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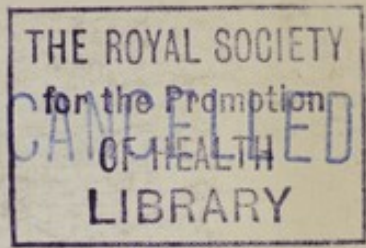
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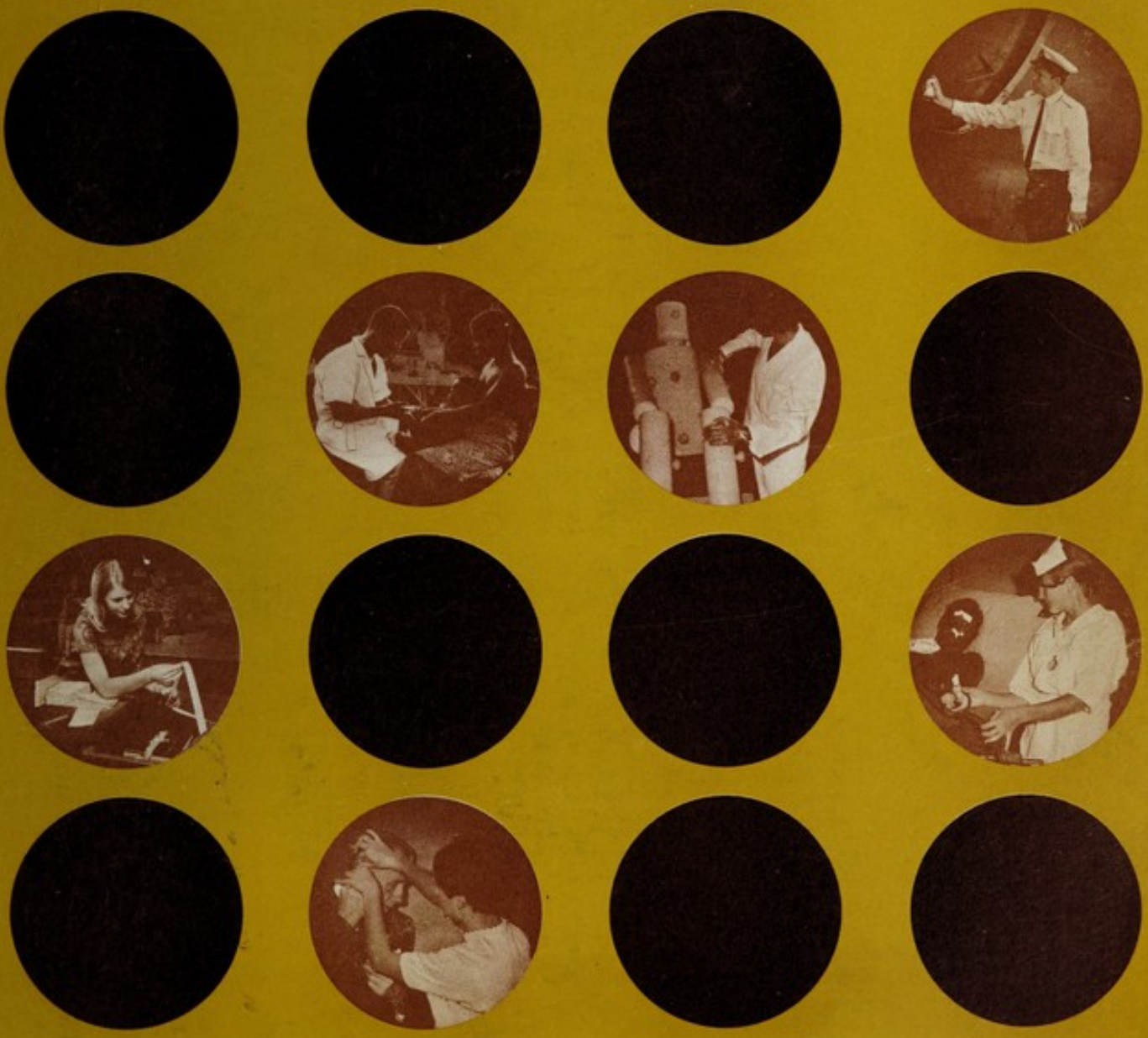


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Commonwealth Department of Health 1967-68

The Annual Report of the Director-General of Health





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COMMONWEALTH DEPARTMENT OF HEALTH



Annual Report
Director-General of Health
1967-68

CANBERRA, 1968

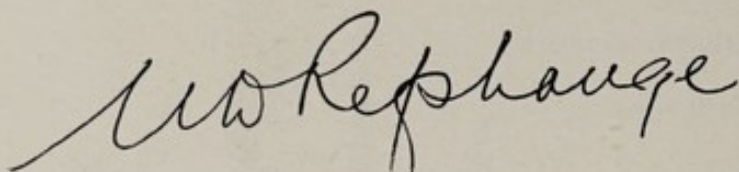
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*The Honourable A. J. Forbes, M.C., M.P.,
Minister for Health,
Commonwealth of Australia*

*I present herewith
my report of the activities of the
Commonwealth Department of Health
for the year ended 30 June 1968*

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,
31 August 1968
Canberra, A.C.T.*

Introduction

The year 1967-68 was one of steady progress and achievement and more noticeable public interest which promises to lead to further improvements in health services.

Public interest in new medical methods and the means of applying health services is a great stimulus to progress but, at the same time, the need to maintain the efficiency of existing programmes must never be overlooked.

Advances in chemotherapy do not remove the need for constant checks within the community against tuberculosis; the availability of vaccines as yet gives no real cause for the relaxation of exacting quarantine control; surgical ability to replace complete organs, although exciting and often lifesaving, would not always be necessary if early preventive medicine had kept these organs healthy.

Much of the work of the Commonwealth Department of Health is concerned with services which, because they are effective and have become routine, are taken for granted. The routine checking of drug potency and the preparation of standards by the National Biological Standards Laboratory, the checking of levels of radio-activity and the maintenance and distribution of supplies of radio-isotopes by the Commonwealth X-Ray and Radium Laboratory and the work to improve the standards of dental equipment and materials carried out by the Bureau of Dental Standards are all functions of vital importance to the health of the community.

It is also, of course, vital that the methods by which people pay for their health services should operate smoothly, and, in administering the National Health Benefits Schemes, the Commonwealth Department of Health carries out one of the major managerial operations in the country. In 1967-68 the Department supervised the expenditure of \$298.2 million. In the field of pharmaceutical benefits alone it checked and paid chemists for some 55 million prescriptions. Such managerial operations are carried out as a matter of routine and the systems used are regularly reviewed in an endeavour to provide the most efficient possible service to the public.

In addition to such important functions, the Department is constantly involved in a process of investigation and planning to keep abreast of changes in the pattern of public health. The provision of public health services is no longer a matter of finding methods and applying them with the public following professional advice because of the self evident advantages. The technical and social capabilities of modern society make it possible to achieve progress in almost any given direction. The big problem now in public health planning is the definition of priorities and the allocation of resources.

It is now necessary to measure quite precisely the gains in human welfare available from alternative public health projects. At some stage we must begin to answer questions such as what standards of

health should be sought for the various age groups? Are we interested mainly in mortality—in keeping people alive—and do we care enough about morbidity—about how well they are from day to day? How much further should we go in attempting to eradicate, as distinct from controlling, communicable diseases, and at what stage should we begin to divert resources to other areas?

An increasing part of the Central Office functions of the Department is being devoted to the process of investigation and discussion necessary to present the Government with information on which decisions about health matters can be made. Bodies such as the National Health and Medical Research Council and its committees, the Australian Drug Evaluation Committee and the Pharmaceutical Benefits Advisory Committee are supplied with information and the executive part of their activity is carried out by the Department. Close and continuous liaison is maintained with State Health authorities, with professional bodies and with the World Health Organisation. It is only by the pooling of information and opinions from all such sources that the best sets of alternatives may be presented for decision.

Australia is one of the fortunate countries in the world with well established public health services. But the health services available to the majority of the world's population are still governed not so much by choice as by dire necessity. In April this year the World Health Organisation reached its 20th anniversary. In reviewing 20 years of endeavour, the Organisation concluded that while crash programmes against particular diseases could sow the seeds of better health, the most effective approach is still by way of developing indigenous, permanent health services geared to improving local environments. The World Health Organisation is, accordingly, continuing its policy of directing most of its energies towards these long-term unspectacular tasks. In the long term, as the efforts to raise health standards throughout the world succeed in bringing more of the communicable diseases under control, the risks of international transmission of diseases should be very greatly reduced.

In Australia we have reached a stage of medical sophistication in which renal transplant operations have become a normal surgical procedure and in which we have the skills and resources to attempt even more complicated organ transplants. There are, of course, many questions still to be resolved on this advanced frontier of medicine. The National Health and Medical Research Council is at present studying some of these aspects, including the question of rationalisation of the facilities available for this type of surgery.

But, dramatic as are the implications of this subject, the most immediate interest of the Australian population is still undoubtedly the efficient operation and improvement of existing health services and benefits and the means by which they are provided.

The problems posed by the mounting costs of health services and questions of financial responsibility are the matters which now seem in most urgent need of resolution. Two committees have been set up to investigate these problems. An independent committee appointed by the Government and comprising Mr Justice Nimmo, Sir Leslie Melville and

Mr N. H. McIntosh, is enquiring into the health insurance aspects of the National Health Benefits Scheme. A Select Committee of the Senate is investigating medical and hospital costs. Preparation of the information required by the Committee of Enquiry and the Senate Select Committee has already called for a major effort on the part of the Department. In addition, studies are being made of various aspects of the provision of health services, including the particular needs of people suffering from chronic and long continued illnesses, and a review of the Pensioner Medical Service, which was requested by the Australian Medical Association, is being carried out.

Health services in Australia are, of course, provided through a complex integration of local authority, State, Commonwealth and private interests. Another important area of discussion and liaison is therefore that which takes place between the Commonwealth and States and in June 1968 the annual meeting of the Commonwealth and State Ministers for Health took place in Darwin with the Commonwealth acting as host and providing the secretariat.

Management

The volume and range of services provided through the Department involves it in an intensive managerial task. A highlight of management operations during the year was the completion of the programme of conversion from manual to computer processing of pharmaceutical benefit claims. The computer system was introduced initially to a small group of chemists in Queensland in July 1965, and progressively extended to all chemists in Australia. The conversion process was completed when prescriptions from the last group of chemists in Victoria were switched to the computer system in September 1967.

The introduction of the computer system was a managerial project of considerable magnitude. The essential tasks of staff recruitment, training and re-training, informing chemists in detail of new procedures, installation and testing of data preparation equipment and procurement and fitting out of suitable accommodation had to be co-ordinated and carried out without disruption to the manual system of processing claims during the changeover period.

National Health Benefits

Total expenditure on national health benefits, which comprise hospital, medical and pharmaceutical benefits and payments under the Pensioner Medical Service was \$242.4 million in 1967-68. This was 6.8 per cent higher than in the previous year.

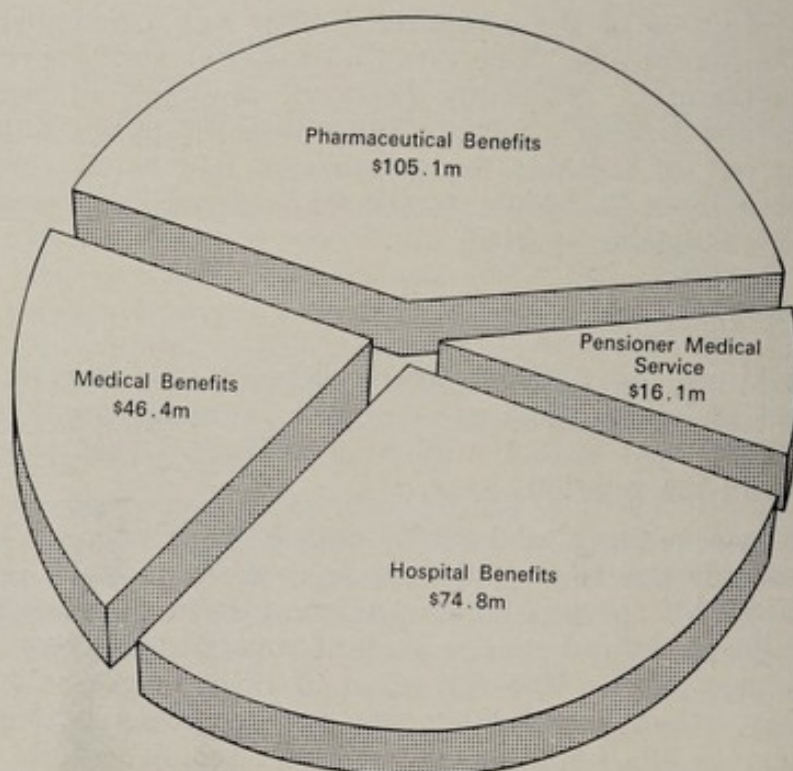
The increase in hospital benefits was \$7.4 million, or 10.9 per cent. This was mainly due to the increase from \$3.60 to \$5.00 in the payment to public hospitals for pensioners and the rise in the standard rate fund benefit for hospital fund special account contributors from \$1.60 to \$3.00 from 1 January 1967. The full effect of these increases was felt in the current year, when hospital benefits for pensioner patients rose from \$18.7 million to \$23.7 million and special account deficits from \$3.8 to \$4.5 million.

