14	4	5	1	—	—	1	—	1	12
15-19	11	9	1	1	—	3	—	3	28
20-24	28	16	6	4	5	4	1	1	65
25-29	18	23	9	2	8	1	1	5	67
30-34	16	19	5	—	6	2	—	5	53
35-39	28	19	11	7	8	1	—	3	77
40-44	46	24	20	8	6	2	3	7	116
45-49	56	27	24	13	12	9	3	5	149
50-54	47	24	27	3	17	6	5	7	136
55-59	37	32	24	11	14	3	—	4	125
60-64	34	26	22	6	8	4	1	2	103
65-69	21	19	18	8	8	1	2	1	78
70-74	29	10	18	10	13	3	—	4	87
75 and over	41	35	14	13	9	2	—	2	116
Total	429	299	205	99	116	46	16	50	1,260
PERCENTAGE OF NOTIFICATIONS									
0-4	1.2	2.0	1.5	9.1	0.9	8.7	—	—	2.2
5-9	1.9	1.7	1.0	4.0	0.9	—	—	—	1.6
10-14	0.9	1.7	0.5	—	—	2.2	—	2.0	1.0
15-19	2.6	3.0	0.5	1.0	—	6.5	—	6.0	2.2
20-24	6.5	5.4	2.9	4.0	4.3	8.7	6.3	2.0	5.2
25-29	4.2	7.7	4.4	2.0	6.9	2.2	6.3	10.0	5.3
30-34	3.7	6.4	2.4	—	5.2	4.3	—	10.0	4.2
35-39	6.5	6.4	5.4	7.1	6.9	2.2	—	6.0	6.1
40-44	10.7	8.0	9.8	8.1	5.2	4.3	18.8	14.0	9.2
45-49	13.1	9.0	11.7	13.1	10.3	19.6	18.8	10.0	11.8
50-54	11.0	8.0	13.2	3.0	14.6	13.0	31.3	14.0	10.8
55-59	8.6	10.7	11.7	11.1	12.1	6.5	—	8.0	9.9
60-64	7.9	8.7	10.7	6.1	6.9	8.7	6.3	4.0	8.2
65-69	4.9	6.4	8.8	8.1	6.9	2.2	12.5	2.0	6.2
70-74	6.8	3.3	8.8	10.1	11.2	6.5	—	8.0	6.9
75 and over	9.6	11.7	6.8	13.1	7.8	4.3	—	4.0	9.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0



## TUBERCULOSIS

TABLE 107 NUMBER AND PERCENTAGE OF NOTIFICATIONS OF ALL FORMS OF DISEASE (EXCLUDING REACTIVATIONS)—AGE GROUPS—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1972

<i>Age group</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>	<i>Aust.</i>
NUMBER OF NOTIFICATIONS									
0-4 . . .	13	10	10	10	13	4	1	—	61
5-9 . . .	9	9	4	5	3	—	1	—	31
10-14 . . .	4	9	1	—	1	1	—	1	17
15-19 . . .	12	11	1	2	—	4	1	3	34
20-24 . . .	31	22	7	6	7	4	1	1	79
25-29 . . .	20	27	10	4	8	2	1	7	79
30-34 . . .	20	27	6	2	6	2	—	7	70
35-39 . . .	33	25	14	7	10	1	—	5	95
40-44 . . .	49	31	21	10	8	2	3	8	132
45-49 . . .	60	32	25	17	15	9	5	5	168
50-54 . . .	49	28	28	5	19	6	5	9	149
55-59 . . .	40	33	25	11	14	3	—	4	130
60-64 . . .	37	36	23	8	8	4	1	4	121
65-69 . . .	22	23	19	8	9	1	2	1	85
70-74 . . .	35	11	20	12	14	3	—	4	99
75 and over . . .	46	37	15	14	9	2	—	2	125
Total . . .	480	371	299	121	144	48	21	61	1,475
PERCENTAGE OF NOTIFICATIONS									
0-4 . . .	2.7	2.7	4.4	8.3	9.0	8.3	4.8	—	4.1
5-9 . . .	1.9	2.4	1.7	4.1	2.1	—	4.8	—	2.1
10-14 . . .	0.8	2.4	0.4	—	0.7	2.1	—	1.6	1.2
15-19 . . .	2.5	3.0	0.4	1.7	—	8.3	4.8	4.9	2.3
20-24 . . .	6.5	5.9	3.1	5.0	4.9	8.3	4.8	1.6	5.4
25-29 . . .	4.2	7.3	4.4	3.3	5.6	4.2	4.8	11.5	5.4
30-34 . . .	4.2	7.3	2.6	1.7	4.2	4.2	—	11.5	4.7
35-39 . . .	6.9	6.7	6.1	5.8	6.9	2.1	—	8.2	6.4
40-44 . . .	10.2	8.4	9.2	8.3	5.6	4.2	14.3	13.1	8.9
45-49 . . .	12.5	8.6	10.9	14.0	10.4	18.8	23.8	8.2	11.4
50-54 . . .	10.2	7.5	12.2	4.1	13.2	12.5	23.8	14.8	10.1
55-59 . . .	8.3	8.9	10.9	9.1	9.7	6.3	—	6.6	8.8
60-64 . . .	7.7	9.7	10.0	6.6	5.6	8.3	4.8	6.6	8.2
65-69 . . .	4.6	6.2	8.3	6.6	6.3	2.1	9.5	1.6	5.8
70-74 . . .	7.3	3.0	8.7	9.9	9.7	6.3	—	6.6	6.7
75 and over . . .	9.6	10.0	6.6	11.6	6.3	4.2	—	3.3	8.5
Total . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0



**TUBERCULOSIS**

TABLE 108 NUMBER OF REACTIVATIONS—1965 TO 1972

<i>Year ended 31 December</i>	<i>Reactivations</i>		<i>Pulmonary per 100,000 of population</i>	<i>All forms per 100,000 of population</i>
	<i>Pulmonary</i>	<i>All forms</i>		
1965 . . . . .	(a)	242	(a)	2.1
1966 . . . . .	(a)	212	(a)	1.8
1967 . . . . .	(a)	239	(a)	2.0
1968 . . . . .	(a)	198	(a)	1.6
1969 . . . . .	(a)	157	(a)	1.3
1970 . . . . .	(a)	199	(a)	1.6
1971 . . . . .	137	149	1.1	1.2
1972 . . . . .	113	130	0.9	1.0

(a) Not available.

**TUBERCULOSIS**TABLE 109 NUMBER OF REACTIVATIONS—STATES AND TERRITORIES—  
YEAR ENDED 31 DECEMBER 1972

<i>State or territory</i>	<i>Reactivations</i>		<i>Pulmonary per 100,000 of population</i>	<i>All forms per 100,000 of population</i>
	<i>Pulmonary</i>	<i>All forms</i>		
New South Wales . . . . .	46	46	1.0	1.0
Victoria . . . . .	32	42	0.9	1.2
Queensland . . . . .	13	15	0.7	0.8
South Australia . . . . .	8	11	0.7	0.9
Western Australia . . . . .	6	8	0.6	0.8
Tasmania . . . . .	3	3	0.8	0.8
Australian Capital Territory . . . . .	—	—	—	—
Northern Territory . . . . .	5	5	5.4	5.4
Australia . . . . .	113	130	0.9	1.0

**TUBERCULOSIS**

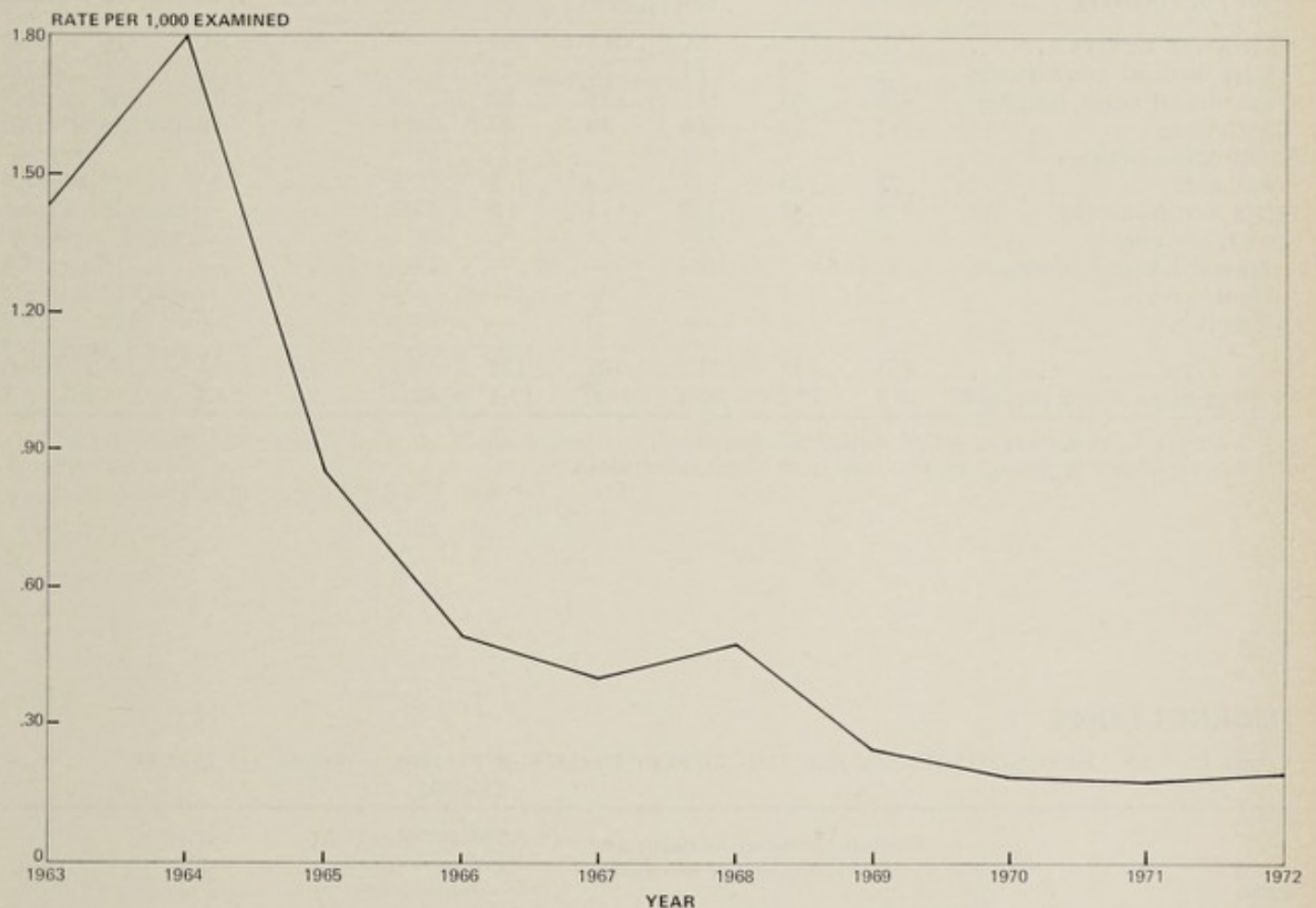
TABLE 110 RESULTS OF MASS X-RAY SURVEYS—1963 TO 1972

<i>Year ended 31 December</i>	<i>Number examined</i>	<i>Active and probably active T.B. cases</i>	
		<i>Number found</i>	<i>Rate per 1,000 examined</i>
1963 . . . . .	2,078,835	2,972	1.43
1964 . . . . .	1,979,416	3,535	1.79
1965 . . . . .	2,033,728	1,729	0.85
1966 . . . . .	1,947,552	988	0.51
1967 . . . . .	1,974,142	827	0.42
1968 . . . . .	2,067,558	990	0.48
1969 . . . . .	1,846,111	457	0.25
1970 . . . . .	1,679,680	323	0.19
1971 . . . . .	1,526,679	268	0.18
1972 . . . . .	1,536,648	295	0.19



## TUBERCULOSIS

GRAPH 25 RESULTS OF MASS X-RAY SURVEYS—RATE OF ACTIVE AND PROBABLY ACTIVE TUBERCULOSIS CASES PER 1,000 EXAMINED—1963 TO 1972



## TUBERCULOSIS

TABLE 111 RESULTS OF MASS X-RAY SURVEYS—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1972

State or territory	Number examined	Active and probably active T.B. cases	
		Number found	Rate per 1,000 examined
New South Wales	443,466	76	0.17
Victoria	652,752	95	0.15
Queensland	223,717	55	0.25
South Australia	81,833	15	0.18
Western Australia	64,060	15	0.23
Tasmania	61,255	9	0.15
Australian Capital Territory	—	—	—
Northern Territory	9,565	30	3.14
Australia	1,536,648	295	0.19



## TUBERCULOSIS

TABLE 112 SOURCES OF NOTIFICATIONS AND REACTIVATIONS—PULMONARY—STATES AND TERRITORIES—YEAR ENDED 31 DECEMBER 1972

<i>Source of discovery</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>	<i>Aust.</i>	<i>% of total</i>
Mass X-ray surveys . . . . .	90	100	54	15	16	11	(a)	30	316	23.0
Private medical practitioners . . . . .	96	66	14	26	23	5	8	2	240	17.5
General and chest hospitals . . . . .	124	61	117	16	20	13	—	13	364	26.5
Chest clinics . . . . .	112	71	24	36	49	14	8	10	324	23.6
Repatriation clinics and hospitals . . . . .	29	25	7	4	9	3	—	—	77	5.6
Death certificates (b) . . . . .	6	2	2	3	5	3	—	—	21	1.5
Special surveys:										
Mental hospital surveys . . . . .	13	5	—	—	—	—	—	—	18	1.3
Gaol surveys . . . . .	2	1	—	—	—	—	—	—	3	0.2
Others . . . . .	3	—	—	7	—	—	—	—	10	0.7
Total . . . . .	475	331	218	107	122	49	16	55	1,373	100.0
% from mass X-ray surveys	18.9	30.2	24.8	14.0	13.1	22.4	(a)	54.5	23.0	

(a) No mass X-ray surveys in A.C.T. during this period.

(b) Not previously notified cases who died from active tuberculosis.

## TUBERCULOSIS

TABLE 113 EXPENDITURE UNDER THE TUBERCULOSIS ACT (1948)—1963-64 TO 1972-73 (\$'000)

<i>Year ended 30 June</i>	<i>Reimbursements to states and Federal payments in territories</i>		<i>Allowances paid to sufferers through Department of Social Security</i>	<i>Total</i>
	<i>Capital (a)</i>	<i>Maintenance (b)</i>		
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
1972 . . . . .	438	9,941	630	11,009
1973 . . . . .	388	11,242	780	12,409

(a) Excludes capital payments for A.C.T. and N.T.

(b) Includes an amount payable from the Consolidated Revenue Fund. For year ended 30 June 1973 this amount was \$386,849.



## TUBERCULOSIS

TABLE 114 EXPENDITURE UNDER THE *TUBERCULOSIS ACT* (1948)—STATES AND TERRITORIES—1972-73

(\$'000)

<i>State or Territory</i>	<i>Reimbursements to states and Federal payments in territories</i>		<i>Allowances paid to sufferers through Department of Social Security</i>	<i>Total</i>
	<i>Capital</i>	<i>Maintenance (a)</i>		
New South Wales . . .	50	3,609	223	3,883
Victoria . . . . .	16	3,322	198	3,536
Queensland . . . . .	27	1,932	157	2,116
South Australia . . . .	243	811	67	1,121
Western Australia . . .	20	797	46	863
Tasmania . . . . .	32	333	38	403
Australian Capital Territory . . . . .	(b)	64	2	65 (c)
Northern Territory . . .	(b)	373	49	422 (c)
Australia . . . . .	388 (c)	11,242	780	12,409 (c)

(a) Includes \$386,849 payable from the Consolidated Revenue Fund.

(b) Not available.

(c) Excludes capital payments for A.C.T. and N.T.



## THERAPEUTIC SUBSTANCES

TABLE 115 ADVERSE DRUG REACTION REPORTS—SOURCE OF REPORTS—1964 TO 1972

Year ended 31 December	Hospitals	Medical practitioners			Other (including dentists, pharmacists and pharmaceutical companies)	Total	Per cent from hospitals
		General practitioners	Specialist	Total			
	No.	No.	No.	No.	No.	No.	%
1964 . . .	38	(a)	(a)	82	—	120	31.7
1965 . . .	49	(a)	(a)	183	—	232	21.1
1966 . . .	69	(a)	(a)	253	—	322	21.4
1967 . . .	52	(a)	(a)	287	—	339	15.3
1968 . . .	133	(a)	(a)	387	16	536	24.8
1969 . . .	175	(a)	(a)	802	44	1,021	17.1
1970 . . .	396	405	241	646	66	1,108	35.7
1971 . . .	846	455	181	636	75	1,557	54.3
1972 . . .	1,102	494	224	718	97	1,917	57.5

(a) Prior to 1970, separate figures for specialist and general practitioners are not available.