Payments made to doctors under the Pensioner Medical Service rose by 12.3 per cent to \$16.1 million. The average number of services per enrolled person fell from 8.0 in 1966-67 to 7.9 in 1967-68, and the increase in payments was due partly to the normal growth in the number of pensioners and their dependants for whom services are provided and partly to the higher fees payable to doctors as from 1 May 1967.

Commonwealth payments for pharmaceutical benefits to the general public, pensioners and to hospitals were \$105.1 million. In 1967-68, however, there was a substantial reduction in the rate of increase in Commonwealth expenditure for pharmaceutical prescriptions. For prescriptions for non-pensioners the increase was only \$144,000 compared with \$3.6 million in 1966-67 and for pensioners the increase was \$2.8 million compared with \$5.2 million in 1966-67. The total Commonwealth expenditure on pharmaceutical benefit prescriptions of \$88.9 million in 1967-68 was thus only some \$3 million more than the total for the previous year. This compares with increases of \$8.8 million for 1966-67 and of \$6.7 million for 1965-66.

The increase in the number of prescriptions per head of population in 1967-68 was less than one per cent. Previously the smallest percentage increase since the broadening of the Pharmaceutical Benefits Scheme in 1960-61 had been 3.1 per cent and the average annual increase between 1960-61 and 1966-67 was 7.4 per cent. While the major factor in this reduction in the rate of increase was the absence of seasonal illnesses

COMMONWEALTH EXPENDITURE ON NATIONAL HEALTH BENEFITS 1967-68



during the winter of 1967, I would like to point out that the growth rate for pharmaceutical benefits in 1967-68 was not significantly more than the percentage increase which could result from population growth, ageing patterns and other demographic and social factors.

Hearing Aids for Pensioners

A new service introduced during 1967-68 was the provision of hearing aids for pensioners. Under the scheme, announced in the 1967 Budget, hearing aids are provided by the Commonwealth Acoustic Laboratories for a hiring charge of \$10. The scheme came into operation on a limited basis on 1 April 1968 in the metropolitan areas of Adelaide and Newcastle for pensioners in the 65 to 69 years age group. Subsequently, as laboratory facilities became available, the service was extended to the other State capitals and to some provincial cities. The testing of pensioners for hearing aids was initially limited to the 65-69 years age group to enable the Laboratories to deal swiftly with applications from individual pensioners. The service is now being progressively extended to all eligible pensioners and their dependants. In the period 1 April to 30 June 1968, a total of 1,190 pensioners had been tested for hearing aids and 978 had been issued with aids.

Quarantine

Again during 1967-68 our quarantine defences were proved effective in keeping the country free of exotic diseases. The year, however, was marked by two situations which demonstrate the ever-present threat which diseases such as foot and mouth disease pose to our animal population. In the United Kingdom, an outbreak of foot and mouth disease which continued to spread, despite a well-planned and intensive campaign against it, caused very severe livestock losses. In May 1968 New Zealand authorities advised this Department that an unidentified disease had been reported among pigs on a farm near Auckland and that foot and mouth disease was a possibility. In accordance with contingency planning, it was necessary to act as if foot and mouth disease did exist in New Zealand. Immediate precautions on the movement of livestock, animal products and travellers were applied. Fortunately, the New Zealand authorities were soon able to confirm that the condition which had caused concern was not foot and mouth disease and the restrictions on trade and travel were removed.

During the United Kingdom epidemic of foot and mouth disease, the Department arranged for twenty-two Australian veterinary officers to go to England to assist the Ministry of Agriculture, Fisheries and Food in its eradication campaign or to act as observers and study the procedures used. As a result, the pool of knowledge in Australia about foot and month disease has been greatly expanded.

An aspect of quarantine planning which is now becoming important is the question of quarantine control methods for container handling of cargo. Speed in handling is vital to the full success of container cargo operations and methods of quarantine control must be devised which will

not interfere with loading and unloading cycles. During the year an officer of the Department visited overseas container terminals and had discussions with container operators. It is clear that accurate prior documentation of container contents will be fundamental to the intention to provide streamlined quarantine procedures which will both protect Australia from the introduction of diseases and, at the same time, avoid any unnecessary delay in the flow of goods. The use of computer data by the operators to provide a ready check on the history of each container will also be an important element in the quarantine control procedures.

Meanwhile alterations to procedures to expedite the general quarantine clearance of ships and aircraft from overseas have already been made. On 1 June 1968 the hours of quarantine inspection for ships arriving from overseas were extended. Previously, except in emergencies or special circumstances, ships had been inspected only between sunrise and sunset. The hours have been extended and now are from 6 a.m. to 10 p.m. At the same time the radio pratique system was extended. Under this system a vessel's passengers and crew are not now subject to routine quarantine inspection if the vessel carries a qualified doctor who can advise by radio, before the ship berths, that all passengers and crew are healthy and that all vaccination certificates are in order. Previously this concession had been confined to certain large passenger liners. As a check, unscheduled inspections will be made to ensure that this privilege is respected.

Arrangements have also been made to speed up the quarantine clearance of aircraft passengers arriving in Australia. To eliminate the need for passengers on incoming aircraft to have their Australian addresses documented, arrangements have been made to obtain passengers' addresses, if necessary, from information in the possession of the Department of Immigration. Another new procedure is that International Vaccination Certificates are now being checked by trained quarantine assistants instead of, as in the past, personally by the attending quarantine doctor. These new procedures, which are carried out under the supervision of specially trained medical officers, will allow the rapid clearance of passengers from new and larger jet aircraft expected in Australia in the early 1970's. Under the old system long delays in passenger clearance would have been inevitable with aircraft carrying up to 400 passengers.

The vaccination of travellers against such diseases as smallpox is fundamental to international quarantine. In the calendar year 1967 there were 115,202 cases of smallpox notified to WHO—the highest figure since 1963. The greatest incidence of this disease was in South-East Asia, where a total of 86,288 cases were notified, and there were also high incidence rates in the African, Eastern Mediterranean and South American regions. Yet, all too frequently, travellers who had not been vaccinated arrived in Australia. It was necessary to quarantine 100 people who had not been vaccinated against smallpox and to vaccinate, immediately on their arrival, 2,748 more people whose vaccination certificates were not in order. Many other travellers who had not been vaccinated against such diseases as cholera, plague and yellow fever, or whose vaccination certificates were invalid, were also either quarantined or vaccinated.

It is vital to the health of Australia that all persons who are not properly vaccinated should be subjected to quarantine precautions and the utmost vigilance will be maintained to detect such potential disease carriers.

Territory Health Services Planning

The planning, development and operation of health services in the Northern Territory and the Australian Capital Territory is becoming an increasingly complex function. In both territories the emerging needs of rapidly growing populations which are changing in social structure have to be met.

In the Northern Territory the project to complete and equip stage one of the new Darwin Hospital was completed during the year. At the same time the planned development of the Katherine and Tennant Creek hospitals was continued and planning for major extensions at Alice Springs was carried further.

At Gove, in north-eastern Arnhem Land, an entirely new town of 3,000 people is to be built, in what is at present virgin bushland, as an aluminium ore mining industry is developed. This will involve the planning, construction and operation of a complete new hospital and the setting up of infant health, dental, district nursing and public health nursing services as well as the establishment of an aerial medical base.

The provision of such services in the Northern Territory is a major task, but the biggest challenge for the Department is still the health of the Aborigines.

There has also been intensive planning for new health services for the Australian Capital Territory. Planning for a 600-bed hospital to be located in the Woden district of Canberra has been a major task. This will be one of the largest general hospitals to be planned and built as a single project for many years in Australia. Special care has therefore been taken to obtain the best possible balance between new concepts in hospital planning, proven needs and the necessity for flexibility to accommodate new needs and methods which may emerge in the future. A significant achievement in hospital planning for the A.C.T. has been adoption of the concept of integrated services for the existing and future hospitals.

Tuberculosis Control

There was further steady progress in 1967 in the campaign against tuberculosis. The number of notifications of new cases of the disease was 2,293, a fall of 256 on the previous year and an encouraging continuation of the downward trend evident in recent years. The total incidence rate also fell and, at 19.2 per 100,000, was, for the first time in Australia, below 20 per 100,000.

At the same time the 2,293 new cases diagnosed in 1967 show that there is no reason for complacency, especially when it is realised that the majority of these patients will need treatment extending for from two to three years. The figures also show that there are 204 patients in Australia whose infectiousness has continued for more than twelve months. This very important group of patients is now receiving special attention in the campaign.

National Health Benefits

Hospital Benefits

In 1967-68 Commonwealth benefits paid towards meeting the cost of hospital and nursing home treatment amounted to \$74,750,000.

An important development in the hospital insurance scheme during the year was the introduction by the major registered hospital benefit organisations of increased fund benefits for long-term patients contributing to the higher benefit tables. These increased benefits were made available without an increase in contributions.

In many instances the new benefits, when added to the Commonwealth Special Account benefit of \$5.00 a day, are comparable with public ward charges even after the contributor has reached the limit of the maximum benefit.

During 1967-68 the hospital funds paid a total of \$81,787,000 as benefits to their contributors. This represented an increase of \$12,776,000 or 18.5 per cent over the previous year.

Statistics relating to hospital benefits are set out in Tables 2 to 9 on pages 101 to 104.

Pensioners in Public Hospitals

Payments to public hospitals in respect of pensioners accommodated in public wards totalled \$23,665,000 in 1967-68, compared with \$18,731,000 in the previous year. The increase was due to two factors. There was a rise in the number of pensioners eligible for the benefit and 1967-68 was the first full year in which the rate of hospital benefit paid by the Commonwealth for pensioners in public wards was \$5 a day compared with \$3.60 a day previously.

Uninsured Patients in Approved Hospitals

Expenditure on Commonwealth hospital benefits for uninsured patients fell from \$2,376,000 in 1966-67 to \$2,298,000 in 1967-68. It is considered that this slight decrease resulted from the increases in the membership of health insurance organisations and in the numbers of pensioners who became eligible for free public ward treatment in public hospitals.

Nursing Home Patients

The number of approved nursing homes and beds available for nursing home patients again rose during 1967-68. As a result of the increased number of nursing home beds and the continued increase in the aged sector of the population, Commonwealth nursing home benefits paid during the year totalled \$24,486,000, an increase of \$1,719,000 over the previous year.

Approval of Hospitals and Nursing Homes

Details of new premises approved in 1967-68 as hospitals or nursing homes for the purpose of payment of Commonwealth benefits under the National Health Act are as follows:—

	No.	Beds		No.	Beds
Hospitals—			Nursing Homes—		
Public	9	301	Public	2	121
Private	5	123	Private	47	1,140
	—	—		—	—
Totals ..	14	424	Totals ..	49	1,261
	—	—		—	—

After allowing for variations arising from revocation of approvals and adjustment of bed capacities, the number of approved premises and beds at 30 June 1967 and 30 June 1968 were:—

	30.6.1967	30.6.1968
Approved Hospitals—		
Number	1,098	1,093
Beds	73,644	74,112
Approved Nursing Homes—		
Number	1,098	1,122
Beds	35,537	37,883

Medical Benefits

A revised Medical Benefits Schedule was introduced in 1967 by an amendment to the First Schedule of the National Health Act and came into operation on 1 March 1968. The schedule, which sets out the medical services in respect of which Commonwealth medical benefits are payable and the amount of Commonwealth benefit for each service, is revised periodically to enable anomalies that may develop to be corrected and to include benefit amounts for new medical procedures.

The revised schedule was the result of the work of a committee consisting of representatives of the Australian Medical Association and Departmental officers. For several years this committee has been engaged in examining the schedule with a view to the elimination of anomalies.

The new schedule incorporates certain new items for which Commonwealth benefits are payable. Determinations made by the Minister since 1964 under Section 15A of the Act have also been included. Most funds revised their medical benefit tables to bring them in line with the new schedule.

A further development during the year was the introduction by the registered medical benefit funds in all States except Western Australia of an increase in benefits in relation to some 128 surgical procedures. This was done without any increase in contribution rates. The increased

payments by the funds apply only to the top tables and range from \$10 to \$30 for major operations which attract Commonwealth benefit of \$40, \$50 and \$60. As a result of these changes contributors to top medical benefit tables are eligible for insurance benefits totalling \$180 against the cost of certain major operations. Most funds applied the increase to operations performed after 1 March 1968.

Commonwealth medical benefits expenditure in 1967-68 amounted to \$46,431,000 compared with \$43,841,000 in 1966-67. The medical benefits funds paid out \$52,576,000 to contributors compared with \$48,941,000 in 1966-67.

Of the total cost of medical services subject to Commonwealth benefit during 1967-68, 32.0 per cent was borne by the Commonwealth, 35.4 per cent by the funds, and the remainder by contributors. In 1966-67 the comparative percentages were 32.2 per cent, 35.5 per cent and 32.3 per cent respectively.

Statistics relating to medical benefits are set out at Tables 10 to 17 on pages 104 to 107.

Special Accounts—Hospital and Medical Benefits

There were no changes to the Special Account system during 1967-68. The system enables registered hospital and medical benefit organisations to provide assured rates of fund benefit, known as 'standard rate', to contributors who otherwise would have been excluded from fund benefits because the pre-existing ailment, chronic illness or maximum fund benefit rules.

Commonwealth expenditure on advances to hospital benefit organisations for Special Account purposes and on reimbursement of deficits incurred in hospital fund Special Accounts totalled \$4,494,000 in 1967-68. The corresponding amount in respect of medical fund benefits was \$956,000.

At 30 June 1968 the membership of the hospital fund Special Accounts was 32,558. The membership of the medical fund Special Accounts was 33,650.

Registration Committee

The functions of the Registration Committee are to examine, and to make recommendations to the Minister for Health in regard to, applications for registration as medical and/or hospital benefits organisations and proposed changes to the rules of organisations.

The Committee met 35 times in 1967-68 and made recommendations on 369 proposals submitted by organisations. The Committee also considered an application by one organisation for cancellation of registration under the Act. The Minister approved the application on the recommendation of the Committee.

Commonwealth Health Insurance Council

The Commonwealth Health Insurance Council met in Canberra from 28-30 November 1967. At this meeting the Council discussed a wide range of matters concerning the hospital and medical benefit schemes. The matters discussed included investments of fund reserves and the granting of hospital benefits for non-chronic, pre-existing ailments after three years' continuous membership.

The functions of the Council are to advise the Minister for Health on matters relating to the hospital and medical benefits schemes and to recommend means by which improvements in methods and standards may be effected.

Committee of Enquiry into Health Insurance

In April 1968 the Government appointed an independent Committee of Enquiry into Health Insurance and preliminary meetings were held in May and June prior to the holding of formal meetings in each State Capital commencing in July.

The terms of reference of the Committee are:—

(A) To enquire into—

- 1 The types of and amounts of benefit provided by benefit tables offered by organisations registered under Part VI of the National Health Act 1953-1967, and the numbers of such tables.
- 2 The extent to which the fund benefits available provide coverage against the cost to contributors of medical and hospital treatment.
- 3 The rates of contributions payable by contributors to registered organisations, having regard to the financial needs of the organisations and the effect of these contribution rates on the willingness of individuals to insure.
- 4 The limitations imposed by the rules (including the Special Account rules) of registered organisations in respect of benefit payments.
- 5 The limitations imposed on individuals by the rules of registered organisations on becoming a contributor to an organisation or transferring to a different benefit table in the same organisation.
- 6 The policies pursued by registered organisations in the application of their rules relating to the transfer of contributors to Special Accounts.
- 7 The methods used by registered organisations in paying benefits.
- 8 The methods used and costs incurred by registered organisations in collecting contributions including the rates of commissions and fees paid to collecting agencies.

- 9 The expenses incurred in administration and management, including the payment of benefits.
 - 10 The level of reserves maintained by registered organisations for hospital and medical insurance purposes.
 - 11 The policies followed in the investment of such reserves and of other monies arising from contributions to hospital and medical benefit funds.
 - 12 The overall management, administration and financial operations of the registered organisations.
 - 13 The extent to which there is effective contributor representation in the administration and policy making of registered organisations.
 - 14 The effects of activities pursued by registered organisations in competing for members.
 - 15 The extent and form of competition that is desirable between registered organisations.
 - 16 Whether the interests of contributors would be better served if there was a greater or a lesser number of registered organisations.
- (B) To make such recommendations to the Minister in relation to the above matters as the Committee deems necessary.
- (C) To make such other recommendations to the Minister as the Committee deems necessary in relation to the provision of adequate financial protection against the cost of illness in the context of both a voluntary health insurance scheme, and the obligations at present accepted by the State Governments.

Pensioner Medical Service

In the previous report it was mentioned that the Australian Medical Association had deferred a decision on the admission into the Service of those persons who, as a result of the relaxation of the pensions means test and a corresponding amendment, effective from 21 April 1967, to the definition of 'pensioner' in the National Health Act, became eligible for the benefits of the Pensioner Medical Service. In November 1967, the Australian Medical Association agreed to the enrolment of those persons in the Service, subject to an assurance that a full scale review of the Pensioner Medical Service would be in progress before the next Federal Assembly of A.M.A. This condition was agreed to and the review is at present being undertaken.

The Pensioner Medical Service is now available to those persons, and their dependants, who are in receipt of an age, invalid or widow's pension or a sheltered employment allowance under the Social Services Act, a pension under the Repatriation Act, or an allowance under the Tuberculosis Act. At 30 June 1968 the number of pensioners and dependants enrolled in the Service was 1,115,000, an increase of 72,000 over the number enrolled at the end of the previous financial year.

The number of doctors participating in the Service increased during the year to 6,333 at 30 June 1968, compared with 6,175 at 30 June 1967.

Payments to Doctors

Total payments during the year to doctors amounted to \$16,115,000, an increase of \$1,764,000 over the figure for 1966-67. As stated in the introductory chapter of this Report, the increase in total payments was due partly to the normal annual increase in the numbers of pensioners and their dependants and partly to the higher fees payable to doctors from 1 May 1967.

Committees of Inquiry

In accordance with the provisions of Section 110 of the National Health Act, Medical Services Committees of Inquiry have been established in each State. The functions of these committees are, among other things, to inquire into matters in respect of the services or conduct of medical practitioners in connection with the provision of medical services under the Pensioner Medical Service.

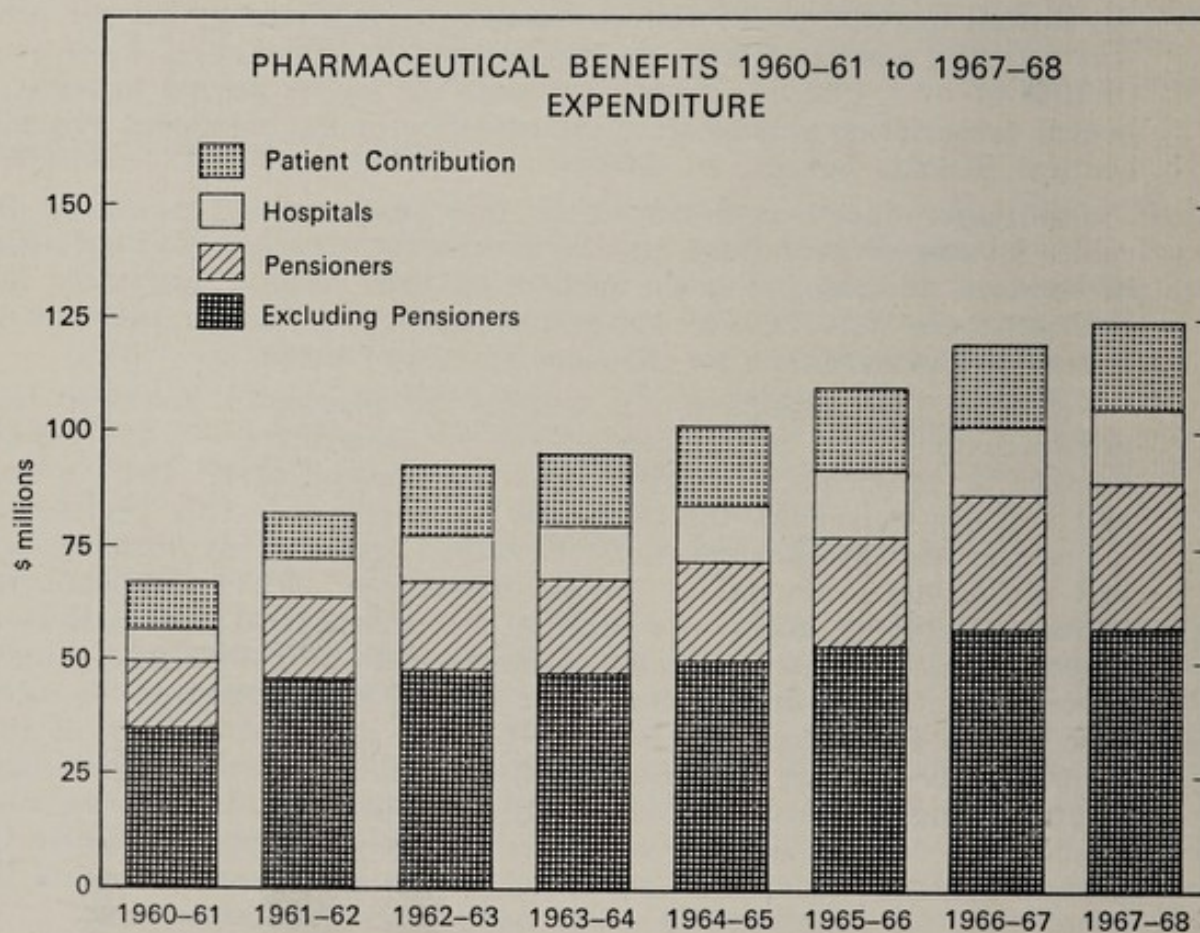
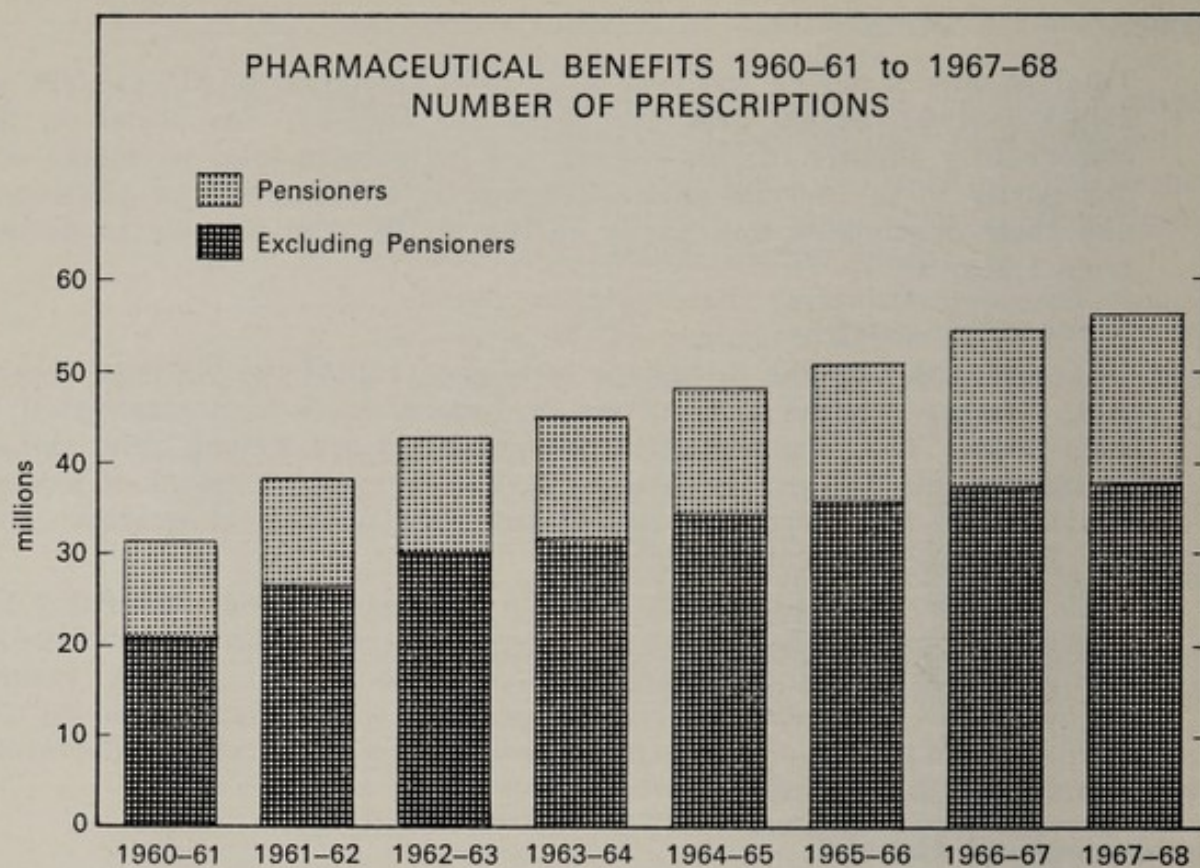
In 1967-68, forty-three references to these committees concerning the provision of medical services to pensioners were considered. In twenty-two of these cases a total reduction of \$25,842 was made to doctors' claims. In two cases the medical practitioners also were reprimanded by the Minister. In twenty-one cases no recovery action or reprimand was recommended by the committees.