## THERAPEUTIC SUBSTANCES

TABLE 116 CONSUMPTION (LICIT) OF THE PRINCIPAL NARCOTIC DRUGS—1963 TO 1972

Year ended 31 December	Morphine		Codeine		Ethyl-morphine		Cocaine		Pethidine		Methadone		Dextro-moramide		Total principal narcotic drugs	
	Kg	Kg per million persons	Kg	Kg per million persons	Kg	Kg per million persons	Kg	Kg per million persons	Kg	Kg per million persons	Kg	Kg per million persons	Kg	Kg per million persons	Kg	Kg per million persons
1963 . . .	115	10.53	2,908	266.40	8	0.73	23	2.11	254	23.27	19	1.74	5	0.46	3,332	305.13
1964 . . .	117	10.51	2,811	252.42	20	1.80	21	1.89	152	13.65	10	0.90	3	0.27	3,134	281.58
1965 . . .	99	8.71	3,221	283.54	11	0.97	18	1.58	235	20.69	21	1.85	6	0.53	3,611	317.59
1966 . . .	100	8.66	3,030	262.54	9	0.78	16	1.39	207	17.94	14	1.21	6	0.52	3,382	292.81
1967 . . .	82	6.98	3,334	283.72	10	0.85	19	1.62	236	20.08	9	0.77	8	0.68	3,698	314.72
1968 . . .	92	7.65	3,699	307.46	13	1.08	20	1.66	297	24.69	18	1.50	8	0.66	4,147	344.72
1969 . . .	58	4.72	4,136	336.37	15	1.22	13	1.06	194	15.78	8	0.65	7	0.57	4,431	360.54
1970 . . .	60	4.78	4,027	320.88	13	1.04	16	1.27	249	19.84	15	1.20	11	0.88	4,391	349.88
1971 . . .	76	5.97	3,839	301.57	11	0.86	15	1.18	244	19.17	11	0.86	10	0.79	4,206	330.40
1972 . . .	60	4.66	4,078	316.12	9	0.72	16	1.27	263	20.37	17	1.30	10	0.74	4,453	345.19

Note: Kg = kilogram.



## NATIONAL BIOLOGICAL STANDARDS LABORATORY

TABLE 117 SUMMARY OF ALL SAMPLES EXAMINED—1971-72 AND 1972-73

Type	Number examined		Failures		Percentage failures	
	1971-72	1972-73	1971-72	1972-73	1971-72	1972-73
For Department of Health—						
Products on the Pharmaceutical Benefits list . . . . .	787	883	99	91	12.6	10.3
Products recommended by the Pharmaceutical Benefits Advisory Committee . . . . .	61	73	4	9	6.6	12.3
New brands of existing Pharmaceutical Benefits . . . . .	95	62	6	11	6.3	17.7
Veterinary products—						
Viral vaccines . . . . .	14	19	—	—	—	—
Veterinary antibiotics . . . . .	29	16	9	9	31.0	56.3
Veterinary vaccines . . . . .	63	41	38	8	60.3	19.5
Miscellaneous . . . . .	27	89	3	—	11.1	—
For other Federal Departments (a) . . . . .	490	135	45	16	9.2	11.9
Dressings . . . . .	94	—	26	—	27.7	—
Medical equipment (b) . . . . .	329	354	1	1	0.3	0.3
Miscellaneous drug samples (c) . . . . .	201	92	20	26	10.0	28.3
Total . . . . .	2,041	1,716	227	171	11.1	10.0

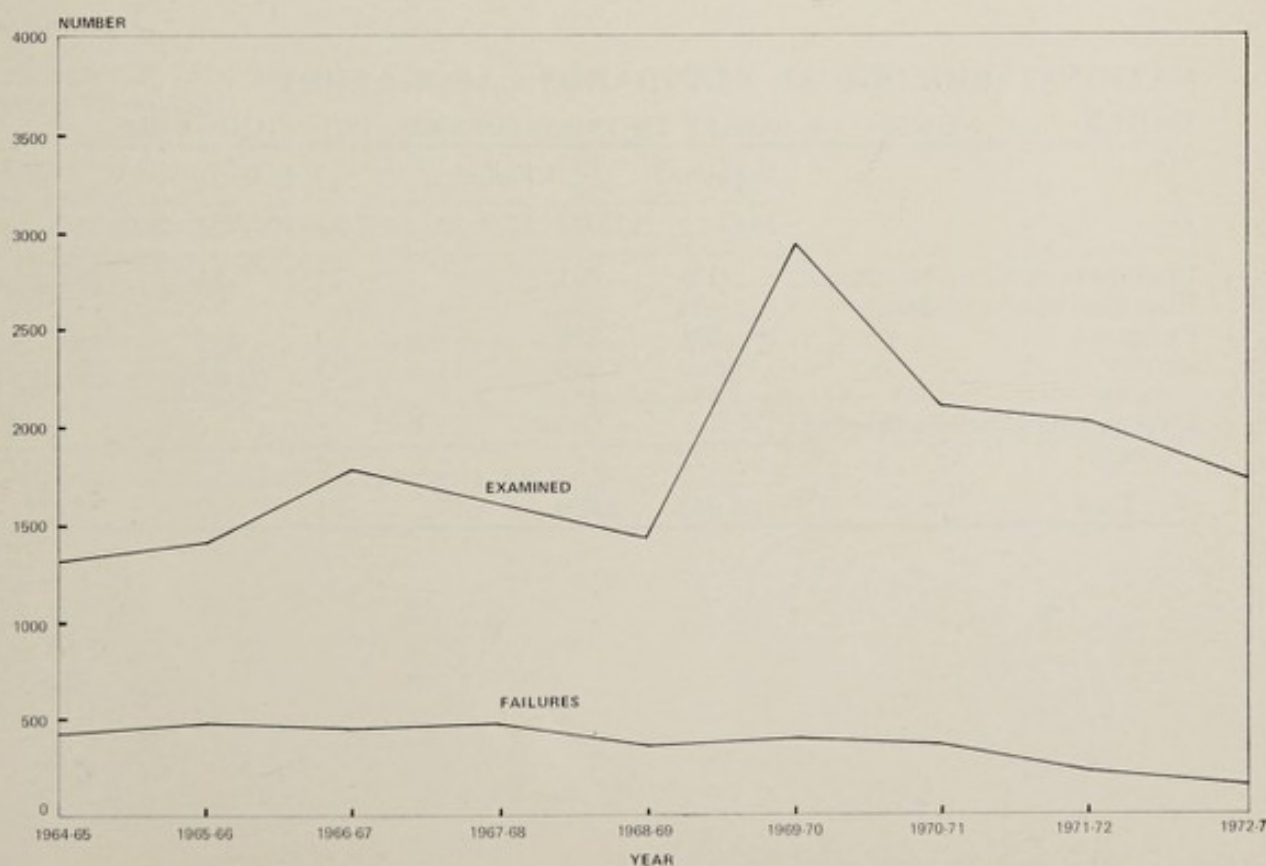
(a) 1971-72 figures include 149 samples examined and 24 failures also shown elsewhere. The corresponding figures for 1972-73 are 48 and Nil respectively.

(b) Number of batches tested.

(c) 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.

## NATIONAL BIOLOGICAL STANDARDS LABORATORY

GRAPH 26 SUMMARY OF ALL SAMPLES—EXAMINATIONS AND FAILURES—1964-65 TO 1972-73





## NATIONAL BIOLOGICAL STANDARDS LABORATORY

TABLE 118 SAMPLES EXAMINED—REASONS FOR FAILURE AS PERCENTAGE OF TOTAL FAILURES—1971-72 AND 1972-73

Reason	(%)			
	Products for human use (a)		Products for veterinary use (b)	
	1971-72	1972-73	1971-72	1972-73
Acidity or alkalinity . . . . .	3.1	3.5	—	5.0
Container content . . . . .	3.6	2.9	—	—
Disintegration . . . . .	4.6	8.2	—	10.0
Dressings (various reasons other than sterility) (c) . . . . .	13.3	—	—	—
Labelling . . . . .	11.2	5.3	41.9	15.0
Loss on drying . . . . .	6.1	4.7	—	—
Miscellaneous (e.g. colouring, physical appearance) . . . . .	9.7	11.2	—	10.0
Particulate matter . . . . .	5.6	5.9	—	—
Potency . . . . .	26.0	40.6	51.2	50.0
Safety, contamination or misidentification	0.5	2.4	4.7	—
Sterility . . . . .	6.1	1.8	2.3	10.0
Uniformity of weight . . . . .	10.2	13.5	—	—
Total . . . . .	100.0	100.0	100.0	100.0

(a) Includes samples which failed for two or more reasons: 1971-72, 6; 1972-73, 19.

(b) Includes samples which failed for two or more reasons: 1971-72, 5; 1972-73, 3.

(c) 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.

## NATIONAL BIOLOGICAL STANDARDS LABORATORY

TABLE 119 NUMBER OF SAFETY TESTS PERFORMED—1971-72 AND 1972-73

Type	Examined		Failed		Indeterminable	
	1971-72	1972-73	1971-72	1972-73	1971-72	1972-73
Disposable medical equipment	329	491	1	27	15	25
Histamine-like substances . . . . .	82	70	—	—	—	—
Pyrogens . . . . .	271	252	—	—	—	—
Sterility . . . . .	1,063	1,026	11	43	32	50
Toxicity . . . . .	198	161	1	1	—	—
Viral vaccine identity and safety testing . . . . .	22	—	—	—	—	—
Total . . . . .	1,965	2,000	13	71	47	75



## ACOUSTIC LABORATORIES

TABLE 120 NEW CASES EXAMINED—1968-69 TO 1972-73

Category	1968-69	1969-70	1970-71	1971-72	1972-73
Persons under 21 years (a)	7,791	8,590	9,800	11,322	13,036
Pensioners (excluding repatriation) (b)	11,601	9,673	8,907	8,765	9,119
Repatriation (c)	4,979	5,588	5,885	5,586	4,983
Armed Forces (serving)	1,294	918	982	877	728
Federal Departments (d)	739	862	719	571	540
State Departments (Queensland only) (e)	183	279	309	238	133
Other	1,014	1,128	991	1,119	912
<i>Sub-total</i>	27,601	27,038	27,593	28,478	29,451
Civil aviation referrals (f)	880	1,059	1,166	806	616
Total	28,481	28,097	28,759	29,284	30,067

(a) All persons under 21 years of age included in this category irrespective of source of referral.

(b) Pensioners and their dependants as defined in the National Health Act.

(c) Persons referred by Repatriation Department.

(d) Mainly referrals by Australian Government Medical Officers; persons in this category are not entitled to fitting of a hearing aid except in compensation cases.

(e) Referred by the Queensland Government in connection with cases of compensation for loss of hearing; hearing aids not provided to these persons.

(f) Audiometric examinations of flight crews as required by Department of Civil Aviation and for which a charge is made; hearing aids are not provided to these persons.

## ACOUSTIC LABORATORIES

TABLE 121 NEW CASES EXAMINED—STATES—1972-73

Category	N.S.W. (incl. A.C.T.)	Vic.	Qld	S.A. (incl. N.T.)	W.A.	Tas.	Aust.
Persons under 21 years (a)	4,066	2,400	3,511	1,347	1,102	610	13,036
Pensioners (excluding repatriation) (b)	3,346	2,195	1,417	1,091	707	363	9,119
Repatriation (c)	1,961	1,586	481	387	452	116	4,983
Armed Forces (serving)	339	82	196	52	26	33	728
Federal Departments (d)	178	137	78	93	29	25	540
State Departments (Queensland only) (e)	—	—	133	—	—	—	133
Other	12	74	593	103	102	28	912
<i>Sub-total</i>	9,902	6,474	6,409	3,073	2,418	1,175	29,451
Civil aviation referrals (f)	129	188	98	61	88	52	616
Total	10,031	6,662	6,507	3,134	2,506	1,227	30,067

(a), (b), (c), (d), (e) and (f); see footnotes, Table 120.



## ACOUSTIC LABORATORIES

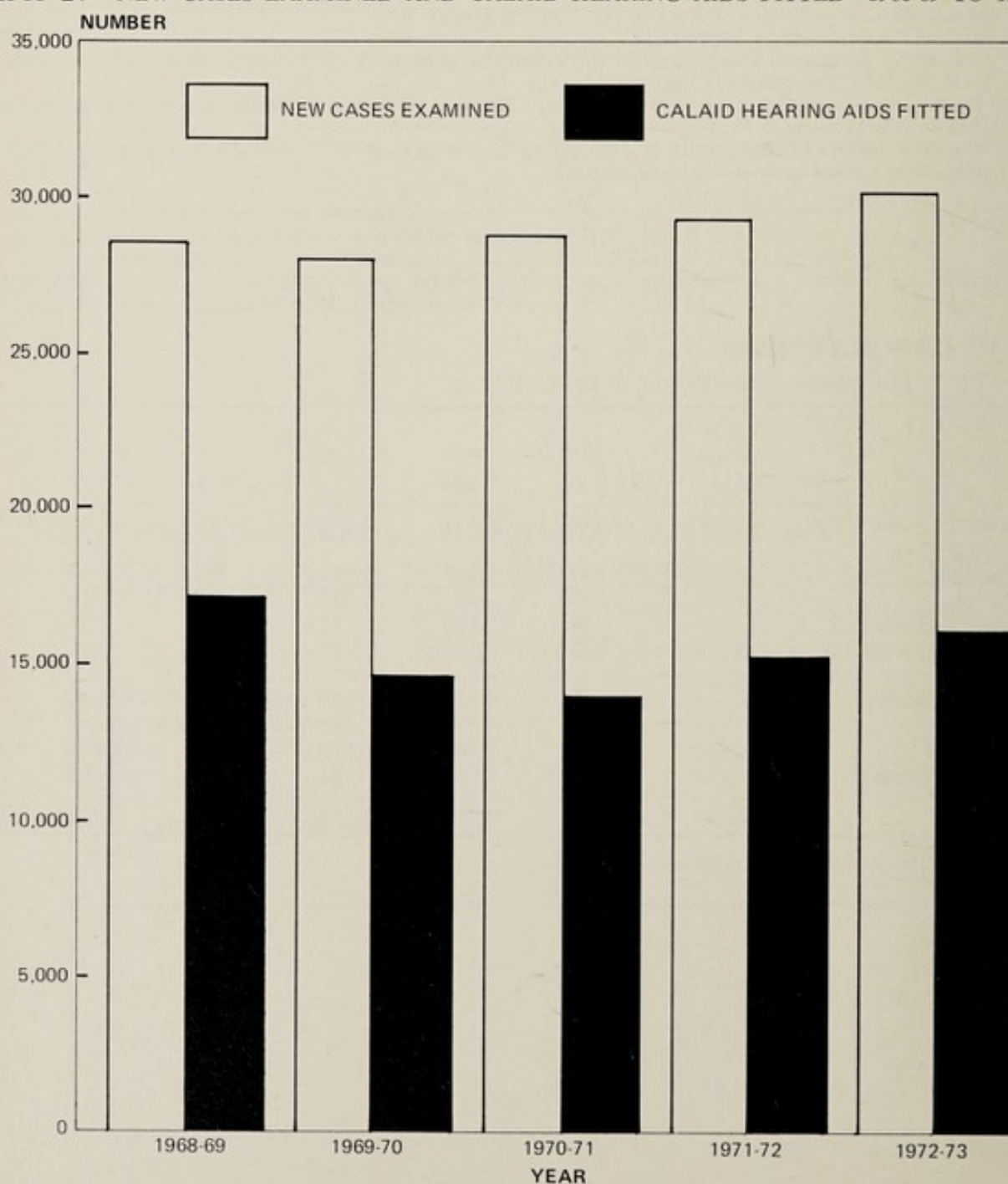
TABLE 122 CALAID HEARING AIDS FITTED—1968-69 TO 1972-73

<i>Recipients</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>	<i>1971-72</i>	<i>1972-73</i>
Persons under 21 years (a)	1,757	1,586	2,035	2,981	2,774
Pensioners (excluding repatriation) (b)	10,653	9,244	8,497	9,272	9,772
Repatriation (c)	4,743	3,800	3,462	2,945	3,425
Armed Forces (serving)	20	20	20	12	14
Federal Departments (d)	41	27	23	35	51
Other	—	1	—	—	—
<b>Total</b>	<b>17,214</b>	<b>14,678</b>	<b>14,037</b>	<b>15,245</b>	<b>16,036</b>

(a), (b), (c) and (d); see footnotes, Table 120.