Pharmaceutical Benefits

A feature of the year's operations was a sharp reduction in the annual rate of increase in the volume of pharmaceutical benefit prescriptions. An overall increase of 1.7 million benefit prescriptions or 3.2 per cent, was recorded compared with an increase of 3.7 million, or 7.4 per cent, in 1966-67 over 1965-66. This represents the lowest annual increase in benefit prescription volume since the inception of the broadened Pharmaceutical Benefits Scheme in 1960-61.

The major factor contributing to this result was that during the colder months of 1967 there was little evidence of widespread outbreaks of seasonal ailments. For the months of July, August, September and October there were 800,000 fewer pharmaceutical benefit prescriptions passed for payment than for the same months of 1966.

Prescribing of pharmaceutical benefits for pensioners increased to a greater extent than that of benefits for non-pensioners. In 1967-68 the number of prescriptions provided for pensioners totalled 18.37 million and for non-pensioners the total was 37.05 million. This represented a rise over the 1966-67 figures of 1.43 million prescriptions for pensioners and of 300,000 prescriptions for non-pensioners. When the population increase factor is taken into account this meant that the number of prescriptions per head for non-pensioners during 1967-68 was actually lower than in the previous year. This was the first time since the inception of the Pharmaceutical Benefits Scheme that the number of prescriptions per head for the general public had fallen. The rise in the volume of prescribing for pensioners was partly due to pensioner benefits becoming available to enrolled persons who were formerly provided for under the general benefits scheme and partly to the easing of restrictions on the prescribing for pensioners of drugs in the anti-depressant group.



The number of prescriptions per head of population for the combined pensioner and non-pensioner groupings rose to 4.65 compared with 4.61 in 1966-67. The average cost per prescription remained unchanged at \$1.94 and the cost per head of population rose by only 6 cents, or 0.7 per cent, compared with 70 cents, or 8.5 per cent, in 1966-67 over 1965-66. Details of relevant statistics are shown in Tables 27 to 30 on pages 111 to 112.

The volume of prescribing for drugs in the high and relatively high cost groups—for example diuretics, drugs acting on blood vessels, tranquillisers and anti-depressants and erythromycin—continued to increase in 1967-68.

The following comparative table shows prescribing volume and costs for benefits provided in the more frequently prescribed therapeutic groups in 1966-67 and in 1967-68:—

<i>Therapeutic Category</i>	<i>Year Ended 30 June</i>			
	1967		1968	
	<i>Prescrip- tions 000's</i>	<i>Expendi- ture \$000's</i>	<i>Prescrip- tions 000's</i>	<i>Expendi- ture \$000's</i>
Broad Spectrum Antibiotics	4,564	13,872	5,049	13,619
Penicillins	4,216	9,500	4,353	9,338
Blood Vessels—Drugs Acting On	2,868	9,278	3,040	10,427
Diuretics	2,242	7,512	2,515	8,647
Analgesics	4,286	8,729	4,362	8,448
Sedatives and Hypnotics	6,792	6,893	6,651	6,476
Anti-Histamines	2,974	5,223	3,342	5,828
Genito-Urinary Infections—Drugs Acting On	1,087	2,663	1,246	3,201
Anti-Cholinergics	813	2,871	907	3,178
Tranquillisers	803	2,339	899	2,673
Antacids	1,538	1,856	1,896	2,429
Heart—Drugs Acting On	1,207	2,263	1,259	2,338
Anti-Diabetic	553	2,038	605	2,222
Eye Drops	1,048	1,663	1,152	1,823
Anti-Depressants	74	324	411	1,524
Anti-Convulsants	353	1,338	387	1,504
Bronchial Spasm-Preparations	869	1,403	934	1,459
Sulphonamides	966	1,307	1,078	1,422
Gastro-Intestinal Sedatives	598	1,102	665	1,212
Iron Preparations	920	1,025	1,027	1,151
Expectorants and Cough Suppressants	1,167	973	1,072	898

Cost of the Scheme

The total cost of pharmaceutical benefits, including patients' contributions on prescriptions for benefits available to the general public, amounted to \$123,638,789. This was an increase of \$4,010,954, or 3.4 per cent, over the amount of \$119,627,835 recorded in 1966-67 and is considerably less than the \$10,362,933, or 9.5 per cent, increase in 1966-67 over 1965-66.

*Variation from
1966-67*

\$

The increased costs were distributed as follows:—

Increased Commonwealth expenditure on—

Benefits available to the general public	144,310
Benefits provided in public hospitals and miscellaneous services	874,267
Pensioner Pharmaceutical Benefits	2,835,068
<hr/>	
Total increased Commonwealth expenditure	3,853,645
Increased patient contribution on prescrip- tions available to the general public	157,309
<hr/>	
	\$4,010,954

As the average cost per benefit prescription remained the same as the 1966-67 figure, the increase in the cost of prescription benefits was due to an increased prescription volume which, as previously stated, was not as great as in previous years. Overall prescription volume increased to 55,422,846, compared with 53,687,342 in 1966-67.

The increase in payments for drugs used in hospitals was due mainly to the addition of new drugs to the list of benefits available to patients in hospital, an overall increase in hospital prescribing and to an acceleration in the settlement of payment claims by hospital authorities.

Details of related statistics are shown in Table 24 on page 110.

As a service to doctors, Departmental pharmacists for some years past have been visiting doctors to discuss matters associated with the Pharmaceutical Benefits Scheme. To increase the value of this service more information on their prescribing will now be available to doctors. This information has become available from the computer system following the changeover to automatic processing of chemists' claims.

Changes of Listing

An important administrative change was made during the year to amend the list of benefits more frequently than in the past. This was done with the agreement of the Australian Medical Association and the Federated Pharmaceutical Service Guild of Australia. Previously it has been the practice to add new drugs to the list at six monthly intervals. However, during 1967-68, arrangements were made for changes in the list to be

made three times a year, following each meeting of the Pharmaceutical Benefits Advisory Committee. At the same time, the books which the Department sends to doctors and chemists and which include the Schedule of Benefits, are now being published three times a year.

From the point of view of doctors and chemists, the new arrangements mean that there is a lesser number of changes to be assimilated on each occasion. The most important feature of the change, however, is that new drugs are made available at more frequent intervals than in the past and this undoubtedly improves the service provided under the Pharmaceutical Benefits Scheme.

As a result of recommendations by the Pharmaceutical Benefits Advisory Committee, twenty-eight new drugs, including two new antibiotics and a new anti-diabetic preparation, were added to the list of pharmaceutical benefits in 1967-68. Another twenty-eight new forms and strengths of existing benefits were also added to the list.

In addition to those new items, a further four preparations have been made available as pharmaceutical benefits under special arrangements because of their specialised nature and because the supply of them is limited. The most interesting of these are two hormones extracted from human pituitary glands at the Commonwealth Serum Laboratories, namely human growth hormone and human follicle stimulating hormone. The growth hormone is used for long-term treatment of children who are dwarfed because their own pituitary glands do not naturally produce sufficient of this hormone. The follicle stimulating hormone is restricted as a benefit to particular cases of infertility in women where the natural production of this hormone is defective. Both hormones are in extremely short supply and it has been necessary to restrict their availability as benefits to individual cases. The supply of the hormones is being authorised by special expert committees which have been established to screen all applications for their use.

The third of the new special benefits is an anti-haemophilic factor of animal origin which is used in the treatment of particular cases of haemophilia (a disease characterised by uncontrollable bleeding) where the human anti-haemophilic factor is not suitable. This new benefit can be obtained through the Director of the Red Cross Blood Bank in each State who, after consideration of the case, may arrange supplies from stocks held by the Commonwealth Serum Laboratories.

The fourth special benefit is a new antivenene against the sting of the stonefish. Supplies of this antivenene have been placed in hospitals in the areas of Northern Australia where stonefish are found.

During the year a large number of changes were made to the restrictions applying to the prescribing of preparations as pharmaceutical benefits. Most of these changes were to make drugs available for the treatment of a wider range of diseases and conditions. One example of this was in regard to quinine tablets. Because of a world-wide shortage of this drug it had become necessary to restrict its availability as a pharmaceutical benefit to the treatment of malaria only. However, when further supplies became available it was then possible to ease the restrictions to make quinine available to pensioners for any disease or purpose.

As a result of the regular review of the list of benefits by the Pharmaceutical Benefits Advisory Committee, thirty-three preparations were deleted from the list of ready prepared pharmaceutical benefits and twenty-seven items from the list of drugs available for use as ingredients of preparations compounded by chemists from doctors' directions. Most of the items deleted had fallen into disuse because they had been superseded by more effective preparations.

Price Negotiations

During 1967-68, as in previous years, negotiations regarding the prices of pharmaceutical benefits were conducted with manufacturers. These resulted in reductions in prices of preparations which would save the Pharmaceutical Benefits Scheme approximately \$1,400,000 in a full financial year if the rate of prescribing remained constant. The most significant price reductions were in respect of tetracyclines and penicillins, which are among the most widely prescribed of the drugs listed as pharmaceutical benefits.

The total savings from price negotiations was much less than in 1966-67 and reflects the effect of substantial price reductions negotiated in previous years for frequently prescribed drugs. For example, tetracycline capsules, which cost \$23.31 per 100 wholesale in 1963, now cost \$8.81. As stated earlier there were increases in prescription volumes in the high and relatively high cost groups of drugs and this tended to offset the effect of price reductions in the final level of pharmaceutical benefits expenditure.

Joint Committee on Pricing Arrangements

The activities of the Joint Committee on Pharmaceutical Benefits Pricing Arrangements during the year included the revision of purchase units for drugs used in extemporaneous preparations and the revision of purchase units for containers.

The survey of pharmacy earnings, costs and profits continued to be the Joint Committee's major concern during 1967-68. Constant liaison regarding the progress and conduct of the survey was maintained with the independent firm of consultants engaged to carry out the survey. Last year's Annual Report noted that, at the close of 1966-67, the survey was still in progress. The year 1967-68 saw the presentation of the consultants' report on the survey and acceptance of the report by the Joint Committee. At the close of 1967-68 both the Department and the Guild were analysing the survey results.

Committees of Inquiry

The Pharmaceutical Services Committees of Inquiry considered forty-two references in 1967-68 concerning the services or conduct of pharmacists approved to supply pharmaceutical benefits. The references mainly concerned the supply of pharmaceutical benefits which failed to meet the required standards.

These cases of faulty dispensing were revealed by the Department's continuous programme of sampling of chemists' dispensing of pharmaceutical benefits. It is pleasing to note that there has been a significant reduction in the number of references of this type to the Committees of Inquiry during the past year. The actual number of references was less than half the number in 1966-67.

Following the Committees' recommendations on these references, nineteen chemists were warned to exercise greater care in dispensing, three were reprimanded with the reprimand appearing in the Commonwealth Gazette, four were reprimanded without gazettal and the approvals of two chemists were suspended for one month. There were fourteen cases not finalised at 30 June 1968.

The Medical Services Committees of Inquiry considered three references during the year involving the prescribing of pharmaceutical benefits. As a result of the Committees' reports and recommendations, amounts of \$694.54 and \$33.10 respectively were recovered from two doctors for irregular prescribing of benefits. No action was taken in the third case as the Committee was satisfied with the explanations placed before it.

Overseas Visits

The Assistant Director-General and the Director of the Pharmaceutical Services Branch visited New Zealand during the year and made an examination of the New Zealand Pharmaceutical Benefits Scheme with particular reference to the various points of difference between the two schemes.

Planning and Legislation

The Planning and Legislation Branch of the Management Services and Benefits Division is responsible for the administration and co-ordination of the policy, legislation and research functions of the Department, for ministerial and Parliamentary liaison and for public relations.

Policy and Legislation

During the year, the Policy and Legislation Section of the Branch continued to investigate, advise and prepare papers on changes in policy and the development of new policies. The Policy and Legislation Section is also responsible for the drafting, development and processing of draft legislation at both the Commonwealth and Territory levels.

In the field of Commonwealth legislation, work proceeded in three important areas. The first concerns measures for the control of drugs imported into Australia that have not been proved therapeutically. The second concerns revisions to the Quarantine Act, including review of all the penalty provisions of the Act. The third concerns the preparation of draft regulations to the Therapeutic Goods Act 1966.

Work on Territories legislation in the past year was directed mainly towards a major review of legislation for the control of poisons, dangerous drugs and narcotics, for the control of radioactive substances and irradiating apparatus, and for the control of private hospitals and nursing homes. Four amending ordinances and regulations were made during the year for the Australian Capital Territory and five for the Northern Territory.

The Policy and Legislation Section was also responsible for the organisation of the Commonwealth-State Health Ministers' Conference in Darwin in June 1968.

Research

The Research Section has continued and, in some cases, enlarged the scope of projects which were begun last year, and has undertaken investigations into aspects of health services which have not been previously explored.

The main effort has been concentrated on analysis of the operating costs and incomes of hospitals and nursing homes. Details of the incomes of approved public hospitals, similar to those published for earlier years in the September 1967 edition of 'Health', will shortly be available for 1966-67. Some dissection of expenditure has also been undertaken for this year. A survey of uninsured patients in private hospitals has also been completed for 1966-67, and currently a sample survey of charges for all patients is being conducted. A new project undertaken was a survey of operating income and expenditure during 1966-67 of home nursing organisations receiving a subsidy under the Commonwealth Home

Nursing Subsidy Scheme. It is proposed to continue this survey, possibly with requests for further pertinent details as to the categories and ages of patients. Details published in the statistical supplement to the 46th Report of the Commissioner of Taxation provided an opportunity to analyse the range of incomes of the medical and related professions and to observe the effect on income of allowable tax deductions related to medical expenses. Statistics and comments were published in the March 1968 issue of 'Health'.

One of the functions of the Research Section is to service the National Medical War Planning Committee and its Standing Committee. The National Medical War Planning Committee, its Standing Committee, the nine sub-committees and the State Medical Planning Committees met on a number of occasions during the year.

Considerable progress was made in the compilation of lists of essential instruments and drugs and trade surveys of some essential items were commenced to assess what reserve stocks could be relied upon in an emergency. In addition, it has been decided to produce a model plan for the utilisation of medical resources and manpower under emergency conditions. The purpose of the model plan is to ensure that emergency medical planning throughout Australia will be uniform and it is proposed to give the model plan to the States as guide in the development of operational plans to meet each State's needs. In some instances the representation of State authorities on State Medical Planning Committees has been increased to enable greater co-ordination of Commonwealth and State facilities and planning.

In the past the work of the National Medical War Planning Committee and its supporting committees had not been publicised. As the medical profession would play a vital role in the event of a disaster, arrangements are being made for a series of articles, dealing with the various medical and para-medical responsibilities and activities in a disaster, to be prepared in a form suitable for publishing in medical journals. This will enable the medical profession to be aware of the plans and afford an opportunity to contribute to them.

The National Medical War Planning Committee recommended submission of an item to the 1968 Conference of the Commonwealth and State Health Ministers proposing the extension of the teaching of first aid. The Ministers agreed that training in first aid, with a view to having a trained person in each home, was desirable on a national basis and that the teaching of first aid should be encouraged.

Public Relations

A Public Relations Section was established within the Branch during the year to co-ordinate the publishing and information activities of the Department. The volume of published material from the Department has increased markedly in recent years and there has been a similar increase in the general public interest in the activities of the Department. The Public Relations Section is now planning, editing and distributing the Department's publications and providing a general information service to the Press and public.

Establishments and Finance

The Establishments and Finance Branch of the Management Services and Benefits Division provides the management services to the Central Office of the Department and, in some specialised areas, to the State and Territorial offices. It is made up of four sections:—Establishments, Organisation and Methods, Finance and Automatic Data Processing. The Management Services group have been giving particular attention to the requirements involved in the proposed re-location of the Central Office of the Department in a new building at present under construction at the Woden District Centre in Canberra, some four miles from the Parliamentary Triangle. The building will be of nine storeys, with a three-storey annexe, and is expected to be ready for occupation early in 1969. A considerable amount of work has been involved in planning the layout of the accommodation and in planning communications and other facilities in the new building.

Establishments

Major reviews of the Finance Section, the Medical and Hospital Branch and the Planning and Legislation Branch were completed during the year as well as many minor variations to the establishments of the various other Branches of Central Office and the States. The A.C.T. Health Services Branch has been considerably expanded. A position of Senior Specialist has been created in the Branch to control psychiatric services. A position of specialist (child psychiatry) has also been created to direct the activities of the Child Guidance Clinic. An immunisation team, consisting of a Medical Officer and Nursing Sister, has been formed to undertake the immunisation of pre-school and school children in the A.C.T. Schools.

The Commonwealth Health Laboratory Service is at present being completely re-organised and schemes are in operation to train medical laboratory technologists and technical officers for duty in the laboratories. This is a long range plan and will take some years to fully implement. The necessary establishment was created to enable the recently introduced Pensioner Hearing Aid Service to commence operation.

Organisation and Methods

The work of the Organisation and Methods Section of the Department falls into several categories. It undertakes cyclical reviews of sections and establishments within the Department to ensure that organisational structures are adequate and that work methods are modern and efficient. It examines those problems which arise from time to time outside the pattern of cyclical reviews but which involve questions of organisation and/or methods.

During the year reviews were carried out in the Pharmaceutical-A.D.P. areas in Sydney and Hobart, the Administration and Finance area in Sydney, the Tuberculosis Division, the Office Registry and the International Health Section. A methods review was carried out in the Uninsured Benefits and Review Sections of the Medical and Hospital Branch, Central Office and a major review of the National Health Division is in progress.

Office communications systems were improved during the year. Telex installations now exist in Central Office, the seven divisional offices, the Alice Springs Hospital and the four Health Laboratories in Queensland. An offset duplicating machine and a centralised dictation service were installed in Central Office.

Finance

The Finance Section of the Department is responsible for the overall supervision and co-ordination of the expenditure and revenue of the Department. The accounting arrangements cover a widely diversified field of activity involving, for example, payments from the National Welfare Fund to such groups as registered hospital and medical benefit organisations, doctors, chemists, State governments, hospitals and bush nursing organisations.

During the year, a comprehensive review of the organisation of the Finance Section in Central Office was undertaken and approval has been given to strengthen the organisation. The new organisation provides for four groups within the Section, namely, Central Office-A.C.T. Accounts and Funds and Estimates; Procedures Investigation; Revenue Review and Commonwealth Serum Laboratories. Action is in hand to fill the new positions stemming from the re-organisation.

Automatic Data Processing

Automatic Data Processing was extended during the year to cover all chemists dispensing pharmaceutical benefit prescriptions. In addition, information systems supporting the managerial and administrative aspects of the Pharmaceutical Benefits Scheme were further developed and implemented.

The new system has provided the Department with the capacity to accommodate increasing prescription volumes without reduction in processing efficiency, for more satisfactory methods of internal control and for more effective managerial control of the scheme in general. It has also relieved the chemist of much of the clerical burden which he was required to bear under the former processing method.

A considerable amount of effort during the year was directed towards programme reviews and systems re-design to take advantage of the additional computing facilities provided at the Computer Service Centre during 1967 and to increase the flexibility and strength of the Department's computing systems.

Difficulties were, however, experienced in meeting the Department's increasing computing demands within the time available at the Computer Service Centre. As delays in the processing of chemists' claims must always be kept to a minimum, backlogs in the area of management infor-

mation processing were unavoidable. This had a significant effect on pharmaceutical benefits administrative processes and cost control measures, which are now largely dependent upon the computer for information and on the rate of data processing development achieved throughout the year. Some assistance was provided by *ad hoc* allocations at the C.S.I.R.O. Computer Centre.

The question of meeting the future computing requirements in other functional areas of the Department and of maintaining and further developing existing computing systems is currently under close consideration.



Tape being prepared at the Melbourne office of the Commonwealth Department of Health for data processing of chemists' claims

Quarantine

Human Quarantine

Australia was again kept free from human quarantinable diseases in 1967-68 despite the ever-increasing volume of international travel and a world disease picture in which smallpox and cholera continued to take a heavy toll.

Quarantine stations in each State were kept in constant readiness to receive any case, or potential case, of quarantinable disease which may have occurred or been imported on an incoming vessel or aircraft. The human quarantinable diseases are plague, smallpox, cholera, yellow fever, typhus fever, leprosy and any other disease declared by proclamation.

To prepare for the advent of new and larger aircraft, the planned introduction of container handling of cargo, the construction of new ports in Australia for bulk-loading cargo vessels and increased activity in the shipping trade, procedures for the quarantine clearance of vessels and examination of incoming passengers were reviewed during the year. The alterations to procedures are outlined on page 10 of this report.

The number of vessels and persons being cleared through quarantine increases each year. In 1967-68 4,440 ships and 4,968 aircraft, carrying a total of 873,734 persons, passed through quarantine. This compares with 4,040 ships and 3,918 aircraft carrying a total of 781,756 persons in 1966-67.

Smallpox

Smallpox has never been introduced by air into Australia. Very few countries, if any, can claim this record. The careful medical inspection of all incoming passengers and examination of their vaccination certificates together with close attention to every other detail of quarantine procedures have contributed considerably towards keeping Australia free from quarantinable diseases.

The disease threat posed by smallpox is, however, an ever-present one. As previously mentioned, in 1967 smallpox outbreaks occurred in several African and South American countries and, in Asia, there were epidemics in Indonesia, Afghanistan, India and Pakistan.

Australia's quarantine requirements are notified in official publications on international quarantine. Shipping and airline companies are informed of these requirements and of any amendments which may be made. Despite this, unvaccinated travellers continue to arrive in Australia and during 1967-68 it was necessary to quarantine 100 people who, for various reasons, were not vaccinated against smallpox. This figure compares with 71 cases in 1966-67. Some travellers arrived without vaccination certificates or with certificates which were invalid. For these reasons it was necessary to vaccinate 2,748 persons against smallpox on their arrival by air.

Cholera

Cholera occurred in India, Indonesia, Malaysia, Pakistan, the Philippines, Thailand and Vietnam. Isolated cases were also reported from Cambodia and Singapore. However, despite the proximity of these countries, and the increasing air traffic, Australia remained free from this disease.

To ensure that travellers are adequately protected against cholera, Australia's requirements are that all persons over the age of 12 months arriving from proclaimed cholera areas must possess valid vaccination certificates. During 1967-68 it was necessary to vaccinate 919 travellers who arrived by air without satisfactory vaccination certificates for cholera.