## ACOUSTIC LABORATORIES

GRAPH 27 NEW CASES EXAMINED AND CALAID HEARING AIDS FITTED—1968-69 TO 1972-73





## ACOUSTIC LABORATORIES

TABLE 123 CALAID HEARING AIDS FITTED—STATES—1972-73

<i>Recipients</i>	<i>N.S.W. (incl. A.C.T.)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A. (incl. N.T.)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
Persons under 21 years (a)	938	641	363	490	244	98	2,774
Pensioners (excluding repatriation) (b)	3,849	2,230	1,520	1,152	649	372	9,772
Repatriation (c)	1,438	605	500	355	326	201	3,425
Armed Forces (serving)	1	4	5	—	4	—	14
Federal Departments (d)	6	6	34	2	2	1	51
Total	6,232	3,486	2,422	1,999	1,225	672	16,036

(a), (b), (c) and (d); see footnotes, Table 120.

## ACOUSTIC LABORATORIES

TABLE 124 CALAID HEARING AIDS ON LOAN—1968-69 TO 1972-73

<i>Borrower</i>	<i>At 30 June</i>				
	<i>1969</i>	<i>1970</i>	<i>1971</i>	<i>1972</i>	<i>1973</i>
Persons under 21 years (a)	9,329	10,249	11,619	13,816	15,700
Pensioners (excluding repatriation) (b)	11,179	19,348	26,490	33,417	40,194
Repatriation (c)	18,446	20,793	22,266	23,191	24,581
Armed Forces (serving)	103	113	128	139	147
Federal Departments (d)	1,868	1,888	1,907	1,926	1,971
Other	—	1	1	—	—
Total	40,925	52,392	62,411	72,489	82,593

(a), (b), (c) and (d); see footnotes, Table 120.

## ACOUSTIC LABORATORIES

TABLE 125 CALAID HEARING AIDS ON LOAN—STATES—AT 30 JUNE 1973

<i>Borrower</i>	<i>N.S.W. (incl. A.C.T.)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A. (incl. N.T.)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
Persons under 21 years (a)	4,223	4,752	2,946	2,035	1,144	600	15,700
Pensioners (excluding repatriation) (b)	14,948	9,410	6,718	4,341	3,312	1,465	40,194
Repatriation (c)	9,043	6,249	3,180	2,562	2,579	968	24,581
Armed Forces (serving)	47	51	19	19	10	1	147
Federal Departments (d)	1,103	49	75	464	275	5	1,971
Total	29,364	20,511	12,938	9,421	7,320	3,039	82,593

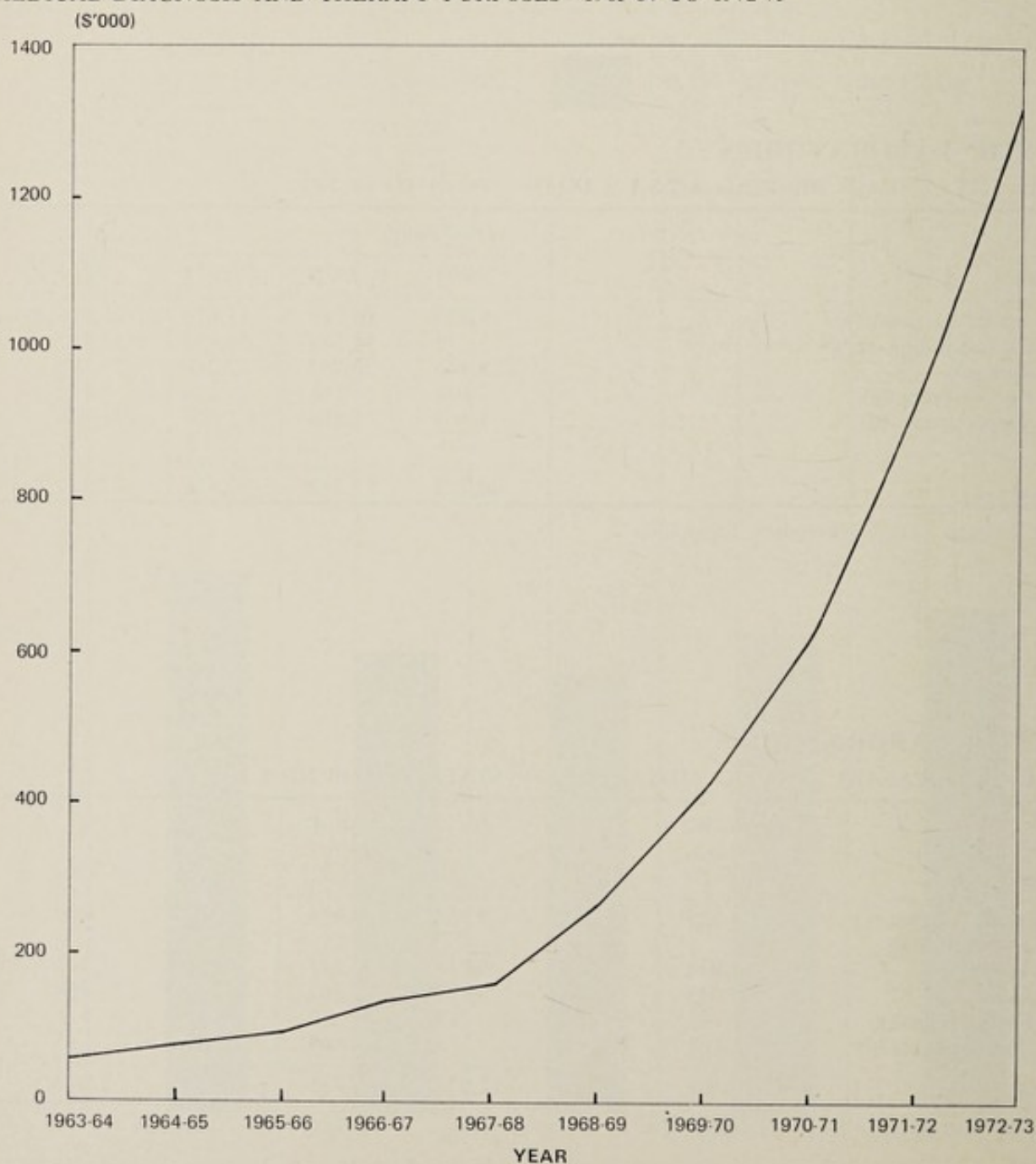
(a), (b), (c) and (d); see footnotes, Table 120.



**RADIATION LABORATORY**TABLE 126 EXPENDITURE FROM THE NATIONAL WELFARE FUND ON  
RADIOPHARMACEUTICALS FOR MEDICAL DIAGNOSIS AND THERAPY  
PURPOSES—1963-64 TO 1972-73

(\$)

<i>Year ended 30 June</i>	<i>Expenditure</i>	<i>Year ended 30 June</i>	<i>Expenditure</i>
1964 . . . . .	55,874	1969 . . . . .	257,277
1965 . . . . .	67,942	1970 . . . . .	410,144
1966 . . . . .	81,755	1971 . . . . .	616,807
1967 . . . . .	132,201	1972 . . . . .	925,097
1968 . . . . .	154,764	1973 . . . . .	1,326,240

**RADIATION LABORATORY**GRAPH 28 EXPENDITURE FROM THE NATIONAL WELFARE FUND ON RADIOPHARMACEUTICALS  
FOR MEDICAL DIAGNOSIS AND THERAPY PURPOSES—1963-64 TO 1972-73



**RADIATION LABORATORY****TABLE 127** NUMBER OF RADIOPHARMACEUTICALS ISSUED FOR MEDICAL DIAGNOSIS AND THERAPY PURPOSES—1963-64 TO 1972-73

<i>Year ended 30 June</i>	<i>Issues (a)</i>	<i>Year ended 30 June</i>	<i>Issues (a)</i>
1964 . . . . .	18,159	1969 . . . . .	86,944
1965 . . . . .	22,498	1970 . . . . .	123,381
1966 . . . . .	24,751	1971 . . . . .	202,566
1967 . . . . .	37,549	1972 . . . . .	246,467
1968 . . . . .	64,237	1973 . . . . .	497,524

(a) Denotes a radiopharmaceutical container despatched from the laboratory. The radiopharmaceutical in the container may consist either of an individual dose or of a bulk issue from which individual doses will be dispensed.

**RADIATION LABORATORY****TABLE 128** RADIOPHARMACEUTICALS PROCURED—1963-64 TO 1972-73

<i>Year ended 30 June</i>	<i>Shipments received</i>		
	<i>From overseas</i>	<i>From Australian Atomic Energy Commission</i>	<i>Total</i>
1964 . . . . .	1,483	76	1,559
1965 . . . . .	1,622	83	1,705
1966 . . . . .	1,994	156	2,150
1967 . . . . .	2,135	266	2,401
1968 . . . . .	2,255	370	2,625
1969 . . . . .	2,482	1,946	4,428
1970 . . . . .	1,352	6,096	7,448
1971 . . . . .	1,548	9,954	11,502
1972 . . . . .	1,439	10,922	12,361
1973 . . . . .	1,500	12,058	13,558

**RADIATION LABORATORY****TABLE 129** RADIOCHEMISTRY AND LOW LEVEL MEASUREMENT OF RADIOACTIVITY—1963-64 TO 1972-73

<i>Year ended 30 June</i>	<i>Samples processed</i>	<i>Year ended 30 June</i>	<i>Samples processed</i>
1964 . . . . .	1,100	1969 . . . . .	8,622
1965 . . . . .	1,065	1970 . . . . .	3,312
1966 . . . . .	1,717	1971 . . . . .	7,404
1967 . . . . .	10,370	1972 . . . . .	7,209
1968 . . . . .	4,737	1973 . . . . .	4,669



**RADIATION LABORATORY****TABLE 130** FILM-BADGE SERVICE (a)—FILMS ASSESSED AND CENTRES REGISTERED—1963-64 TO 1972-73

<i>Year ended 30 June</i>	<i>Films assessed during year</i>	<i>Centres registered at end of year</i>
1964 . . . . .	72,411	674
1965 . . . . .	65,299	815
1966 . . . . .	66,528	956
1967 . . . . .	74,711	1,063
1968 . . . . .	77,301	1,186
1969 . . . . .	81,682	1,293
1970 . . . . .	75,103	1,407
1971 . . . . .	71,008	1,527
1972 . . . . .	74,345	1,646
1973 . . . . .	79,550	1,776

(a) Issue of film-badges to people working with ionising radiations to permit assessment of the doses of radiation received by them in the course of their work.

**RADIATION LABORATORY****TABLE 131** RADON SERVICES—ISSUES (a)—1963-64 TO 1972-73 (mCi)

<i>Year ended 30 June</i>	<i>Hospitals</i>	<i>Private practitioners</i>	<i>Veterinary use</i>	<i>Miscellaneous purposes</i>	<i>Total all purposes</i>
1964 . . . . .	24,068	10,197	—	4,706	38,971
1965 . . . . .	21,083	10,306	—	2,402	33,791
1966 . . . . .	19,922	11,250	116 (b)	315	31,603
1967 . . . . .	19,545	10,088	1,712	616	31,961
1968 . . . . .	18,608	10,727	771	336	30,442
1969 . . . . .	17,893	6,541	90	417	24,941
1970 . . . . .	17,454	6,262	593	228	24,537
1971 . . . . .	16,904	7,879	2,338	154	27,275
1972 . . . . .	14,084	8,161	1,631	202	24,078
1973 . . . . .	14,019	8,027	991	90	23,127

(a) The activities of radon in millicuries (mCi) at time of use.

(b) Radon was first supplied for veterinary use in 1966.



**BUREAU OF DENTAL STANDARDS****TABLE 132** NUMBER OF SAMPLES TESTED FOR WHICH LABORATORY REPORTS WERE ISSUED—1966-67 TO 1972-73

<i>Year ended 30 June</i>	<i>Local manufac- turers and distributors</i>	<i>Overseas manufac- turers</i>	<i>Public instrumen- talities</i>	<i>Internal</i>	<i>Total</i>
1967 .	119	55	17	18	209
1968 .	148	23	16	10	197
1969 .	128	18	38	29	213
1970 .	177	19	60	29	285
1971 .	165	22	317	70	574
1972 .	146	37	197	24	404
1973 .	129	19	317	23	488

**BUREAU OF DENTAL STANDARDS****TABLE 133** NUMBER OF SAMPLES TESTED FOR WHICH LABORATORY REPORTS WERE ISSUED—1972-73

<i>Type of product</i>	<i>Local manu- facturers and distributors</i>	<i>Overseas manufac- turers</i>	<i>Public instrumen- talities</i>	<i>Internal</i>	<i>Total</i>
Mineral products . . .	3	—	6	—	9
Cements . . . . .	8	3	44	3	58
Metals and alloys . . .	41	6	60	7	114
Synthetic resins . . .	32	4	17	12	65
Waxes and impression materials . . . . .	29	3	38	—	70
Instruments and devices .	11	—	124	1	136
Therapeutic materials .	5	3	28	—	36
Total . . . . .	129	19	317	23	488



## HEALTH LABORATORIES

TABLE 134 NUMBER OF PATHOLOGY EXAMINATIONS AND LABORATORY TESTS PERFORMED AND NUMBER OF PATIENT REQUESTS—1971-72 AND 1972-73

<i>Health laboratory</i>	<i>Examinations and tests</i>		<i>Patient requests (a)</i>	
	<i>1971-72</i>	<i>1972-73</i>	<i>1971-72</i>	<i>1972-73</i>
Albury . . . . .	94,792	126,412	30,325	35,081
Alice Springs . . . . .	43,081	47,560	12,435	13,639
Bendigo . . . . .	143,147	178,333	55,006	65,835
Cairns . . . . .	278,301	331,211	116,016	113,830
Canberra (b) . . . . .	679,068	806,009	168,923	183,620
Darwin (c) . . . . .	212,129	285,036	70,867	81,173
Hobart . . . . .	145,083	241,704	52,134	70,505
Kalgoorlie . . . . .	42,224	79,185	17,304	25,567
Launceston . . . . .	62,891	99,844	23,948	39,048
Lismore . . . . .	236,963	278,723	64,892	72,516
Port Pirie . . . . .	22,844	28,364	13,370	11,564
Rockhampton . . . . .	430,102	440,341	127,900	134,974
Tamworth . . . . .	169,227	185,964	60,643	66,603
Toowoomba . . . . .	232,239	260,084	83,606	85,310
Townsville . . . . .	268,101	294,880	96,934	103,567
Total . . . . .	3,060,192	3,683,650	994,303	1,102,832

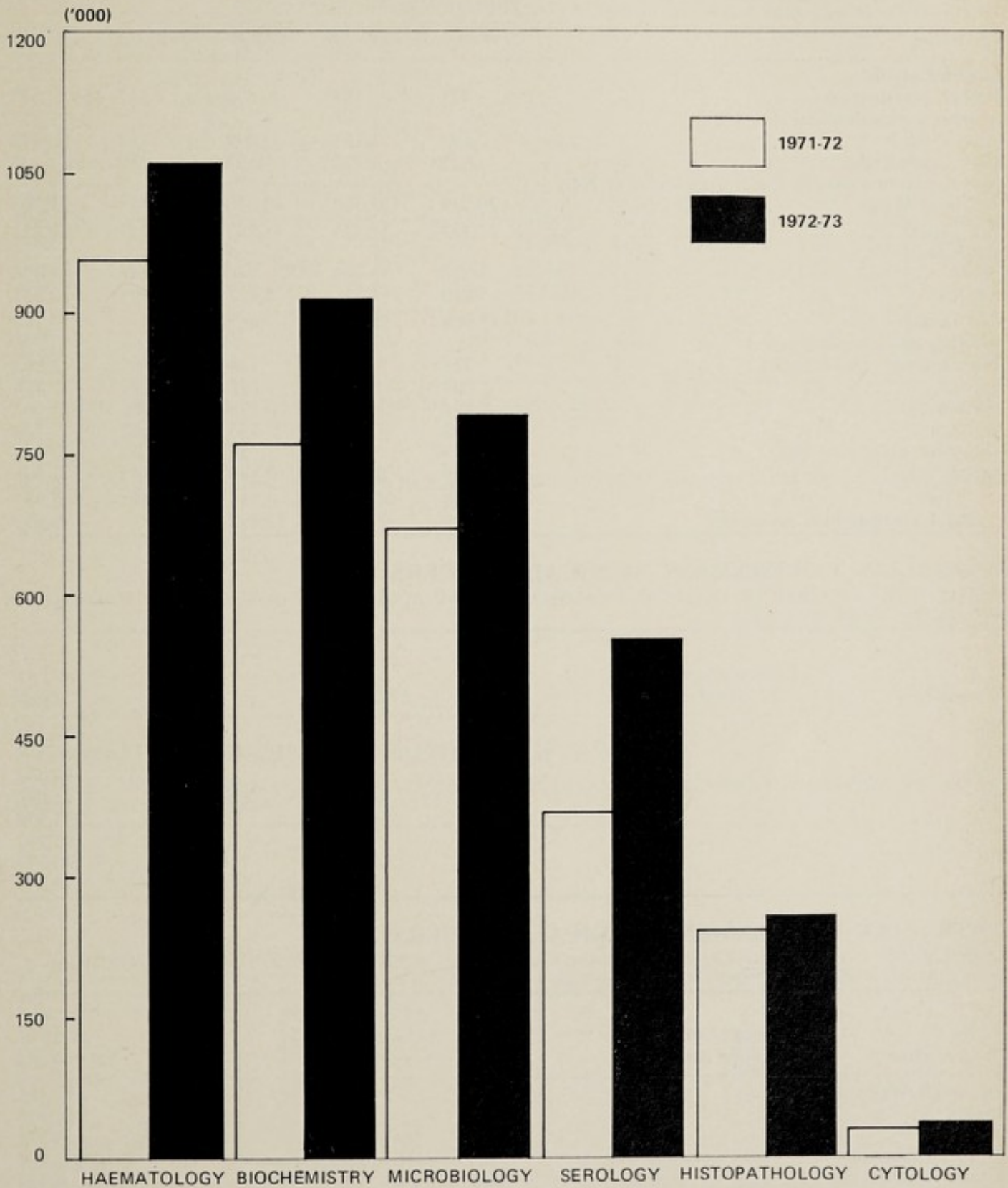
(a) Number of persons on behalf of whom tests were performed in the major work specialisation areas of the laboratory, e.g. Haematology, Biochemistry, Microbiology, etc. Involves some measure of multiple counting in the case of work done for patients in more than one of the areas.