Yellow Fever

The principal mosquito vector of yellow fever, *Aedes aegypti*, is widely distributed in Australia, a fact which makes this country vulnerable to the disease unless adequate precautions are taken.

Accordingly, all travellers arriving in Australia from endemic areas in the African and American continents must be currently vaccinated against yellow fever. The routine spraying of aircraft on arrival ensures that infected mosquitoes are not introduced. In the past year two persons who arrived in Australia by air in an unvaccinated state or with invalid or immature certificates for yellow fever were quarantined.

Plague

One of the main factors in guarding against the introduction of plague is the regular inspection of ships to ensure freedom from rodents. This is carried out by officers of the Quarantine Service, who also undertake the fumigation of ships and trapping of rats where necessary.

Particular vigilance is necessary at present due to the prevalence of this disease in South Viet Nam. The disease has also been reported in the Congo and Madagascar, in Brazil, Ecuador and Peru, in four States of the United States of America and in Burma, Nepal and Indonesia. The reports received do not differentiate between human and rodent plague and it is therefore not known in how many of these countries human plague actually occurred. It is known, however, that plague in human beings did occur in South Viet Nam and Madagascar.

All sea vessels arriving in Australia must be in possession of a current de-ratting certificate or an exemption certificate in the form prescribed by the World Health Organisation.

Control of Imports

The quarantine service administers controls over importations of viral and bacterial cultures, pathology and animal specimens, and any substances which may carry disease. Applications for the importation of medical appliances are also examined by medical officers of the Quarantine and Laboratories Division. This is done in close liaison with the Department of Customs and Excise.

Facilitation in Quarantine

Quarantine activities concern people, commercial interests, ships, aircraft, and Government departments. Representatives of the various bodies concerned with the transport of people and goods confer regularly with a view to diminishing delays and generally to facilitating the passage of travellers and merchandise requiring quarantine and other necessary formalities. This work is also carried out at international levels. In addition to representation on local and national facilitation committees, the Department was represented in May 1968 by a senior medical officer at the Seventh Session of the Facilities Division of the International Civil Aviation Organisation which was held in Montreal.

Animal Quarantine

The animal disease which has perhaps exercised the minds of veterinarians and Animal Quarantine authorities most during the past year has been foot and mouth disease. The epidemic in the United Kingdom once again demonstrated the drastic stamp-out measures that have to be taken by any country intent on preventing this disease from becoming endemic. This epidemic, and the suspected outbreak in New Zealand in May 1968, which fortunately proved negative, focussed considerable public interest on Australia's existing quarantine defences.

The New Zealand incident indicates Australia's careful attitude towards possible new avenues of risk. Australia immediately imposed stringent precautions on the importation of meat, meat products and livestock and controls on travellers from that country and maintained these restrictions until it was finally determined that New Zealand did not have foot and mouth disease.

The precautions taken in this case indicate what are considered to be the most likely means of virus importation—meat, meat products and live animals. The importation of the virus of a disease such as foot and mouth disease has traditionally been associated with uncanned meat and livestock. The virus cannot be effectively detected in consignments of meat, and like most other animal disease viruses, can survive for a long time in frozen or chilled meat. Hence Australian legislation regarding the importation of meat and meat products is explicit and strictly controls their importation.

At present, and for several disease reasons, the importation of animals susceptible to foot and mouth disease is prohibited. Hence there is no avenue for the introduction of this disease with living animals.

However, it is possible for diseases of animals to enter a country in many ways and our quarantine defences are designed to cover all areas of risk. In addition to the prohibition on the importation of susceptible animals and the controls on meat and meat products, the Quarantine Service exercises equal vigilance where such things as hides and skins, various hormone preparations and biological products, animal semen, eggs and milk are concerned.

Among the possible means of entry of foot and mouth disease virus is the soiled footwear and clothing of incoming passengers from an

endemic area who have had contact with farm animals or meatworks. Not all countries agree that this possible avenue of transmitting infection is significant, but Australia, like New Zealand and the Republic of Ireland, does not neglect even this aspect of quarantine.



A Quarantine Officer prepares to disinsect the cargo hold of an overseas airliner

Publicity

More attention is now being devoted to the public relations aspect of Animal Quarantine and the Department has embarked on a programme involving several publications and a film.

Early in the year a leaflet outlining Animal Quarantine requirements was published for distribution to Service personnel serving in Asian areas. A foot and mouth disease information pamphlet has been distributed throughout Australia, with the help of the State Departments of Agriculture. This pamphlet was designed for stockowners and describes the disease in simple terms to enable a quick report of suspicious symptoms of the disease if it should break out in this country. The Animal Quarantine Branch has also produced a general information pamphlet on the various activities of Animal Quarantine for distribution to the travelling public.

A separate programme has been planned to impress on migrants from Southern European countries the danger of importing certain foodstuffs of animal origin. Printed material and a short cartoon film will be used in this campaign.

The Department has also begun the publication of a quarterly Animal Quarantine Newsletter. This publication is now being distributed to veterinarians, universities, primary producer organisations, other groups and individuals interested in veterinary hygiene.

Arrangements have also been made for the publication and distribution of a booklet providing information on Animal Quarantine for the guidance of importers of animals and animal products.

Training of Veterinarians

As mentioned in the introductory section of this report, twenty-two Australian veterinary officers were sent to England during the 1967-68 epidemic of foot and mouth disease in that country to assist in the eradication of the disease and to observe at first hand the course of the disease and the methods used to combat it. Fourteen of these veterinary officers worked in the field during the eradication campaign and eight senior officers made studies of the campaign methods.

As in past years arrangements were made for two veterinarians, one from the Victorian Department of Agriculture and one from the South Australian Department of Agriculture, both of whom are Quarantine Officers, to attend the Canadian Department of Agriculture's exotic diseases course at the Grosse Ile Experiment Station, Quebec.

Overseas Visits

The Director of Veterinary Hygiene attended the Australian-New Zealand Technical Committee on Animal and Plant Quarantine and the inaugural meeting of the Animal Health Advisory Group of the South Pacific Commission, which were held in Wellington, New Zealand, in March 1968. In May 1968 he attended the annual meeting in Paris of the Office International des Epizooties, as the Australian delegate.

Two Senior Veterinary Officers from the Animal Quarantine Branch were among those who visited the United Kingdom in November and December 1967 to study the methods used in the campaign there against the foot and mouth disease outbreak. One of these officers also investigated the operation of the proposed container freight service from London to Australia.

In February 1968 a Senior Veterinary Officer went to Norfolk Island, at the request of the Department of Territories, to investigate cattle deaths there. A report of the findings of this investigation, and recommendations for improving animal husbandry practices on the island, has been made to the Department of External Territories.

Imports Subject to Quarantine

The number of animals subject to quarantine imported in 1967-68 was 3,767, compared with 2,797 in the previous year. Detailed statistics for 1967-68 are given in Table 44 on page 118.

The standard form of application to import biological materials which was introduced last year has resulted in a greater degree of control over the importation and use of such materials. It has also facilitated the clearance of these products with the Department of Customs and Excise.

Plant Quarantine

Activities aimed at preventing the introduction of plant pests and diseases were maintained during the year. These included the inspection of any material of plant origin arriving by sea or air and the close supervision of plants and seeds imported for propagation in Australia.

These activities were carried out with the full co-operation of the State Departments of Agriculture, whose officers supervise plant quarantine in the States on behalf of the Commonwealth.

The Drought

The severe drought in Southern Australia resulted in a need to import bulk quantities of linseed, safflower and malting barley to offset, in part, the short-fall in local production. Linseed and safflower shipments came from Canada and the United States and consignments of linseed from New Zealand and Ethiopia. Special precautions were taken with a shipment of bagged linseed from Ethiopia to guard against any animal disease risk. Malting barley in bags was imported from New Zealand. Strict quarantine conditions were imposed for these importations, which were made only for processing in the metropolitan areas of Sydney and Melbourne.

Nursery Stock

The importation of nursery stock is at a manageable level from the quarantine point of view. Representations were made by the Dutch flower bulb industry for a liberalisation of the quantities of hyacinth bulbs imported each year, but these were rejected. The quantities

suggested could not be handled in post-entry quarantine and, therefore, would be in conflict with the general policy for vegetatively propagated material.

Thorough and detailed screening of fruit varieties such as stone fruit, grape vines, berry and pome fruits are undertaken at the few centres in Australia where facilities and staff are available to carry out the specialised virus testing of imported varieties. The Department is most grateful to the State Departments of Agriculture and the Waite Agricultural Research Institute, where this work is undertaken.

Timber

Large quantities of timber continue to be imported into Australia, mainly from Malayasia, New Zealand and the United States.

The close vigilance maintained by plant quarantine inspectors resulted in the interception of timber and crates infested with live borers. In New Zealand damage has been caused in pine forests by *Dothistroma Needle Caste* and special precautions have been taken to prevent its introduction into Australia by means of pine seed or other plant material.

Plant Culture Committee

A Plant Culture Committee has been established to give advice on the importation of cultures of pathogens which can attack plants. The first meeting was held in Canberra in February 1968. The Committee comprises the Director of Plant Quarantine, a representative of research establishments and a representative of State Departments of Agriculture.

Post-Entry Facilities

Progress was made in extending the facilities for post-entry quarantine. A quarantine screenhouse, designed for tropical regions, was erected at Darwin and is now in use. The propagation of several types of rice has been the main activity so far.

A second screenhouse for post-entry quarantine was completed in Brisbane during the year and a combined quarantine screenhouse-glass-house was erected in Adelaide to handle plant material requiring post-entry quarantine for observation on disease status.

Plant Quarantine Laboratory

Problems peculiar to plant quarantine are under investigation at the Department's Plant Quarantine Laboratory in Canberra. The subjects being studied include fumigation techniques, seed treatments for seed-borne diseases, seed devitalisation, virus screening, nematodes and glass-house and screenhouse procedures and construction. During the year a heat therapy cabinet was installed to enable investigations into plant establishment from virus-free tip growth. Vacuum fumigators were also installed for the study of complex fumigation methods.

Container Handling

Several meetings were held during the year with officers of the Department of Customs and Excise and representatives of container cargo firms. A working party of quarantine officers is preparing an outline of plant quarantine procedures for container handling of cargo, and when finalised, this will be circulated to interested parties in Australia and overseas.

Sirex Wasp

The Department continues to participate in the activities of the National Sirex Fund Committee. A survey carried out by the Department indicates that the incidence of Sirex in Tasmania remains unchanged, but that in Victoria the area where Sirex has been found has extended and now covers a third of the State.

Parasites which attack the Sirex wasp and which were originally imported under Plant Quarantine control have been multiplied in special cages at Melbourne and at a newly established unit at Traralgon and are now being released.

Officers' Course

The second course for Plant Quarantine officers was held in Sydney in May 1968, and was attended by officers from all States and the Northern Territory. Subjects covered included the principles and systems of plant quarantine, legislation, seeds and seed-borne diseases, weeds, timber inspection, plant treatment procedures, publicity, nursery stock, soil, bags and packing materials and a review of plant quarantine entomology and plant pathology.

International Liaison

In July 1967, Australia was represented by the Principal Plant Quarantine Officer at the South Pacific Commission Technical Meeting on Plant Protection held at Pago Pago. A number of items directly related to plant quarantine were discussed, including exclusion and control of pests and diseases, post-entry quarantine stations, disinfection and disinfection of imported plant material and improvement in plant quarantine operations.

Publicity

The Plant Quarantine Publicity Campaign, which is sponsored by the Australian Agricultural Council and operated from funds contributed by the Commonwealth and the States, continued for the sixteenth successive year. The object of the campaign is to assist in keeping Australia free of further invasions of plant pests and diseases and to keep down the spread of pests and diseases already here.

Emphasis has been placed on the revision and production of plant quarantine literature, which has been distributed by airline, shipping, motoring, tourist and government organisations.

Tuberculosis

Overall indications point to further progress in the past year in Australia's national campaign against tuberculosis. Compared with the figures for the 1966 calendar year there were reductions in 1967 in the total of new cases discovered (from 2,549 to 2,293); in the number of persons needing to be paid a tuberculosis allowance (from 1,177 to 1,009); and in the beds required throughout Australia for the treatment of patients (from 2,558 to 2,350).

But into this total picture of steady hard-won progress, there has appeared in two States in 1967 an increase in the number of new cases of tuberculosis discovered. The increases have been from 131 to 141 in South Australia and from 134 to 142 in West Australia.