(b) Includes figures for Woden Valley hospital.

(c) Includes figures for Gove.

Note: In addition to normal diagnostic pathology work, Health Laboratories may undertake laboratory work of a public health nature—for example, bacteriological analysis of water. Serological examination of local donor blood is also undertaken in most of the Laboratories on behalf of the Red Cross Blood Transfusion Service. Figures relating to this additional work are included in the statistics presented above.



**HEALTH LABORATORIES****GRAPH 29** NUMBER OF TESTS—CATEGORY OF WORK—1971-72 AND 1972-73



## SCHOOL OF PUBLIC HEALTH AND TROPICAL MEDICINE

TABLE 135 LABORATORY AND CLINICAL EXAMINATIONS—1968-69 TO 1972-73

Sub-section	Number of examinations				
	1968-69	1969-70	1970-71	1971-72	1972-73
<b>Industrial health—</b>					
Medical examinations . . . . .	421	385	679	337	647
Laboratory examinations:					
(a) Routine . . . . .	2,698	1,733	497	182	212
(b) Consultative . . . . .	79	77	81	50	49
Medical examinations at Federal factories in New South Wales . . . . .	20,239	33,330	40,030	29,388	29,303
Total . . . . .	23,437	35,525	41,287	29,957	30,211
<b>Parasitology—</b>					
Routine . . . . .	276	244	240	1,648	1,134
Research . . . . .	5,630	5,021	5,427	2,903	2,033
Total . . . . .	5,906	5,265	5,667	4,551	3,167
<b>Pathology and microbiology—</b>					
Histopathology (consultant) . . . . .	921	894	736	765	902
Serology . . . . .	1,000	1,273	1,295	1,871	1,884
Bacteriology . . . . .	294	630	176	288	605
Mycology . . . . .	342	345	473	152	140
Quarantine exclusion tests . . . . .	13	55	14	23	669
Animals issued . . . . .	2,166	2,197	2,844	1,345	1,361
Total . . . . .	4,736	5,394	5,538	4,444	5,561
<b>Total examinations performed</b> . . . . .	34,079	46,184	52,492	38,952	38,939

## AUSTRALIAN GOVERNMENT MEDICAL OFFICERS

TABLE 136 NUMBER OF CLINICAL EXAMINATIONS BY AUSTRALIAN GOVERNMENT MEDICAL OFFICERS—1965-66 TO 1972-73

Year ended 30 June	Staff of Federal Departments and Authorities	Staff of			Total
		Seamen	Pensioners	Others	
1966 . . . . .	61,847	2,221	14,919	1,377	80,364
1967 . . . . .	64,884	1,912	16,572	2,137	85,505
1968 . . . . .	63,964	1,953	16,511	3,265	85,693
1969 . . . . .	64,885	1,886	16,242	3,023	86,036
1970 . . . . .	73,086	2,079	17,104	1,681	93,950
1971 . . . . .	73,886	2,542	16,258	1,266	93,952
1972 . . . . .	71,205	1,883	15,899	1,192	90,179
1973 . . . . .	69,757	2,848	16,878	1,354	90,837

## AUSTRALIAN GOVERNMENT MEDICAL OFFICERS

TABLE 137 NUMBER OF CLINICAL EXAMINATIONS BY AUSTRALIAN GOVERNMENT MEDICAL OFFICERS—STATES AND TERRITORIES—1972-73

State or territory	Staff of Federal Departments and Authorities	Staff of			Total
		Seamen	Pensioners	Others	
New South Wales . . . . .	24,297	603	6,218	7	31,125
Victoria . . . . .	18,104	204	2,553	42	20,903
Queensland . . . . .	5,940	118	2,263	—	8,321
South Australia . . . . .	4,205	25	3,032	199	7,461
Western Australia . . . . .	4,284	109	1,943	—	6,336
Tasmania . . . . .	977	20	478	2	1,477
Australian Capital Territory . . . . .	9,782	1,765	260	273	12,080
Northern Territory . . . . .	2,168	4	131	831	3,134
<b>Australia</b> . . . . .	<b>69,757</b>	<b>2,848</b>	<b>16,878</b>	<b>1,354</b>	<b>90,837</b>



## AUSTRALIAN GOVERNMENT MEDICAL OFFICERS

TABLE 138 NUMBER OF VACCINATIONS BY AUSTRALIAN GOVERNMENT MEDICAL OFFICERS—1965-66 TO 1972-73

Year ended 30 June	Cholera and combined cholera and typhoid (a)	Gamma globulin	Influenza	Plague	Small-pox	Tetanus	Typhoid and T.A.B.	Typhus	Yellow fever	Total
1966 . . .	42,061	85	7,164	92	40,640	1,905	4,636	4	2,135	98,722
1967 . . .	56,017	441	5,261	185	45,850	1,853	8,480	86	2,389	120,562
1968 . . .	46,667	394	10,464	473	51,511	4,031	8,596	159	2,998	125,293
1969 . . .	59,882	921	3,853	543	62,816	1,972	10,744(b)	384	3,572	144,687
1970 . . .	73,307	536	32,684	266	83,601	2,036	10,381	123	4,060	206,994
1971 . . .	144,377(c)r	703	21,740r	357r	102,708r	2,061r	19,540r	190	4,597r	296,273r
1972 . . .	171,628	511	1,202	330	134,803	2,731	19,430	151	4,790	335,576
1973 . . .	227,963	419	94	207	149,192	2,662	(d)	375	5,411	386,323

(a) Figures for all States except S.A. represent the total number of injections given. Figures for S.A. show the number of courses given.

(b) Prior to 1968-69, T.A.B. only.

(c) Prior to 1970-71, cholera only.

(d) As from 1 July 1972, T.A.B. injections have not been given. Typhoid injections have only been given combined with cholera.

## AUSTRALIAN GOVERNMENT MEDICAL OFFICERS

TABLE 139 NUMBER OF VACCINATIONS BY AUSTRALIAN GOVERNMENT MEDICAL OFFICERS—STATES AND TERRITORIES—1972-73

State or territory	Cholera and combined cholera and typhoid (a)	Gamma globulin	Influenza	Plague	Small-pox	Tetanus	Typhus	Yellow fever	Total
New South Wales . . .	89,989	139	5	56	76,827	134	338	2,380	169,868
Victoria . . .	52,109	22	2	17	33,505	167	2	1,415	87,239
Queensland . . .	18,406	—	37	3	9,910	141	—	388	28,885
South Australia . . .	10,705	—	1	1	7,956	1,089	4	379	20,135
Western Australia . . .	11,711	—	3	2	4,887	171	1	528	17,303
Tasmania . . .	3,721	—	—	—	2,241	19	3	72	6,056
Australian Capital Territory . . .	22,616	99	45	108	8,309	129	17	172	31,495
Northern Territory . . .	18,706	159	1	20	5,557	812	10	77	25,342
Australia . . .	227,963	419	94	207	149,192	2,662	375	5,411	386,323

(a) Figures for all States except S.A. represent the total number of injections given. Figures for S.A. show the number of courses given.



## INTERNATIONAL HEALTH

TABLE 140 TRAINING—STATES AND TERRITORIES—1971-72 AND 1972-73

State or territory	Number of persons in training during 1972-73 (a)			Number of institutional places (b) involved in training in 1972-73		Man-months of training in 1972-73 (f)
	Type of course			Type of course		
	Formal (c)	Ad hoc (d)	Group (e)	Formal (c)	Ad hoc (d)	
New South Wales . . .	23	39	—	32	108	310.5
Victoria . . .	2	29	—	9	100	231.5
Queensland . . .	1	10	—	1	34	49.0
South Australia . . .	—	4	—	—	25	22.0
Western Australia . . .	—	3	—	—	19	19.5
Tasmania . . .	—	—	—	—	2	—
Australian Capital Territory . . .	—	2	—	6	20	6.0
Northern Territory . . .	—	—	—	—	2	—
Interstate (g) . . .	4	47	16	n.a.	n.a.	214.5
Australia—1972-73	30	134	16	48	310	853.0
1971-72	24	131	23	37	283	727.5

(a) Overseas postgraduate, medical, dental and paramedical personnel sponsored under various Australian and international schemes for training in the health field.

(b) An individual institution is counted once for each trainee. Details are not available for group courses.

(c) A formal course is one conducted by a University or College of Advanced Education leading to the award of a qualification from that institution.

(d) Ad hoc courses are mainly short courses arranged for individual applicants at various health institutions. These courses do not lead to the award of a qualification from the institutions.

(e) A group course is one organised for a number of overseas trainees to attend one or more health institutions for instruction as a group.

(f) Excludes induction periods and English training.

(g) Training at institutions located in more than one State.

## INTERNATIONAL HEALTH

TABLE 141 NUMBER OF PERSONS IN TRAINING(a)—1972-73

Type of course (b)	In training at beginning of year		Training commenced during 1972-73		Training completed during 1972-73		In training at end of year	
	Males	Females	Males	Females	Males	Females	Males	Females
Formal courses: (c)								
Commonwealth (d) . . .	9r	1	7	—	7	1	9	—
Other . . .	3	2r	5	3	2	1	6	4
Total . . .	12r	3r	12	3	9	2	15	4
Ad hoc courses: (e)								
Commonwealth (d) . . .	24r	4r	34	6	43	5	15	5
Other . . .	22r	11	22	11	33	12	11	10
Total . . .	46r	15r	56	17	76	17	26	15
Group courses: (f)								
Commonwealth (d) . . .	6	2	—	—	6	2	—	—
Other . . .	8	—	—	—	8	—	—	—
Total . . .	14	2	—	—	14	2	—	—
All courses:								
Commonwealth (d) . . .	39r	7r	41	6	56	8	24	5
Other . . .	33r	13r	27	14	43	13	17	14
Total . . .	72r	20r	68	20	99	21	41	19

(a) See footnote (a) Table 140.

(b) Excludes English and induction courses.

(c) See footnote (c) Table 140.

(d) Training courses arranged through Commonwealth training schemes such as the Colombo Plan.

(e) See footnote (d) Table 140.

(f) See footnote (e) Table 140.



**RADIO AND TELEVISION SCRIPTS ON MEDICAL MATTERS****TABLE 142** NUMBER OF SCRIPTS EXAMINED—1968-69 TO 1972-73

Type of script	Approved		Approved as amended		Rejected		Examined	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Radio—								
1968-69 . . .	363	45.1	372	46.2	70	8.7	805	100.0
1969-70 . . .	214	33.0	375	57.8	60	9.3	649	100.0
1970-71 . . .	380	47.3	356	44.3	68	8.5	804	100.0
1971-72 . . .	617	61.6	218	21.8	166	16.6	1,001	100.0
1972-73 . . .	433	53.5	157	19.4	219	27.1	809	100.0
Television—								
1968-69 . . .	143	60.1	80	33.6	15	6.3	238	100.0
1969-70 . . .	113	37.7	166	55.2	21	7.0	300	100.0
1970-71 . . .	113	52.3	97	44.9	6	2.8	216	100.0
1971-72 . . .	205	59.6	71	20.6	68	19.8	344	100.0
1972-73 . . .	131	51.4	69	27.0	55	21.6	255	100.0
Total—								
1968-69 . . .	506	48.5	452	43.3	85	8.2	1,043	100.0
1969-70 . . .	327	34.5	541	57.1	81	8.5	949	100.0
1970-71 . . .	493	48.3	453	44.4	74	7.3	1,020	100.0
1971-72 . . .	822	61.1	289	21.5	234	17.4	1,345	100.0
1972-73 . . .	564	53.0	226	21.2	274	25.8	1,064	100.0

**TERRITORY HEALTH****AUSTRALIAN CAPITAL TERRITORY HEALTH****TABLE 143** NUMBER OF LICENCES ISSUED UNDER THE PUBLIC HEALTH ORDINANCE—1968 TO 1972

Type	1968	1969	1970	1971	1972
Barber shops . . .	78	87	104	98	105
Boarding houses . . .	66	69	68	73	68
Eating houses . . .	92	103	109	110	97
Ice cream vendors . . .	7	9	5	9	10
Meat vendors . . .	67	72	94	87	85
Milk distributors . . .	76	85	87	97	(a)
Milk vendors . . .	207	234	239	280	(a)
Prepared meat vendors	242	276	275	271	335
Total . . .	835	935	981	1,025	700

(a) From 1 January 1972 licences for milk distributors and vendors issued by the Australian Capital Territory Milk Authority.

**AUSTRALIAN CAPITAL TERRITORY HEALTH****TABLE 144** NUMBER OF NEW REGISTRATIONS GRANTED—1968-69 TO 1972-73

Type	1968-69	1969-70	1970-71	1971-72	1972-73
Dental practitioners . . .	6	5	13	8	15
Medical practitioners . . .	32	52	71	50	56
Nurses . . .	302	341	343	359	546
Nursing aides . . .	59	89	63	94	97
Optometrists . . .	3	1	—	2	—
Pharmacists . . .	20	25	23	20	27
Veterinary surgeons . . .	2	1	1	2	4
Total . . .	424	514	514	535	745



## AUSTRALIAN CAPITAL TERRITORY HEALTH

TABLE 145 NUMBER OF SAMPLES COLLECTED BY HEALTH INSPECTION SECTION—1971-72 AND 1972-73

Type	For bacteriological examination		For chemical examination	
	1971-72	1972-73	1971-72	1972-73
Cream . . . . .	208	182	196	83
Meat . . . . .	—	—	32	57
Milk . . . . .	1,565	1,755	892	1,009
Other foods . . . . .	357	386	47	176
Sewage . . . . .	368	271	26	13
Water—				
City Supply . . . . .	1,524	1,207	161	149
Fluoride Tests . . . . .	—	—	198	278
Lake Burley Griffin and Molonglo River . . . . .	336	295	25	25
Picnic resorts and other supplies . . . . .	529	736	256	280
Swimming pools . . . . .	99	172	15	25
Total . . . . .	4,986	5,004	1,848	2,095

## AUSTRALIAN CAPITAL TERRITORY HEALTH

TABLE 146 SCHOOL MEDICAL SERVICE EXAMINATIONS—1969-70 TO 1972-73

	1969-70	1970-71	1971-72	1972-73
Number examined . . . . .	16,956	19,610	19,162	23,863
Defects notified—				
Hearing . . . . .	365	263	224	435
Psychological and emotional . . . . .	123	72	142	103
Severe dental caries . . . . .	62	11	6	16
Speech . . . . .	42	56	42	60
Squint . . . . .	55	50	42	59
Vision . . . . .	621	718	796	1,176
All others . . . . .	225	317	346	539
Total . . . . .	1,493	1,487	1,598	2,388
Referrals—				
Child Guidance Clinic . . . . .	127	99	153	102
Acoustic Laboratory . . . . .	178	112	104	138
Educational Clinic . . . . .	13	14	34	84
Parent interviews . . . . .	1,854	1,480	2,599	2,421



## NORTHERN TERRITORY HEALTH

TABLE 147 NUMBER OF LICENCES ISSUED UNDER THE PUBLIC HEALTH ORDINANCE—YEAR ENDED 31 DECEMBER 1972

Type	Darwin	Alice Springs	Katherine	Tennant Creek	Gove
Barber shops . . .	29	9	7	1	1
Boarding houses and caravan parks (a) .	79	28	17	3	2
Dairies—Dairymen . . .	3	3	—	—	—
Eating houses . . .	55	18	4	2	—
Food shops (milk) . . .	57	—	17	7	—
Itinerant food vendors . . .	7	3	2	—	—
Milk vendors . . .	12	5	1	—	—
Septic tank applications	107	21	45	7	1
Total . . .	349	87	93	20	4

(a) Figures do not include licences issued to motels and roadside inns located within the Northern Territory.

## NORTHERN TERRITORY HEALTH

TABLE 148 NUMBER OF NEW REGISTRATIONS GRANTED—1971-72 AND 1972-73

Type	1971-72	1972-73
Dental practitioners . . . . .	14	6
Medical practitioners . . . . .	81	102
Nurses . . . . .	471	313
Optometrists . . . . .	2	1
Pharmacists . . . . .	14	14
Total . . . . .	582	436

## NORTHERN TERRITORY HEALTH

TABLE 149 IMMUNISATIONS—SUMMARY OF DOSES ADMINISTERED AT MAIN HOSPITALS AND INFANT HEALTH CENTRES—1969-70 TO 1972-73

	Hospitals				Infant health centres			
	1969-70	1970-71	1971-72	1972-73	1969-70	1970-71	1971-72	1972-73
Darwin . . . . .	3,412	2,620	1,202	1,676	—	27	121	150
Alice Springs . . . . .	1,133	1,642	1,196	2,332	867	1,064	1,258	1,184
Katherine . . . . .	843	1,022	879	1,047	55	651	478	570
Tennant Creek . . . . .	1,089	1,823	383	623	503	902	1,221	1,500
Gove . . . . .	801 (a)	1,580	2,265	1,445	—	—	—	300(b)

(a) Immunisations commenced 23 July 1969.

(b) Infant Health Service operative from October 1972.



**NORTHERN TERRITORY HEALTH****TABLE 150** NUMBER OF SAMPLES COLLECTED FOR BACTERIOLOGICAL EXAMINATION BY HEALTH INSPECTION SECTION—1972-73

Type	Darwin (a)	Alice Springs	Katherine (a)	Tennant Creek
Milk . . . . .	38	50	—	5
Water—City Supply . . . . .	616	98	78	10
Fluoride tests . . . . .	584	—	n.a.	—
Picnic resorts and other supplies . . . . .	133	13	86	—
Swimming pools . . . . .	98	(b)	n.a.	—

(a) Examinations carried out by Department of Northern Territory.

(b) Main pool closed 1972.

**NORTHERN TERRITORY HEALTH****TABLE 151** SCHOOL MEDICAL SERVICE EXAMINATIONS—1972-73

	Northern region	Southern region	East Arnhem region (a)	Total
Number examined . . . . .	7,624	9,980	1,570	19,174
Defects notified—				
Hearing . . . . .	249	579	23	851
Psychological and emotional . . . . .	11	71	6	88
Severe dental caries . . . . .	43	74	3	120
Speech . . . . .	5	26	4	35
Squint . . . . .	1	21	2	24
Vision . . . . .	55	307	4	366
All others . . . . .	340	861	12	1,213
Total . . . . .	704	1,939	54	2,697
Referrals—				
Child Guidance Clinic } . . . . .	—	99	15	114
Acoustic Laboratory } . . . . .				
Educational Clinic } . . . . .				
Parent interviews . . . . .	20	139	23	182

(a) Service operative from February 1973.



## NORTHERN TERRITORY HEALTH

TABLE 152 AERIAL MEDICAL SERVICE—1972-73

	<i>Darwin</i>	<i>Alice Springs</i>	<i>Gove</i>	<i>Total</i>
Northern Territory Aerial Medical Service—				
Routine flights . . . . .	278	287	35	600
Emergency flights . . . . .	287	89	83	459
Inter-hospital transfers . . . . .	9	29	16	54
Ferry flights . . . . .	—	—	—	—
Mercy flights . . . . .	—	—	—	—
Miles flown . . . . .	266,444	165,835	74,825	507,104
Hours flown . . . . .	1,976.50	1,171.07	506.83	3,654.40
Landings made . . . . .	1,616	946	375	2,937
Patients carried . . . . .	1,294	616	302	2,212
Royal Flying Doctor Service—				
Emergency flights . . . . .	—	268	—	268
Patients carried . . . . .	—	390	—	390
Charter and diversion flights—				
Number of flights . . . . .	29	37	46	112
Patients carried . . . . .	59	64	69	192
Commercial flights—				
Patients carried . . . . .	2,036	—	—	2,036
Radio medical consultations (a) . . . . .	3,032	1,571	—	4,603
Charter boat . . . . .	1	—	—	1

(a) Excludes radio telephone consultations.

## NORTHERN TERRITORY HEALTH

TABLE 153 HEALTH SERVICES PROVIDED AT MAIN NORTHERN TERRITORY HOSPITALS—1972-73

	<i>Darwin</i>	<i>Alice Springs</i>	<i>Katherine</i>	<i>Tennant Creek</i>	<i>Gove</i>
Average daily number of in-patients . . . . .	332	125	54	10	17
Number of—Admissions . . . . .	11,542	4,810	1,960	835	941
Bed days . . . . .	121,247	45,500	19,848	3,540	6,124
Births . . . . .	1,577	552	162	55	96
Deaths in hospital . . . . .	122	77	23	11	4
Major operations . . . . .	1,608	325	51	—	18
Minor operations . . . . .	3,519	1,212	551	173	170
Out-patient attendances . . . . .	116,948	43,451	10,374	16,719	28,440 (a)
Postmortem examinations . . . . .	130	72	42	10	5
Ambulance Services					
Number of—Trips . . . . .	2,129	827	459	118	158
Miles travelled . . . . .	23,080	34,111	21,641	15,254	2,016
Patients carried . . . . .	2,347	981	392	158	179
Dispensaries—Prescriptions dispensed . . . . .	217,393	90,884	37,541	18,124	44,602
Average number of prescriptions dispensed per working day . . . . .	823.46	344.26	142.20	68.65	168.95
Physiotherapy Department (b)					
Number of—Patients . . . . .	5,935	1,580	—	—	—
Treatments . . . . .	23,493	9,512	—	—	—
X-ray Department (b)					
Number of exposures . . . . .	65,224	15,829	6,095	3,924	3,932

(a) Includes out-patient attendances at Yirrkala.

(b) In-patients and out-patients.



## NORTHERN TERRITORY HEALTH

TABLE 154 DENTAL SERVICES PROVIDED IN THE NORTHERN TERRITORY—1972-73

	Darwin Dental Clinic	Nightcliff Dental Clinic	Aerial Mobile— Darwin based	Overland Mobile— Darwin based	Alice Springs		Gove Dental Clinic	Total
					Clinic	Mobile		
Amalgam . . . . .	4,318	3,252	1,246	1,187	2,527	154	1,457	14,141
Bridges . . . . .	69	13	—	—	19	—	—	101
Consultations and examinations . . . . .	820	2,021	2,217	1,328	1,470	80	539	8,475
Crowns . . . . .	159	113	4	2	56	2	22	358
Dressings . . . . .	1,505	1,001	122	81	989	57	360	4,115
Extractions . . . . .	3,819	1,701	738	781	1,716	168	943	9,866
General anaesthetics(a) . . . . .	114	—	—	—	45	—	3	162
Inlays . . . . .	66	26	—	1	29	—	5	127
Jaw fracture . . . . .	48	—	3	—	2	1	—	54
Oral surgery . . . . .	241	27	12	11	34	3	13	341
Orthodontist . . . . .	2,887	56	—	11	992	—	7	3,953
Peridontal treatment . . . . .	285	58	11	91	71	3	161	680
Prosthetic . . . . .	2,217	706	99	174	1,066	8	621	4,891
Root treatment . . . . .	318	175	5	22	127	19	33	699
Scale and clean . . . . .	151	15	—	36	65	—	46	313
Silicates . . . . .	1,239	767	215	249	376	43	295	3,184
X-rays . . . . .	2,248	667	57	163	802	17	365	4,319
Other treatments . . . . .	3,313	807	133	445	825	79	714	6,316
Total treatments	23,817	11,405	4,862	4,582	11,211	634	5,584	62,095
Patients treated								
Aboriginal adults—								
Paying . . . . .	12	4	10	3	196	1	2	228
Exempt . . . . .	655	5	903	464	264	14	442	2,747
Non-aboriginal adults—								
Paying . . . . .	8,416	3,609	179	835	3,013	253	2,377	18,682
Exempt . . . . .	647	131	131	17	519	27	66	1,538
Children—								
Aboriginal . . . . .	79	—	1,532	459	56	10	168	2,304
Non-aboriginal . . . . .	7,652	5,632	243	879	3,291	118	866	18,681
Total patients treated . . . . .	17,461	9,381	2,998	2,657	7,339	423	3,921	44,180

(a) For dental surgery performed in hospitals.

## NORTHERN TERRITORY HEALTH

TABLE 155 INFANT HEALTH CENTRES—NUMBER OF ATTENDANCES—  
1969-70 TO 1972-73

	1969-70	1970-71	1971-72	1972-73
Darwin . . . . .	19,050	21,324	23,249	22,328
Alice Springs . . . . .	3,706	4,458	4,895	4,819
Katherine . . . . .	2,241	1,680	2,411	2,124
Tennant Creek . . . . .	1,557	2,109	3,239	3,653
Gove(a) . . . . .	—	—	—	163
Alyangula . . . . .	230	326	309	459
Adelaide River . . . . .	148	98	105	152

(a) Service operative from October 1972.



## NORTHERN TERRITORY HEALTH

TABLE 156 INFANT HEALTH CENTRES—NUMBER OF SERVICES PROVIDED BY TYPE OF SERVICE—1972-73

	<i>Darwin</i>	<i>Alice Springs</i>	<i>Katherine</i>	<i>Tennant Creek</i>	<i>Gove (a)</i>	<i>Alyangula</i>	<i>Adelaide River</i>
New babies enrolled . . .	1,224	347	166	104	69	27	9
Test feeds . . .	116	5	—	6	3	4	2
Babies referred to doctor . . .	762	164	186	47	20	11	—
Home visits . . .	6,784	1,403	120	308	33	—	—
Hospital visits . . .	1,312	538	157	36	48	—	—
Baby care lectures . . .	57	36	—	—	—	—	—
Lecture attendances . . .	423	55	—	—	—	—	—
Immunisations . . .	150	1,184	570	1,500	300	—	34
Paediatric clinics . . .	10	—	—	4	7	—	—
Paediatric attendances . . .	69	—	—	27	10	—	—
Minor medical and miscellaneous visits . . .	—	1,087	200	531	9	—	—
Clinics held . . .	883	300	78	255	60	46	96

(a) Service operative from October 1972.

## NORTHERN TERRITORY HEALTH

TABLE 157 HOME NURSING SERVICE—NUMBER OF VISITS AND MILES TRAVELLED—1969-70 TO 1972-73

	<i>1969-70</i>	<i>1970-71</i>	<i>1971-72</i>	<i>1972-73</i>
	Number of visits			
Darwin . . . . .	42,295	42,673	47,545 r	65,630
Alice Springs . . . . .	31,832	29,320	27,025	56,231
Katherine . . . . .	103	1,250	1,306	622
Gove(a) . . . . .	—	—	—	341
Total . . . . .	74,230	73,243	75,876 r	122,824
	Miles travelled			
Darwin . . . . .	57,098	64,065	69,385 r	82,495
Alice Springs . . . . .	18,895	21,927	24,661	29,008
Katherine . . . . .	1,810	3,412	5,925	6,592
Gove(a) . . . . .	—	—	—	535
Total . . . . .	77,803	89,404	99,971 r	118,630

(a) Service operative from February 1973.

## NORTHERN TERRITORY HEALTH

TABLE 158 HOME NURSING SERVICE—NUMBER OF VISITS BY TYPE OF VISIT—1971-72 AND 1972-73

	<i>Darwin</i>		<i>Alice Springs</i>		<i>Katherine</i>		<i>Gove (a)</i>		<i>Total</i>	
	<i>1971-72</i>	<i>1972-73</i>	<i>1971-72</i>	<i>1972-73</i>	<i>1971-72</i>	<i>1972-73</i>	<i>1971-72</i>	<i>1972-73</i>	<i>1971-72</i>	<i>1972-73</i>
Gaol . . . . .	10,962	19,884	2,193	6,606	—	—	—	—	13,155	26,490
Home . . . . .	29,146 r	36,936	23,425	42,072	276	96	—	341	52,847 r	79,445
Private . . . . .	7,437 r	8,810	1,407	7,553	—	—	—	—	8,844 r	16,363
School . . . . .	—	—	—	—	229	142	—	—	229	142
Camps . . . . .	—	—	—	—	801	384	—	—	801	384
Total . . . . .	47,545 r	65,630	27,025	56,231	1,306	622	—	341	75,876 r	122,824

(a) Service operative from February 1973.



## EXPENDITURE ON HEALTH

## DEPARTMENTAL EXPENDITURE

TABLE 159 EXPENDITURE—1968-69 TO 1972-73

(\$'000)					
Type	1968-69	1969-70	1970-71	1971-72	1972-73
<b>SPECIAL APPROPRIATIONS</b>					
Payments to or for the States—					
Mental health institutions—					
Contributions to capital expenditure . . . . .	4,655	5,501	4,199	4,207	3,430
States grants—Nursing homes . . . . .	—	—	337	460	1,019
States grants—Paramedical services . . . . .	—	—	—	7	77
<b>TOTAL PAYMENTS TO OR FOR THE STATES</b>	<b>4,655</b>	<b>5,501</b>	<b>4,536</b>	<b>4,674</b>	<b>4,526</b>
<b>National Welfare Fund</b>					
Medical benefits . . . . .	49,556	56,863	95,604	132,574	(a)
Medical services for pensioners . . . . .	16,912	19,230	19,898	27,804	
Hospital benefits . . . . .	29,778	40,258	49,812	67,305	
Payments to public hospitals for pensioners . . . . .	24,520	24,157	23,555	24,065	
Nursing home benefits . . . . .	31,643	46,960	49,477	70,593	
Handicapped persons' homes—Children's benefit . . . . .	76	485	456	438	119,493
Pharmaceutical benefits . . . . .	81,764	95,650	115,094	121,263	
Pharmaceutical benefits for pensioners . . . . .	36,609	41,069	45,181	52,005	
Milk for school children . . . . .	10,054	10,051	10,160	11,845	
Tuberculosis medical services and allowances (b) . . . . .	12,381	11,326	11,256	10,226	
Miscellaneous . . . . .	4,624	4,955	6,612	8,436	9,723
<b>TOTAL NATIONAL WELFARE FUND</b>	<b>297,918</b>	<b>351,004</b>	<b>427,106</b>	<b>526,553</b>	<b>210,708</b>
<b>TOTAL SPECIAL APPROPRIATIONS</b>	<b>302,573</b>	<b>356,505</b>	<b>431,642</b>	<b>531,226</b>	<b>215,234</b>
<b>CONSOLIDATED REVENUE FUND</b>					
Administrative expenditure . . . . .	15,038	17,762	21,610	26,420	29,633(c)
Australian Capital Territory health services . . . . .	4,221	4,531	6,465	7,577	9,028
Northern Territory health services . . . . .	6,128	7,625	9,420	11,913	14,694
Capital works and services . . . . .	1,192	1,252	5,707	2,071	4,780
Payments to or for the States . . . . .	2,226	2,698	2,128	2,561	3,275
<b>TOTAL CONSOLIDATED REVENUE FUND</b>	<b>28,805</b>	<b>33,868</b>	<b>45,330</b>	<b>50,542</b>	<b>61,410</b>
<b>TOTAL EXPENDITURE</b>	<b>331,378</b>	<b>390,373</b>	<b>476,973</b>	<b>581,769</b>	<b>276,644</b>

(a) These items came under the control of the Department of Society Security from 1 March 1973. Expenditure for the whole of 1972-73 is excluded.