Although these increases are small and therefore should not be over-emphasised, they have reversed the consistent downward trend maintained over many years and have taken the place of expected decreases in this important notification index. They indicate the need for all aspects of the control programme to be examined and for any weaknesses to be eliminated. In addition, they give point to the warnings which



There are many problems other than medical ones in carrying out tuberculosis surveys in the outback of Queensland

have been given to earlier reports against complacency in dealing with tuberculosis.

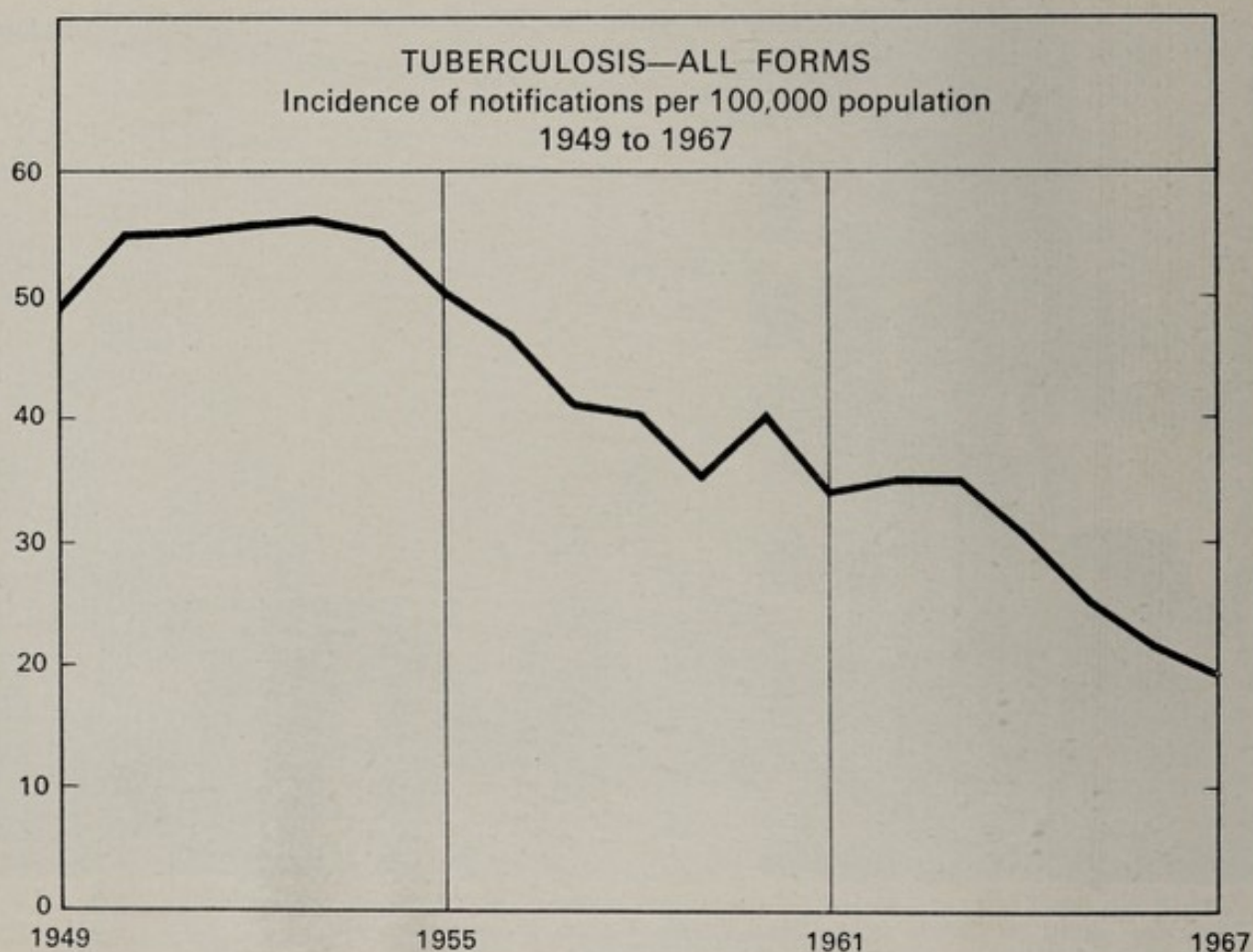
The accompanying graph demonstrates the downward trend in notifications of all forms of tuberculosis but indicates also that there was still a significant level of new infectious cases of tuberculosis discovered in 1967. The disease therefore still presents a major public health problem despite the progress made in control.

In addition to the new cases notified, 239 persons with known old treated or untreated lesions broke down with active tuberculosis in 1967. This reactivation of the disease accounts for approximately ten per cent of the infectious cases of tuberculosis occurring each year and demonstrates the importance of keeping patients with known pulmonary abnormalities under regular supervision indefinitely.

Particulars of notifications are given in Tables 33 and 34 on pages 113 and 114.

Chest Clinics

As the pool of knowledge of patients with pulmonary abnormalities builds up, the task of the chest clinics in maintaining close supervision increases. The clinics maintain comprehensive records and are centres for community control work. They are destined to play an even more important role as the emphasis in treatment moves further from hospitalisation to treatment in the patient's home under clinic supervision.



Discovery of Cases

Mass X-ray surveys during 1967 resulted in the radiological examination of the chests of nearly 2,000,000 adults and in the discovery initially of 531 active cases of tuberculosis and 296 cases suspected of being active. Following subsequent investigations, 652 new cases were credited to mass X-ray surveys in 1967. Other benefits of these surveys to the individual are reflected in the discovery of 19,393 non-tuberculous conditions of sufficient significance to warrant further investigation.

Chest clinics were responsible for 430 new cases being notified in 1967, while 460 of the total of 2,293 new cases notified were discovered by private medical practitioners and the remainder mostly from hospitals and other institutions and by way of death certificates.

These discovery figures point very clearly to the important place held by private medical practitioners in the national tuberculosis control programme. As the emphasis in control moves gradually back to general medicine, as inevitably it must do, the role of the private practitioner in close co-operation with the chest clinic will become more and more important.

Conference

The second Australian Clinical Tuberculosis Conference was held in Melbourne from 1 to 5 April 1968. In addition to delegates from all States, Dr B. W. Christmas, Assistant Director, Division of Public Health, New Zealand Department of Health, and Dr I. D. Bobrowitz, Associate Professor of Medicine, Yeshiva University, New York, presented papers and contributed to the discussions. There were twenty scientific sessions at which twenty-one papers were presented. The conference was highly successful and achieved its main aim of providing a forum for the exchange of ideas amongst full-time medical officers in the State tuberculosis services.



Great distances are covered by mobile X-ray units in the Queensland outback

Northern Territory Health

The theme in 1967-68 for the Northern Territory Medical Service was one of expansion of activities to meet the fast growing needs of the Territory. Forward planning for new and expanded health services was a major activity in itself. Detailed planning for the development of the inland hospitals at Katherine and Tennant Creek and for major extensions at the Alice Springs Hospital was carried further and basic planning was undertaken towards the establishment of a complete hospital and the setting up of infant health, dental, district and public nursing services and an aerial medical base at Gove, in north-eastern Arnhem Land. At Gove, a town of some 3,000 people is being planned to serve an aluminium ore mining project.

In spite of development such as this, the Department's biggest challenge, and its greatest problems in the Northern Territory, are still those connected with the health of the Aborigines. The health problems of the Aborigines are being accentuated by the social changes which are occurring in the Territory and the rapidity with which they are becoming involved in the cultural and technological complexities of modern urban and industrial life. To help combat the existing public health problems of the Aborigines, and to ensure that new ones are not created, expanded efforts by public health nursing teams are being planned to safeguard vulnerable groups, particularly mothers and children.

Quarantine

A change in the pattern of quarantine activities in the Northern Territory is occurring as the development of the region proceeds. The need for overseas vessels to call at areas remote from Darwin has meant the provision of quarantine staff to clear ships at Groote Eylandt and will require similar arrangements to serve the port at Gove when the aluminium ore mining project there gets under way. The increasing use of the Alice Springs airport, particularly by Service aircraft, has also meant an extension of responsibilities and quarantine outposts are now situated 500 miles to the east and 1,000 miles to the south of Darwin.

The introduction of regular and frequent rest and recreation flights from Viet Nam has resulted in a sudden, substantial increase in the work at the Darwin airport. The importation of goods subject to quarantine continues to increase and the rapid rate of building development in the Territory is being reflected in the large quantities of timber entering the port of Darwin.

Constant use was made throughout the year of the quarantine station to accommodate persons with vaccination problems. Two groups of Indonesian seamen were quarantined at the station following their arrival in the wake of storms which had blown them far from their homelands.

Communicable and Tropical Diseases

The maintenance of constant, routine inspection visits and intensive activity by immunisation teams has continued to play a major role in the control and eradication campaigns against communicable and tropical diseases. The most difficult task is in combatting those diseases where immunisation is not possible or effective. The infectious bowel disorders of childhood, hookworm disease, shigellosis and salmonella infections continue as major communicable disease problems.

An outbreak of typhoid in east Arnhem Land during the year was brought under control by the use of public health teams and at 30 June 1968 the infection appeared to have been eradicated from the two communities involved and no spread to neighbouring areas had occurred. This was gratifying considering the pattern of family and community life in the area, which presented conditions ideal for a rapid and uncontrolled dissemination of the infection. During the campaign 1,000 blood samples and more than 2,000 faecal specimens were collected and screened by the reference laboratory. Follow-up testing will entail the handling of further large numbers of specimens during the early part of 1968-69.

The year again passed without any indigenous cases of malaria, although the continuing occurrence of imported cases highlights the danger to the Northern Territory of the re-introduction of this disease. A close watch is being kept on mining developments in eastern Arnhem Land and mosquito control measures are being applied at the start of all projects.

Tuberculosis activities were continued and are being combined in mining areas with the screening of workers for silicosis. Although the general trends are favourable, the thorough follow-up of old cases is essential to prevent infection spreading, particularly in rural communities.

Venereal disease continued to increase, especially in the urban communities, in spite of every effort to educate the public to the dangers of the situation.

The indications of progress in the work against leprosy are encouraging but it is difficult to draw conclusions in the short term about a disease of such a chronic nature and slow development. The B.C.G. vaccination campaign has been continued and over 8,000 vaccinations have been performed following the Mantoux testing of over 12,000 people. Although the results of this mass vaccination campaign will not become apparent for some years it should, in the long term, materially assist in the effort being made to eradicate leprosy.

School Health

Increasing population pressure on the School Health Section has continued. In addition to the usual examinations of school children, the School Health Section is responsible for supervision of audiometric examinations, assistance to the visiting otologist and team from the Commonwealth Acoustic Laboratories, follow-up clinics for patients seen by these specialists, and for combatting the general problem of chronic ear infection and hearing loss, which is so prevalent in the rural areas. The Section is

also responsible for the organisation of the Sabin oral vaccine campaign, which this year has been extended to rural areas following the successful urban campaign last year.

In spite of these heavy pressures, the Section has commenced health education lectures to seventh and higher grades in the important subject of sexual development and its problems. With the co-operation and approval of teachers and parents, these lectures were well attended and received and a pleasing maturity of approach on the part of the pupils was evident.

Infant Health Services

Activity has continued to increase at all Infant Health Service centres and additional staff has been provided in the northern areas since October 1967. Home visiting, in particular, has increased and early visits are being undertaken to new mothers on their discharge from hospital. 'Toddlers' clinics have been introduced and are extremely popular. Ante-natal baby care lectures have continued to be well attended and lectures on mothercraft, which are also given to Aboriginal mothers at Bagot, have proved popular.

Generally speaking, infant health in the major centres is of a reasonable standard but gastro-enteritis and skin infection remain frequent, particularly in the Top End during the wet season and among the less fortunate socio-economic groups.

District Nursing Services

Home nursing was of particular value in the past year in Darwin because of a shortage of hospital beds due to construction work in the new areas of the Darwin hospital. With the greatly increased usage of the Alice Springs Hospital in 1967-68 the activities of the District Nursing Service also proved invaluable.

The District Nursing Service also helped greatly to relieve pressure on the outpatient departments of hospitals. In the Darwin area the District Nurses gave some 35,000 treatments, dressings, and injections and in Alice Springs some 12,000 treatments, dressings and injections.