(b) Includes allowances paid through the Department of Social Security—see Tables 113 and 114.

(c) The administration of the Health Insurance and Benefits Division of the Department of Health was transferred to the Department of Social Security from 1 March 1973 and expenditure incurred by that Division since that date is excluded.



## FEDERAL GRANTS

TABLE 160 ALLOCATION OF FEDERAL GRANTS—1963-64 TO 1972-73  
(\$'000)

<i>Year ended 30 June</i>	<i>Home Nursing Subsidy Scheme</i>	<i>Mental Health Institutions—Capital Grants</i>	<i>Milk for School Children Scheme</i>	<i>Nursing Homes—Capital Grants</i>	<i>Paramedical Services Scheme</i>	<i>Red Cross Blood Transfusion Service</i>
1964 . . .	372	1,595	7,775	—	—	402
1965 . . .	465	2,504	8,059	—	—	435
1966 . . .	546	4,539	8,493	—	—	490
1967 . . .	664	4,973	9,021	—	—	974
1968 . . .	765	4,243	9,831	—	—	656
1969 . . .	933	4,655	10,054	—	—	765
1970 . . .	1,094	5,501	10,051	—	—	754
1971 . . .	1,450	4,199	10,160	337	—	885
1972 . . .	1,835	4,207	11,845	460	7	1,049
1973 . . .	2,502	3,430	11,717	1,019	77	1,262

## FEDERAL GRANTS

TABLE 161 ALLOCATION OF FEDERAL GRANTS—STATES AND TERRITORIES—1972-73  
(\$'000)

<i>Type</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>	<i>Aust.</i>
Home Nursing Subsidy Scheme . . . . .	707	781	400	124	425	66	—	—	2,502
Mental Health Institutions—Capital Grants . . . . .	873	831	967	453	219	87	—	—	3,430
Milk for School Children Scheme . . . . .	3,998	2,992	1,984	990	1,086	383	145	139	11,717
Nursing Homes—Capital Grants . . . . .	—	149	240	465	—	166	—	—	1,019
Paramedical Services Scheme . . . . .	—	61	—	14	—	2	—	—	77
Red Cross Blood Transfusion Service . . . . .	267	367	212	160	134	30	31	61	1,262

## FEDERAL GRANTS

TABLE 162 ROYAL FLYING DOCTOR SERVICE—1963-64 TO 1972-73  
(\$)

<i>Year ended 30 June</i>	<i>Operational</i>	<i>Capital</i>	<i>Special Capital (a)</i>
1964 . . . . .	110,000	80,000	—
1965 . . . . .	110,000	79,968	—
1966 . . . . .	150,000	124,280	—
1967 . . . . .	150,000	86,350	—
1968 . . . . .	150,000	179,350	—
1969 . . . . .	180,000	170,000	—
1970 . . . . .	180,000	169,957	—
1971 . . . . .	180,000	158,444	12,526
1972 . . . . .	315,000	170,000	119,070
1973 . . . . .	315,000	169,545	198,934

(a) Mandatory changeover of twelve base radio stations from double sideband to single sideband radio operation.



## NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL GRANTS

TABLE 163 GRANTS MADE FROM THE MEDICAL RESEARCH ENDOWMENT FUND—TYPE OF INSTITUTION—1968-69 TO 1972-73

	(\$)				
<i>Universities, institutions and hospitals</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>	<i>1971-72</i>	<i>1972-73</i>
<b>Universities—</b>					
Sydney . . . . .	225,450	220,367	274,462	300,253	372,675
New South Wales . . . . .	98,133	111,673	142,551	184,367	309,156
Newcastle . . . . .	—	—	—	1,000	3,922
Melbourne . . . . .	315,735	260,487	536,877	430,590	571,753
Monash . . . . .	128,782	194,536	324,627	297,564	320,086
Latrobe . . . . .	—	—	—	1,500	4,833
Queensland . . . . .	62,265	106,537	167,362	209,837	265,384
James Cook . . . . .	2,500	—	—	12,090	830
Adelaide . . . . .	149,902	139,746	133,134	162,675	157,460
Western Australia . . . . .	143,433	136,731	148,012	132,966	135,524
Tasmania . . . . .	3,660	4,100	16,246	24,415	50,156
Australian National University . . . . .	—	—	12,329	12,329	13,683
<b>Total</b> . . . . .	<b>1,129,860</b>	<b>1,174,177</b>	<b>1,755,600</b>	<b>1,769,586</b>	<b>2,205,462</b>
<b>Institutes and hospitals—</b>					
New South Wales . . . . .	134,479	118,991	161,856	245,507	309,534
Victoria(a) . . . . .	348,248	407,683	458,880	609,183	891,560
Queensland . . . . .	11,290	37,312	18,839	29,066	21,828
South Australia . . . . .	18,920	13,254	21,571	11,906	33,196
Western Australia . . . . .	3,000	12,130	9,762	16,331	24,503
Tasmania . . . . .	—	1,280	3,744	2,975	2,000
Australian Capital Territory . . . . .	—	—	7,605	550	1,698
Special Grants . . . . .	—	—	—	7,500 (b)	40,000 (c)
<b>Total</b> . . . . .	<b>515,937</b>	<b>590,650</b>	<b>682,257</b>	<b>923,018</b>	<b>1,324,319</b>
<b>Grand total</b> . . . . .	<b>1,645,797</b>	<b>1,764,827</b>	<b>2,437,857</b>	<b>2,692,604</b>	<b>3,529,781</b>

(a) Includes grants for the following institutions:

	Walter and Eliza Hall Institute of Medical Research, Melbourne	Howard Florey Institute of Experimental Physiology and Medicine, Melbourne
1968-69	\$305,215	—
1969-70	\$285,514	—
1970-71	\$322,355	—
1971-72	\$354,323	\$108,295
1972-73	\$417,568	\$188,168

(b) Special grant of \$7,500 made available to the Bureau of Maternal and Child Health, New South Wales Department of Health, to further studies in its Anthropometric Survey of Australian Children.

(c) Grant of \$40,000 to the National Heart Foundation for a Hypertension Trial.



## NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL GRANTS

TABLE 164 GRANTS MADE FROM THE MEDICAL RESEARCH ENDOWMENT FUND—ANALYSIS OF GRANTS—1965-66 TO 1972-73

(\$)

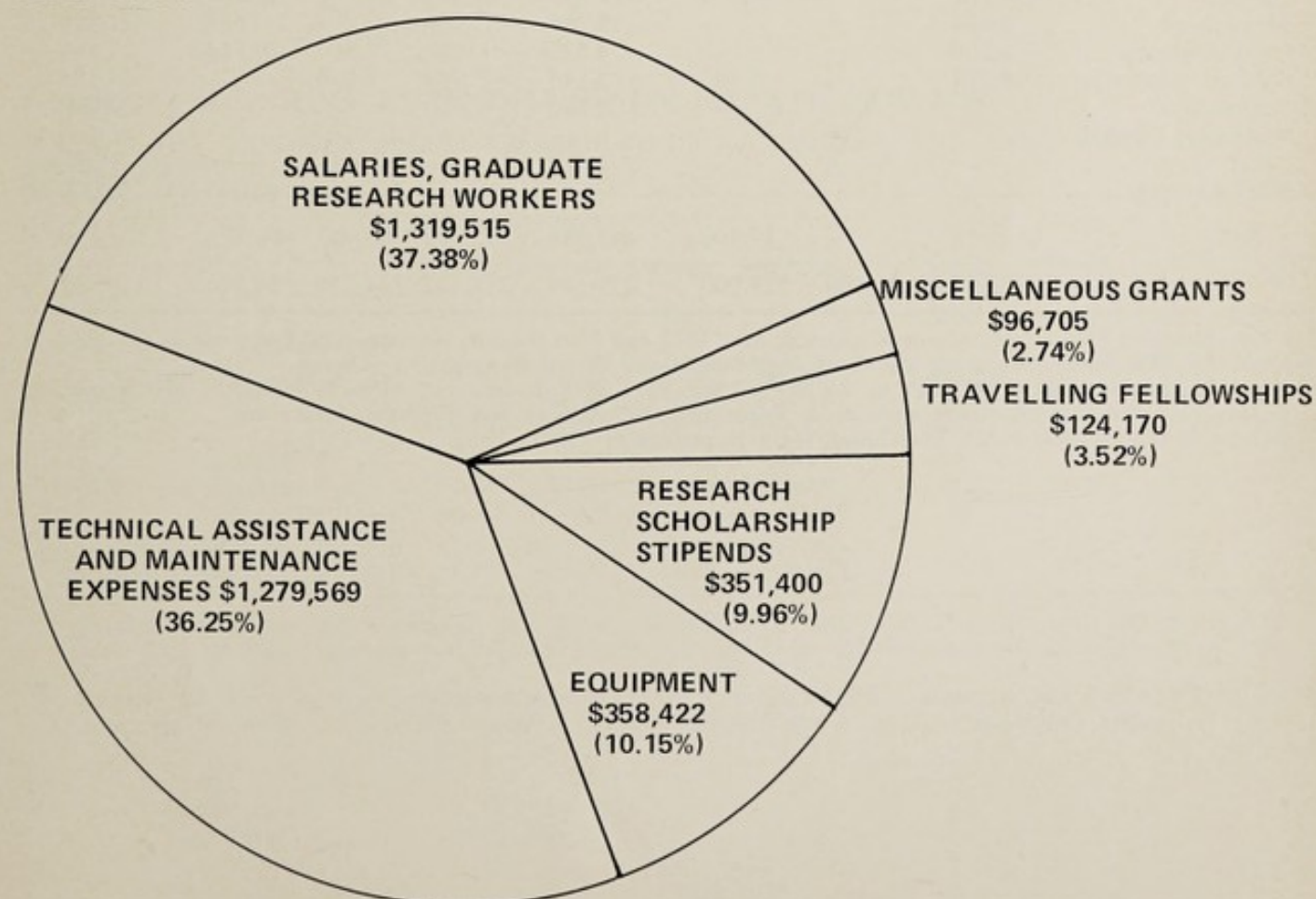
Year ended 30 June	Salaries, graduate research workers	Research scholarship stipends		Technical assistance and maintenance expenses	Equipment	Travelling fellowships	Miscellaneous grants	Total
		Under-graduate	Post-graduate (a)					
1966 . .	388,539	198,620		304,294		(b)	(b)	891,453
1967 . .	420,828	74,286		476,267		(b)	(b)	971,381
1968 . .	686,483	158,794		633,007		(b)	(b)	1,478,284
1969 . .	663,638	266,255		660,962		54,942	(b)	1,645,797
1970 . .	625,594	16,170	233,867	679,570	110,492	99,134	(b)	1,764,827
1971 . .	899,509	17,820	298,810	943,072	214,774	48,568	15,304	2,437,857
1972 . .	1,066,047	35,923	305,900	982,717	155,274	128,269	18,474	2,692,604
1973 . .	1,319,515	22,400	329,000	1,279,569	358,422	124,170	96,705	3,529,781

(a) Includes \$500 basic consumable allowance for medical and dental postgraduate scholars.

(b) Figures for travelling fellowships and miscellaneous grants have been included in the figures for salaries and technical assistance and maintenance expenses.

## NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL GRANTS

GRAPH 30 COMPOSITION OF GRANTS MADE FROM THE MEDICAL RESEARCH ENDOWMENT FUND—1972-73





## NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL GRANTS

TABLE 165 GRANTS MADE FROM THE MEDICAL RESEARCH ENDOWMENT FUND—1972-73 (a)  
(\$)

Universities, institutions and hospitals	Salaries, graduate research workers	Research scholarship stipends		Technical assistance and main- tenance expenses	Equip- ment	Travelling fellow- ships	Miscel- laneous grants	Total
		Under- graduate	Post- graduate (b)					
Universities—								
Sydney . . . . .	149,013	4,000	55,400	108,583	40,124	14,609	946	372,675
New South Wales . . . . .	110,103	4,000	38,900	90,305	65,848	—	—	309,156
Newcastle . . . . .	—	—	—	3,922	—	—	—	3,922
Melbourne . . . . .	142,881	3,200	71,000	263,612	72,109	14,880	4,071	571,753
Monash . . . . .	98,259	4,800	45,800	117,546	52,718	—	963	320,086
Latrobe . . . . .	—	—	—	500	4,333	—	—	4,833
Queensland . . . . .	104,112	2,800	18,300	99,765	37,925	—	2,482	265,384
James Cook . . . . .	—	—	—	830	—	—	—	830
Adelaide . . . . .	38,832	1,200	30,100	68,241	6,604	12,143	340	157,460
Western Australia . . . . .	47,509	1,200	6,100	60,845	10,780	8,045	1,045	135,524
Tasmania . . . . .	9,648	1,200	5,700	20,336	12,872	—	400	50,156
Australian National University . . . . .	—	—	—	—	—	13,590	93	13,683
Total . . . . .	700,357	22,400	271,300	834,485	303,313	63,267	10,340	2,205,462
Institutes and hospitals—								
New South Wales . . . . .	158,594	—	17,500	93,528	17,090	12,405	10,417	309,534
Victoria . . . . .	442,701	—	34,500	329,631	32,410	37,108	15,210	891,560 (c)
Queensland . . . . .	8,424	—	—	12,780	—	—	624	21,828
South Australia . . . . .	1,200	—	—	4,522	—	7,360	20,114	33,196
Western Australia . . . . .	8,239	—	5,700	2,545	3,989	4,030	—	24,503
Tasmania . . . . .	—	—	—	380	1,620	—	—	2,000
Australian Capital Territory . . . . .	—	—	—	1,698	—	—	—	1,698
Special Grants . . . . .	—	—	—	—	—	—	40,000 (d)	40,000 (d)
Total . . . . .	619,158	—	57,700	445,084	55,109	60,903	86,365	1,324,319
Grand total . . . . .	1,319,515	22,400	329,000	1,279,569	358,422	124,170	96,705	3,529,781

(a) Recommended by the 74th Session of Council, May 1972 and 75th Session, November 1972, for use in 1972-73.

(b) Includes \$500 basic consumable allowance for Medical and Dental Postgraduate Scholars.

(c) Includes grants totalling \$417,568 to the Walter and Eliza Hall Institute of Medical Research, Melbourne and \$188,168 to the Howard Florey Institute of Experimental Physiology and Medicine, Melbourne.

(d) Grant to the National Heart Foundation for a Hypertension Trial.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

The following tables show estimates of current account expenditure on health services for the years 1960-61, 1963-64, 1966-67 and 1969-70. The estimates are based on a system of national health service accounting used by the World Health Organisation for the purpose of an international study of health expenditure in 1963. The figures for 1960-61 are those supplied to W.H.O. by the Institute of Applied Economic Research, University of Melbourne for that study. Those for 1963-64 were published by Dr J. Deeble and those for 1966-67 and 1969-70 were compiled by the Planning and Research Branch of this Department. Due to the considerable resources and the special surveys needed for their production, these estimates have been made once every three years.

Estimates of capital account expenditure on health services have not been compiled by this Department.

It should be noted that the estimates of current account expenditure are not strictly comparable with health expenditure figures published by the Bureau of Census and Statistics in the Australian National Accounts, mainly because of the different classification of certain items. However, they more closely approximate outlay, i.e. final expenditures plus transfer payments (such as cash benefits to persons from general government) to other sectors.

## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 166 CURRENT ACCOUNT EXPENDITURE AT CURRENT AND 1960-61 PRICES—1960-61, 1963-64, 1966-67 AND 1969-70

	<i>At Current Prices</i>				<i>At 1960-61 Prices (a)</i>			
	<i>1960-61</i>	<i>1963-64</i>	<i>1966-67</i>	<i>1969-70</i>	<i>1960-61</i>	<i>1963-64</i>	<i>1966-67</i>	<i>1969-70</i>
	\$M	\$M	\$M	\$M	\$M	\$M	\$M	\$M
Current account expenditure—								
Government(b)	346.30	436.62	579.78	840.45	346.30	400.57	472.52	572.12
Private	321.73	393.87	538.75	696.21	321.73	361.35	439.08	473.93
Total	668.03	830.49	1,118.53	1,536.66	668.03	761.92	911.60	1,046.06
	\$	\$	\$	\$	\$	\$	\$	\$
Per capita expenditure	64.29	75.09	95.57	123.88	64.29	68.89	77.89	84.33
	%	%	%	%	%	%	%	%
Health expenditure as percent- age of gross domestic product	4.59	4.67	4.96	5.16	4.59	4.55	4.69	4.52

(a) Revalued at 1960-61 prices using implicit price indexes derived from 1966-67 implicit price indexes used in the Australian National Accounts and rebased to 1960-61, and from information available to the Department of Health.

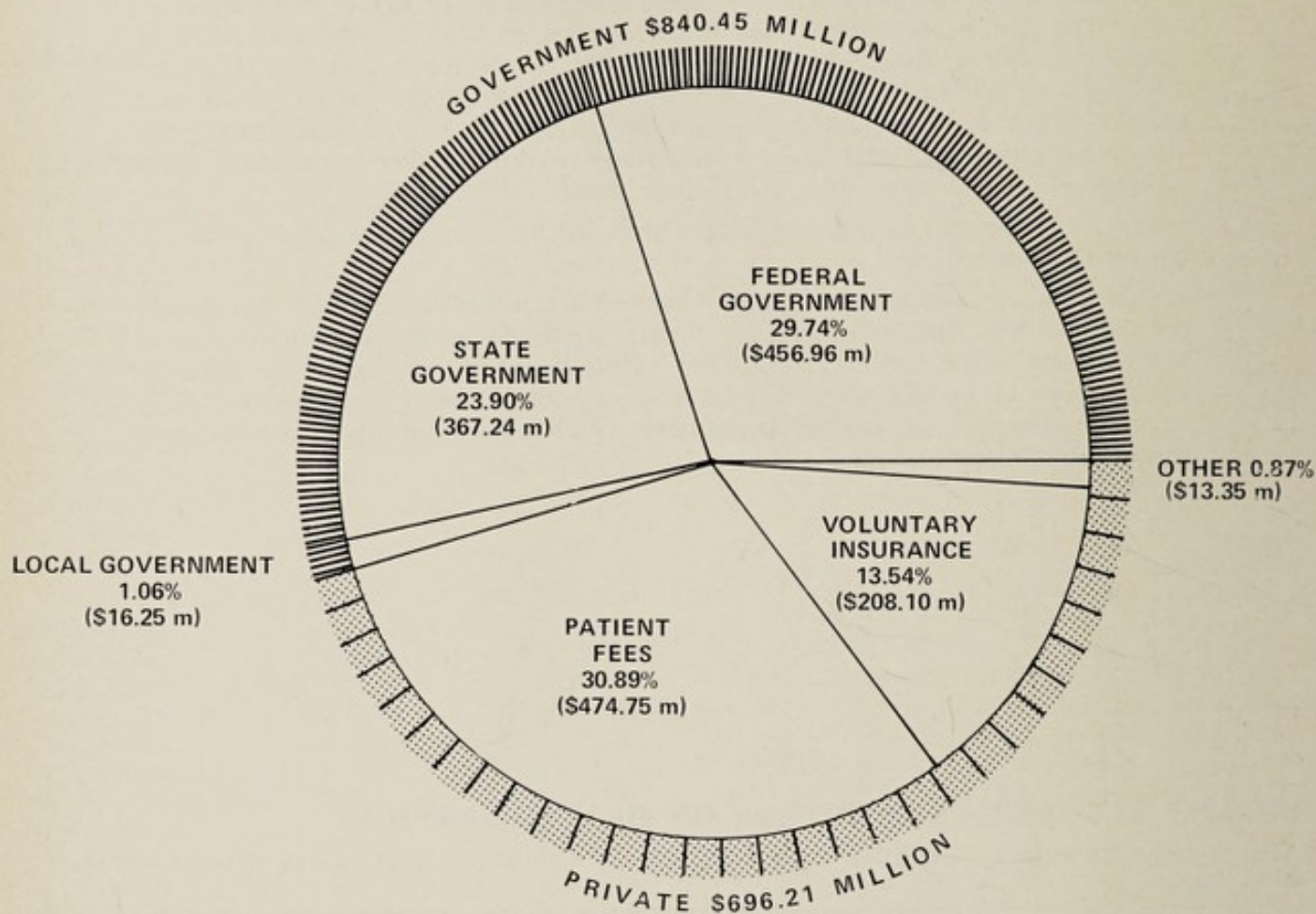
(b) Includes payments by Federal Government for hospital, medical and pharmaceutical benefits which, in the Australian National Accounts, are treated as transfer payments and included in the Private Sector.



# CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

GRAPH 31 CURRENT ACCOUNT EXPENDITURE—SOURCE OF FINANCE—1969-70

TOTAL \$1536.66 MILLION





## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 167 CURRENT ACCOUNT EXPENDITURE—SOURCE OF FINANCE—1969-70  
(\$M)

Services	Source of finance								
	Government				Private				
	Federal (a)	State	Local	Total	Voluntary Insurance (b)	Patient Fees (c)	Other	Total	Total
<b>Institutional care</b>									
General hospitals									
Approved hospitals . . .	93.88	238.77	0.92	333.57	102.57	36.78	7.35	146.70	480.27
Other general hospitals and services . . .	46.95	6.78	—	53.73	—	—	0.27	0.27	54.00
Total general hospitals . . .	140.83	245.55	0.92	387.30	102.57	36.78	7.61	146.97	534.27
Mental hospitals . . .	4.21	69.37	—	73.58	—	5.85	0.59	6.44	80.02
Nursing homes . . .	47.13	14.27	—	61.40	—	39.84	1.99	41.83	103.23
Ambulance services . . .	0.78	4.26	0.19	5.23	—	9.93	1.94	11.87	17.10
Administrative expenses . . .	1.10	—	—	1.10	12.22	—	—	12.22	13.32
Surpluses of benefit funds . . .	—	—	—	—	13.69	—	—	13.69	13.69
Total institutional care . . .	194.05	333.45	1.11	528.61	128.48	92.40	12.13	233.02	761.63
<b>Other medical care</b>									
Government and charitable . . .	11.79	5.43	0.14	17.36	—	1.10	0.63	1.74	19.10
Medical services . . .	85.12	0.33	—	85.45	63.78	100.33	—	164.10	249.55
Dental and paramedical services . . .									
Dental services . . .	1.90	—	—	1.90	—	66.20	—	66.20	68.10
Paramedical services . . .	2.51	—	—	2.51	1.40	31.98	—	33.38	35.89
Total dental and paramedical . . .	4.41	—	—	4.41	1.40	98.18	—	99.58	103.99
Medicaments . . .	130.38	—	—	130.38	—	159.95	—	159.95	290.33
Appliances . . .	—	0.11	—	0.11	1.46	22.55	—	24.01	24.12
Administration expenses . . .	7.18	—	—	7.18	12.14	—	—	12.14	19.32
Surpluses of benefit funds . . .	—	—	—	—	0.84	—	—	0.84	0.84
Total other medical care . . .	238.88	5.87	0.14	244.89	79.62	382.11	0.63	462.36	707.25
<b>Public health services</b>									
Personal services									
Maternal and child health . . .	1.48	6.19	1.92	9.59	—	0.01	—	0.01	9.60
School health . . .	10.65	5.10	—	15.75	—	—	—	—	15.75
Tuberculosis control . . .	4.56	0.70	—	5.26	—	—	—	—	5.26
Other personal services . . .	0.97	3.43	—	4.40	—	0.13	0.29	0.42	4.82
Total personal services . . .	17.66	15.42	1.92	35.00	—	0.14	0.29	0.43	35.43
Environmental and supporting services . . .	6.37	12.50	13.08	31.95	—	0.10	0.30	0.40	32.35
Total public health services . . .	24.03	27.92	15.00	66.95	—	0.24	0.59	0.83	67.78
Total current account expenditure . . .	456.96	367.24	16.25	840.45	208.10	474.75	13.35	696.21	1,536.66

(a) See footnote (b) Table 166.

(b) Voluntary Insurance includes the net outlay by voluntary health insurance organisations for benefits paid to contributors, administrative expenses and the surpluses allocated to accumulated reserves.

(c) Patient Fees includes net payments made by recipients for services. Contributions paid to health insurance organisations are excluded.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 168 CURRENT ACCOUNT EXPENDITURE—PERCENTAGE DISTRIBUTION BY SOURCE OF FINANCE—1969-70

EXPENDITURE—1969-70

(%)

	Source of finance								
	Government				Private				
Services	Federal (a)	State	Local	Total	Voluntary Insurance (b)	Patient Fees (c)	Other	Total	Total
<b>Institutional care</b>									
General hospitals									
Approved hospitals . . .	19.5	49.7	0.2	69.4	21.4	7.7	1.5	30.6	100.0
Other general hospitals and services . . .	87.0	12.6	—	99.5	—	—	0.5	0.5	100.0
Total general hospitals . . .	26.3	46.0	0.2	72.5	19.2	6.9	1.4	27.5	100.0
Mental hospitals . . .	5.3	86.7	—	92.0	—	7.3	0.7	8.0	100.0
Nursing homes . . .	45.7	13.8	—	59.5	—	38.6	1.9	40.5	100.0
Ambulance services . . .	4.6	24.9	1.1	30.6	—	58.1	11.3	69.4	100.0
Administrative expenses	8.3	—	—	8.3	91.8	—	—	91.8	100.0
Surpluses of benefit funds	—	—	—	—	100.0	—	—	100.0	100.0
Total institutional care . .	25.5	43.8	0.1	69.4	16.9	12.1	1.6	30.6	100.0
<b>Other medical care</b>									
Government and charitable . . .	61.8	28.4	0.7	90.9	—	5.8	3.3	9.1	100.0
Medical services . . .	34.1	0.1	—	34.2	25.6	40.2	—	65.8	100.0
Dental and paramedical services									
Dental services . . .	2.8	—	—	2.8	—	97.2	—	97.2	100.0
Paramedical services . .	7.0	—	—	7.0	3.9	89.1	—	93.0	100.0
Total dental and paramedical . . .	4.2	—	—	4.2	1.3	94.4	—	95.8	100.0
Medicaments . . .	44.9	—	—	44.9	—	55.1	—	55.1	100.0
Appliances . . .	—	0.5	—	0.5	6.1	93.5	—	99.5	100.0
Administration expenses	37.1	—	—	37.1	62.8	—	—	62.8	100.0
Surpluses of benefit funds	—	—	—	—	100.0	—	—	100.0	100.0
Total other medical care . .	33.8	0.8	0.0	34.6	11.3	54.0	0.0	65.3	100.0
<b>Public health services</b>									
Personal services									
Maternal and child health . . .	15.4	64.5	20.0	99.9	—	0.1	—	0.1	100.0
School health . . .	67.6	32.4	—	100.0	—	—	—	—	100.0
Tuberculosis control . .	86.7	13.3	—	100.0	—	—	—	—	100.0
Other personal services	20.1	71.2	—	91.3	—	2.7	6.0	8.7	100.0
Total personal services . . .	49.8	43.5	5.4	98.8	—	0.4	0.8	1.2	100.0
Environmental and supporting services . . .	19.7	38.6	40.4	98.8	—	0.3	0.9	1.2	100.0
Total public health services . . .	35.5	41.2	22.1	98.8	—	0.4	0.9	1.2	100.0
Total current account expenditure . . .	29.7	23.9	1.1	54.7	13.5	30.9	0.9	45.3	100.0

(a) See footnote (b) Table 166.

(b) See footnote (b) Table 167.

(c) See footnote (c) Table 167.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 169 CURRENT ACCOUNT EXPENDITURE—PERCENTAGE DISTRIBUTION BY TYPE OF EXPENDITURE—1969-70

(%)

Services	Source of finance								
	Government				Private				
	Federal (a)	State	Local	Total	Voluntary Insurance (b)	Patient Fees (c)	Other	Total	Total
<b>Institutional care</b>									
General hospitals									
Approved hospitals . . .	20.5	65.0	5.7	39.7	49.3	7.7	55.1	21.0	31.3
Other general hospitals and services . . .	10.3	1.8	—	6.4	—	—	2.0	0.0	3.5
Total general hospitals . . .	30.8	66.8	5.7	46.1	49.3	7.7	57.0	21.0	34.8
Mental hospitals . . .	0.9	18.9	—	8.8	—	1.2	4.4	0.9	5.2
Nursing homes . . .	10.3	3.9	—	7.3	—	8.4	14.9	6.0	6.7
Ambulance services . .	0.2	1.2	1.2	0.6	—	2.1	14.5	1.7	1.1
Administrative expenses	0.2	—	—	0.1	5.9	—	—	1.7	0.9
Surpluses of benefit funds	—	—	—	—	6.5	—	—	2.0	0.9
Total institutional care .	42.5	90.8	6.8	62.9	61.7	19.5	90.9	33.5	49.6
<b>Other medical care</b>									
Government and charitable . . .	2.6	1.5	0.9	2.1	—	0.2	4.7	0.2	1.2
Medical services . . .	18.6	0.1	—	10.2	30.7	21.1	—	23.5	16.2
Dental and paramedical services									
Dental services . . .	0.4	—	—	0.2	—	13.9	—	9.5	4.4
Paramedical services .	0.5	—	—	0.3	0.7	6.7	—	4.8	2.3
Total dental and paramedical . . .	1.0	—	—	0.5	0.7	20.7	—	14.3	6.8
Medicaments . . .	28.5	—	—	15.5	—	33.7	—	22.9	18.9
Appliances . . .	—	0.0	—	0.0	0.7	4.7	—	3.4	1.6
Administration expenses	1.6	—	—	0.9	5.8	—	—	1.7	1.3
Surpluses of benefit funds	—	—	—	—	0.4	—	—	0.1	0.1
Total other medical care	52.3	1.6	0.9	29.1	38.3	80.5	4.7	66.2	46.0
<b>Public health services</b>									
Personal services									
Maternal and child health . . .	0.3	1.7	11.8	1.1	—	0.0	—	0.0	0.6
School health . . .	2.3	1.4	—	1.9	—	—	—	—	1.0
Tuberculosis control .	1.0	0.2	—	0.6	—	—	—	—	0.3
Other personal services	0.2	0.9	—	0.5	—	0.0	2.2	0.1	0.3
Total personal services . . .	3.9	4.2	11.8	4.2	—	0.0	2.2	0.1	2.3
Environmental and supporting services . .	1.4	3.4	80.5	3.8	—	0.0	2.2	0.1	2.1
Total public health services . . .	5.3	7.6	92.3	8.0	—	0.0	4.4	0.1	4.4
Total current account expenditure . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) See footnote (b) Table 166.

(b) See footnote (b) Table 167.

(c) See footnote (c) Table 167.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 170 CURRENT ACCOUNT EXPENDITURE—COMPARISON OF MAJOR COMPONENTS—  
1960-61, 1963-64, 1966-67 AND 1969-70

<i>Year ended 30 June</i>	<i>(\$M)</i>								
	<i>Source of finance</i>								
	<i>Government</i>				<i>Private</i>				
	<i>Federal (a)</i>	<i>State</i>	<i>Local</i>	<i>Total</i>	<i>Volun- tary Insur- ance (b)</i>	<i>Patient Fees (c)</i>	<i>Other</i>	<i>Total</i>	<i>Total</i>
1960-61									
Institutional Care . . .	81.80	140.95	0.67	223.42	35.03	44.10	5.34	84.47	307.89
Other Medical Care . . .	93.04	1.68	—	94.72	34.92	201.24	0.46	236.62	331.34
Public Health Services . .	12.25	9.22	6.69	28.16	—	0.62	0.02	0.64	28.80
Total . . . . .	187.09	151.85	7.36	346.30	69.95	245.96	5.82	321.73	668.03
1963-64									
Institutional Care . . .	107.85	166.31	0.74	274.90	55.23	48.34	6.80	110.37	385.27
Other Medical Care . . .	124.84	2.30	—	127.14	41.23	241.01	0.44	282.68	409.82
Public Health Services . .	14.05	12.29	8.24	34.58	—	0.78	0.04	0.82	35.40
Total . . . . .	246.74	180.90	8.98	436.62	96.46	290.13	7.28	393.87	830.49
1966-67									
Institutional Care . . .	128.20	218.53	0.97	347.70	80.60	77.93	9.29	167.82	515.52
Other Medical Care . . .	181.91	4.04	0.12	186.07	64.88	304.65	0.61	370.14	556.21
Public Health Services . .	17.80	17.78	10.43	46.01	—	0.22	0.57	0.79	46.80
Total . . . . .	327.91	240.35	11.52	579.78	145.48	382.80	10.47	538.75	1,118.53
1969-70									
Institutional Care . . .	194.05	333.45	1.11	528.61	128.48	92.40	12.13	233.02	761.63
Other Medical Care . . .	238.88	5.87	0.14	244.89	79.62	382.11	0.63	462.36	707.25
Public Health Services . .	24.03	27.92	15.00	66.95	—	0.24	0.59	0.83	67.78
Total . . . . .	456.96	367.24	16.25	840.45	208.10	474.75	13.35	696.21	1,536.66

(a) See footnote (b) Table 166.

(b) See footnote (b) Table 167.

(c) See footnote (c) Table 167.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 171 CURRENT ACCOUNT EXPENDITURE—PERCENTAGE DISTRIBUTION BY SOURCE OF FINANCE—MAJOR COMPONENTS—1960-61, 1963-64, 1966-67 AND 1969-70  
(%)

Year ended 30 June	Source of finance								
	Government				Private				
	Federal (a)	State	Local	Total	Voluntary		Other	Total	Total
					Insurance (b)	Patient Fees (c)			
1960-61									
Institutional Care . . .	26.6	45.8	0.2	72.6	11.4	14.3	1.7	27.4	100.0
Other Medical Care . . .	28.1	0.5	—	28.6	10.5	60.8	0.1	71.4	100.0
Public Health Services . .	42.5	32.0	23.2	97.8	—	2.2	0.1	2.2	100.0
Total . . . . .	28.0	22.7	1.1	51.8	10.5	36.8	0.9	48.2	100.0
1963-64									
Institutional Care . . .	28.0	43.2	0.2	71.4	14.3	12.5	1.8	28.6	100.0
Other Medical Care . . .	30.4	0.6	—	31.0	10.1	58.8	0.1	69.0	100.0
Public Health Services . .	39.7	34.7	23.3	97.7	—	2.2	0.1	2.3	100.0
Total . . . . .	29.7	21.8	1.1	52.6	11.6	34.9	0.9	47.4	100.0
1966-67									
Institutional Care . . .	24.9	42.4	0.2	67.5	15.6	15.1	1.8	32.5	100.0
Other Medical Care . . .	32.7	0.7	0.0	33.4	11.7	54.8	0.1	66.6	100.0
Public Health Services . .	38.0	38.0	22.3	98.3	—	0.5	1.2	1.7	100.0
Total . . . . .	29.3	21.5	1.0	51.8	13.0	34.2	0.9	48.2	100.0
1969-70									
Institutional Care . . .	25.5	43.8	0.1	69.4	16.9	12.1	1.6	30.6	100.0
Other Medical Care . . .	33.8	0.8	0.0	34.6	11.3	54.0	0.0	65.3	100.0
Public Health Services . .	35.5	41.2	22.1	98.8	—	0.4	0.9	1.2	100.0
Total . . . . .	29.7	23.9	1.1	54.7	13.5	30.9	0.9	45.3	100.0

(a) See footnote (b) Table 166.

(b) See footnote (b) Table 167.

(c) See footnote (c) Table 167.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 172 CURRENT ACCOUNT EXPENDITURE—PERCENTAGE DISTRIBUTION BY TYPE OF EXPENDITURE—MAJOR COMPONENTS—1960-61, 1963-64, 1966-67 AND 1969-70 (%)

Year ended 30 June	Source of finance								
	Government				Private				
	Federal (a)	State	Local	Total	Volun- tary Insur- ance (b)	Patient Fees (c)	Other	Total	Total
1960-61									
Institutional Care . . .	43.7	92.8	9.1	64.5	50.1	17.9	91.8	26.3	46.1
Other Medical Care . . .	49.7	1.1	—	27.4	49.9	81.8	7.9	73.6	49.6
Public Health Services . .	6.5	6.1	90.9	8.1	—	0.3	0.3	0.2	4.3
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1963-64									
Institutional Care . . .	43.7	91.9	8.2	63.0	57.3	16.7	93.4	28.0	46.4
Other Medical Care . . .	50.6	1.3	—	29.1	42.7	83.1	6.0	71.8	49.3
Public Health Services . .	5.7	6.8	91.8	7.9	—	0.3	0.6	0.2	4.3
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1966-67									
Institutional Care . . .	39.1	90.9	8.4	60.0	55.4	20.3	88.7	31.2	46.1
Other Medical Care . . .	55.5	1.7	1.0	32.1	44.6	79.6	5.8	68.7	49.7
Public Health Services . .	5.4	7.4	90.5	7.9	—	0.1	5.4	0.1	4.2
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1969-70									
Institutional Care . . .	42.5	90.8	6.8	62.9	61.7	19.5	90.9	33.5	49.6
Other Medical Care . . .	52.3	1.6	0.9	29.1	38.3	80.5	4.7	66.4	46.0
Public Health Services . .	5.3	7.6	92.3	8.0	—	0.0	4.4	0.1	4.4
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) See footnote (b) Table 166.

(b) See footnote (b) Table 167.

(c) See footnote (c) Table 167.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 173 CURRENT ACCOUNT EXPENDITURE—INDEX OF CHANGES IN MAJOR COMPONENTS (BASE YEAR 1960-61 = 100)—1963-64, 1966-67 AND 1969-70

Year ended 30 June	Source of finance								
	Government				Private				
	Federal (a)	State	Local	Total	Voluntary Insurance (b)			Other	Total
					Insurance (b)	Patient Fees (c)			
1963-64									
Institutional Care . . . . .	132	118	110	123	158	110	127	131	125
Other Medical Care . . . . .	134	137	—	134	118	120	96	119	124
Public Health Services . . . . .	115	133	123	123	—	126	200	128	123
Total . . . . .	132	119	122	126	138	118	125	122	124
1966-67									
Institutional Care . . . . .	157	155	145	156	230	177	174	199	167
Other Medical Care . . . . .	196	240	—	196	186	151	133	156	168
Public Health Services . . . . .	145	193	156	163	—	35	2,850	123	163
Total . . . . .	175	158	157	167	208	156	180	167	167
1969-70									
Institutional Care . . . . .	237	237	166	237	367	210	227	276	247
Other Medical Care . . . . .	257	349	—	259	228	190	137	195	213
Public Health Services . . . . .	196	303	224	238	—	39	2,950	130	235
Total . . . . .	244	242	221	243	297	193	229	216	230

(a) See footnote (b) Table 166.

(b) See footnote (b) Table 167.

(c) See footnote (c) Table 167.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 174 PER CAPITA CURRENT ACCOUNT EXPENDITURE—COMPARISON OF MAJOR COMPONENTS AT CURRENT PRICES—1960-61, 1963-64, 1966-67 AND 1969-70 (\$)

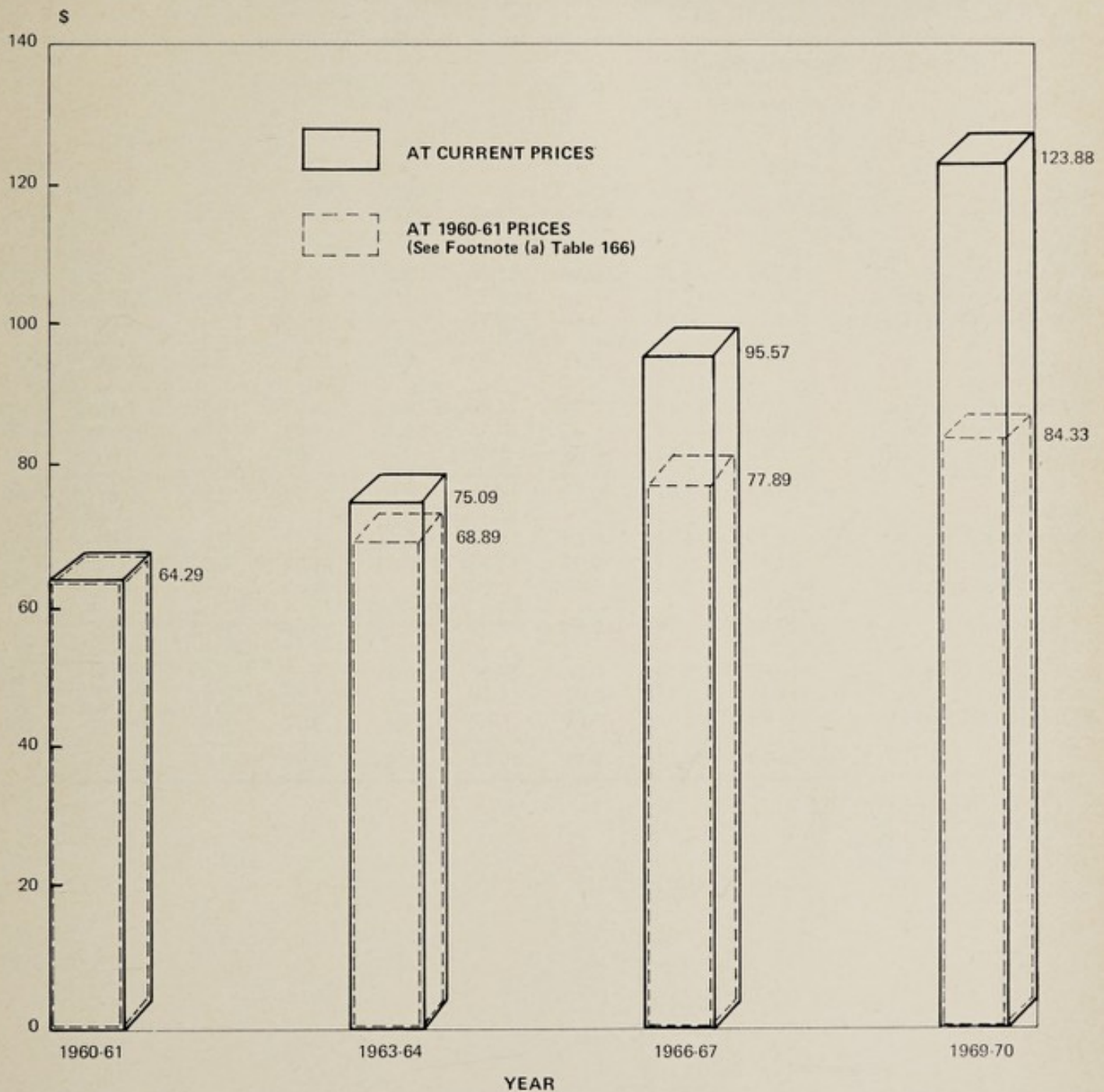
Year ended 30 June	Source of finance								
	Government				Private				
	Federal (a)	State	Local	Total	Voluntary Insurance (b)	Patient Fees (c)	Other	Total	Total
1960-61									
Institutional Care . . . . .	7.87	13.56	0.06	21.50	3.37	4.24	0.51	8.13	29.63
Other Medical Care . . . . .	8.95	0.16	—	9.12	3.36	19.37	0.04	22.77	31.89
Public Health Services . . . . .	1.18	0.89	0.64	2.71	—	0.06	0.02	0.06	2.77
Total . . . . .	18.01	14.61	0.71	33.33	6.73	23.67	0.56	30.96	64.29
1963-64									
Institutional Care . . . . .	9.75	15.04	0.07	24.86	4.99	4.37	0.61	9.98	34.84
Other Medical Care . . . . .	11.29	0.21	—	11.50	3.73	21.79	0.04	25.56	37.06
Public Health Services . . . . .	1.27	1.11	0.75	3.13	—	0.07	0.00	0.07	3.20
Total . . . . .	22.31	16.36	0.81	39.48	8.72	26.23	0.66	35.61	75.09
1966-67									
Institutional Care . . . . .	10.95	18.67	0.08	29.71	6.89	6.66	0.79	14.34	44.05
Other Medical Care . . . . .	15.54	0.35	0.01	15.90	5.54	26.03	0.05	31.63	47.53
Public Health Services . . . . .	1.52	1.52	0.89	3.93	—	0.02	0.05	0.07	4.00
Total . . . . .	28.02	20.54	0.98	49.54	12.43	32.71	0.89	46.03	95.57
1969-70									
Institutional Care . . . . .	15.64	26.88	0.09	42.62	10.36	7.45	0.98	18.79	61.41
Other Medical Care . . . . .	19.26	0.47	0.01	19.74	6.42	30.80	0.05	37.27	57.02
Public Health Services . . . . .	1.94	2.25	1.21	5.40	—	0.02	0.05	0.07	5.46
Total . . . . .	36.84	29.61	1.31	67.76	16.78	38.27	1.08	56.13	123.88

(a) See footnote (b) Table 166.

(b) See footnote (b) Table 167.

(c) See footnote (c) Table 167.



**CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES****GRAPH 32 PER CAPITA EXPENDITURE—1960-61, 1963-64, 1966-67 AND 1969-70**



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 175 PER CAPITA CURRENT ACCOUNT EXPENDITURE AT 1960-61 PRICES (a)—COMPARISON OF MAJOR COMPONENTS—1960-61, 1963-64, 1966-67 AND 1969-70

(\$)

Year ended 30 June	Source of finance								
	Government				Private				
	Federal (b)	State	Local	Total	Volun- tary Insur- ance (c)	Patient Fees (d)	Other	Total	Total
1960-61									
Institutional Care . . .	7.87	13.56	0.06	21.50	3.37	4.24	0.51	8.13	29.63
Other Medical Care . . .	8.95	0.16	—	9.12	3.36	19.37	0.04	22.77	31.89
Public Health Services . .	1.18	0.89	0.64	2.71	—	0.06	—	0.06	2.77
Total . . . . .	18.01	14.61	0.71	33.33	6.73	23.67	0.56	30.96	64.29
1963-64									
Institutional Care . . .	8.95	13.80	0.06	22.80	4.58	4.01	0.56	9.16	31.96
Other Medical Care . . .	10.36	0.19	—	10.55	3.42	19.99	0.04	23.45	34.00
Public Health Services . .	1.17	1.02	0.68	2.87	—	0.07	—	0.07	2.94
Total . . . . .	20.47	15.01	0.75	36.22	8.00	24.07	0.60	32.67	68.89
1966-67									
Institutional Care . . .	8.93	15.22	0.07	24.21	5.61	5.43	0.65	11.69	35.90
Other Medical Care . . .	12.67	0.28	0.01	12.96	4.52	21.22	0.04	25.78	38.73
Public Health Services . .	1.24	1.24	0.73	3.20	—	0.02	0.04	0.05	3.26
Total . . . . .	22.84	16.74	0.80	40.38	10.13	26.66	0.73	37.52	77.89
1969-70									
Institutional Care . . .	10.65	18.30	0.06	29.01	7.05	5.07	0.67	12.79	41.80
Other Medical Care . . .	13.11	0.32	0.01	13.44	4.37	20.97	0.03	25.37	38.81
Public Health Services . .	1.32	1.53	0.82	3.67	—	0.01	0.03	0.05	3.72
Total . . . . .	25.08	20.15	0.89	46.12	11.42	26.05	0.73	38.21	84.33

(a) See footnote (a) Table 166.

(b) See footnote (b) Table 166.

(c) See footnote (b) Table 167.

(d) See footnote (c) Table 167.



## CURRENT ACCOUNT EXPENDITURE ON HEALTH SERVICES

TABLE 176 PER CAPITA CURRENT ACCOUNT EXPENDITURE AT 1960-61 PRICES (a)—INDEX OF CHANGES IN MAJOR COMPONENTS (BASE YEAR 1950-61 = 100)—1963-64, 1966-67 AND 1969-70

Year ended 30 June	Source of finance								
	Government				Private				
	Federal (b)	State	Local	Total	Volun- tary Insur- ance (c)	Patient Fees (d)	Other	Total	Total
1963-64									
Institutional Care . . . . .	114	102	100	106	136	95	110	113	108
Other Medical Care . . . . .	116	119	—	116	102	103	100	103	107
Public Health Services . . . . .	99	115	106	106	—	117	—	117	106
Total . . . . .	114	103	106	109	119	102	107	106	107
1966-67									
Institutional Care . . . . .	113	112	117	113	166	128	127	144	121
Other Medical Care . . . . .	142	175	—	142	135	110	100	113	121
Public Health Services . . . . .	105	139	114	118	—	33	—	83	118
Total . . . . .	127	115	113	121	151	113	130	121	121
1969-70									
Institutional Care . . . . .	135	135	100	135	209	120	131	157	141
Other Medical Care . . . . .	146	200	—	147	130	103	75	111	122
Public Health Services . . . . .	112	172	128	135	—	17	—	83	134
Total . . . . .	139	138	125	138	170	110	130	123	131

(a) See footnote (a) Table 166.

(b) See footnote (b) Table 166.

(c) See footnote (b) Table 167.

(d) See footnote (c) Table 167.



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R72/2065