Aerial Medical

The demands on the Aerial Medical Service continue to increase and a fifth aircraft was added to the fleet during the year. Apart from the evacuation of seriously ill and injured people from remote areas, this Service operates an essential transport link for the rural health teams and was also useful in maintaining quarantine surveillance over Indonesian seamen brought to the Australian coastline by monsoonal storms.

The figures for both hours and miles flown and for patients and staff carried showed an upward trend. With development proceeding in areas far distant from Darwin, this increase may be expected to show an even faster rate of growth.

Rural Public Health

The public health problems of the rural areas of the Territory continue to cause concern. Because of the difference in conditions between those in modern urban communities and the transitional stage through which the Aborigines are passing on settlements and missions, the public health approach used in such localities must be adapted to the particular problems of the individual communities.

The use of public health teams to tackle rural problems continues to be the most effective approach. The efforts to communicate to the Aborigines the importance of basic hygiene and sanitation, and to induce in them the motivation towards personal cleanliness, have been assisted by the recent provision in some communities of housing equipped with basic sanitation facilities.

The increasing ease of communication between the Rural Health teams and the indigenous population—exemplified by the excellent co-operation received in the campaign to control the outbreak of typhoid in Arnhem Land—has been one of the most encouraging features of the past year. By further developing this aspect of the approach to community health problems, and by the involvement of the people in the health work in their own communities, it is hoped to bring about those changes in community thinking which are essential before the desired health standards can be achieved.

Major developments in the mining industry in remote areas have been closely watched by the Rural Health staff and it is pleasing to record the high level of co-operation received from the companies concerned. This has enabled health needs to be considered throughout planning, development and construction stages.

Urban Public Health

The encouraging trend in the urban areas of the Territory towards the building of modern, well equipped premises for the handling of food and the construction of up-to-date motel accommodation continues. By contrast some of the older buildings, which date from an era of lower standards, have required increasing attention to ensure that a satisfactory upgrading is being undertaken. Because of the long supply lines to the Territory, the transport of perishable foodstuffs needs to be closely watched. However, the improvement in refrigerated transport is lessening the problems.

The quality of milk supplies was satisfactory during the year and handling and transport conditions showed an improvement. However, the water supplies in town areas caused some concern and the installation of water treatment plants has been recommended in some cases.

Dental Services

Work was begun during the year on the construction of a new dental clinic at Darwin. This will greatly extend and improve the facilities available for the major population centre of the Northern Territory and the modern conditions should prove an added incentive in staff recruitment.

Work at the beginning of the year was handicapped by staff shortages but the use of short term locums helped until a more stable staffing situation was achieved. The return of a staff dentist from the two years' post-graduate course in orthodontics made possible the full-time provision of this specialist service in Darwin. In spite of the staffing difficulties in the early part of the year the mobile services were maintained and, as the staff situation became more stable, a long range mobile programme was begun.

Pharmaceutical Section

There was a continuing shortage of trained pharmaceutical staff during the year and difficulties were experienced in meeting the increasing need for pharmaceutical services to the smaller hospitals at Katherine and Tennant Creek. Pharmaceutical services to these hospitals were, however, provided by visits from pharmacists stationed at Darwin and Alice Springs.

Health Laboratories

The Health laboratories of Darwin and Alice Springs were subjected to increasing work loads during the year. Demands on the bacteriological section in Darwin were particularly heavy as a result of the typhoid outbreak in Arnhem Land. This section of the Darwin Laboratory is always a busy one because of the shigellosis and salmonellosis problems.

The increase in specialist staff at the Darwin Hospital meant requests for more sophisticated tests and many new procedures became incorporated in the laboratory's routine.

Hospitals

Major additions to the Darwin Hospital were opened by the Minister for Health, the Honourable A. J. Forbes, in November 1967. The new buildings brought the total number of beds available at the hospital to 317 and also provided the most modern standards of accommodation and equipment.

The completion of the hospital swimming pool and the new staff quarters for nurses has added considerably to the standard of accommodation and amenities available to nursing staff and should be of great assistance in the recruitment and retention of staff. The medical staffing position was very satisfactory during the year and the specialist body now includes all the major specialties.

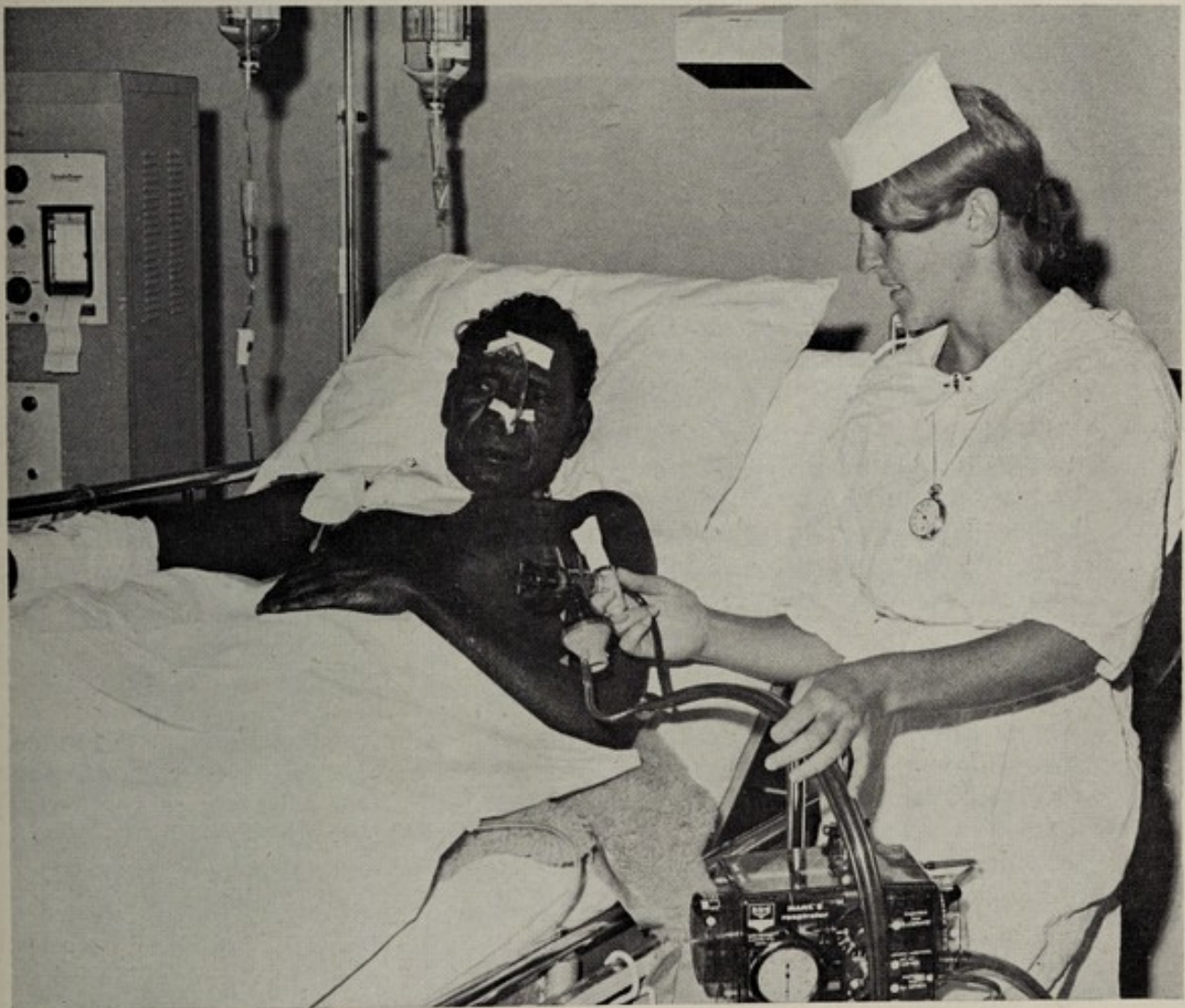
In spite of major disruption to the building programmes by the heavy rains of the past year, several building projects at Alice Springs Hospital were completed. The new professional officers' quarters was a welcome addition to staff accommodation and has provided conditions comparable with those in any other area.

The work of the Alice Springs Hospital increased sharply during the year and the recruitment of medical staff specially trained in paediatric problems enabled a very high standard of treatment to be provided for children from rural areas.

There was heavy pressure on the Katherine Hospital during the year and it handled the maximum number of cases the existing accommodation would permit. Near the end of the year tenders were let for de-mountable ward space and staff quarters. These will permit the demolition of the remaining old, sub-standard accommodation and open the way for new building construction. The hospital continued to function during the year as a centre for the surrounding district and regular visits were made to rural centres.

The appointment of a second medical officer to the Tennant Creek Hospital in 1967-68 placed this institution on the same medical staffing level as the Katherine Hospital. The presence of a second doctor has enabled visiting to surrounding rural districts to be re-instituted. Already a reduction in the number of evacuations from the area has been evident and the potential now exists for regular specialist visits to be more easily handled and for follow-up action to be more readily carried out.

There was a sharp increase in the activity in the X-ray department during the year because of work involved in the screening of mine workers for silicosis and tuberculosis.



A patient receives expert care in the Darwin Hospital

Australian Capital Territory Health

The population of the Australian Capital Territory passed the 100,000 mark during the year and it is estimated it will reach 250,000 by about 1978. The year has been another of rapid growth in all A.C.T. health services and it is apparent that increasing demands are going to be made for new services as well as the expansion of the established ones. Co-ordination and integration of these services, together with planning for the future health needs of the community, is the main task of the A.C.T. Health Services Branch.

Hospital Planning

A Hospital Planning Group was established within the Branch during the year and considerable progress was made in the planning for the Woden Valley Hospital. The Department of Works and its consultant architects have developed preliminary sketch plans and estimates of cost for this 600-bed general hospital project. In accordance with Commonwealth Civil Works Procedure the project was the subject of a public enquiry by the Parliamentary Standing Committee on Public Works. The report of this Committee endorsed the principles proposed for the construction of the hospital.

A 200-bed general hospital is also currently being planned by a consortium of private architects for the Little Company of Mary, an order of nursing nuns. Commonwealth assistance is being provided for the construction and operation of this hospital, which will be erected on a site in the Belconnen district of Canberra. Final sketch plans have been received and work is proceeding on the final working drawings.

A system of integrated hospital services for the A.C.T. is being planned and each hospital will co-operate in its operation. The services which are being developed for this purpose initially include laundry, linen and sterile supplies. Hospital planning activities were reinforced during the year by the appointment by the Minister for Health of the Australian Capital Territory Hospitals Advisory Committee.

Child Dental Services

As in previous years, dental examination and treatment was provided for children attending infant's and primary schools in the Australian Capital Territory, including Jervis Bay and Wreck Bay and the rural schools at Hall, Tharwa and Uriarra. In 1967-68, 12,129 children were examined by the Child Dental Service compared with 12,844 in 1966-67.

Details regarding the training and employment of dental therapists were finalised during the year. These dental auxiliaries will, under the supervision of dentists, carry out the simpler types of fillings and extractions for children. To qualify as a dental therapist, suitable applicants of matriculation standard will be trained in Hobart for a two-year period.

The first four students began their training in January 1968. The training school in Hobart is under the control of the Tasmanian Department of Health Services, with whom agreement was reached regarding the training of Commonwealth students.

The survey to assess the value of fluoridation in Canberra was continued. During the 1967 calendar year there were 8,203 dental examinations of children aged six to twelve years inclusive, who had lived continuously in Canberra since fluoridation began in 1964. These children had 25.4 per cent less decayed permanent teeth than children in the comparative age groups who were examined in 1964 prior to the commencement of fluoridation. This survey also showed that there has been no change in the prevalence of mottled teeth since fluoridation was begun.

Health Laboratory

The volume of work performed by the Commonwealth Health Laboratory again increased significantly in the past year. The work load of laboratory testing increased by twenty-six per cent in 1966-67 and it increased by a further twenty-five per cent in 1967-68.

The Health Laboratory is situated in the Canberra Community Hospital and serves both the hospital and local medical practitioners. It also carries out pathology tests for the Commonwealth Public Service, the Armed Forces and the Australian National University.

During the past year specimens were obtained from some eighty to one hundred patients each morning in the laboratory. These patients were mainly those referred by doctors in the Canberra area. Other general pathology services carried out included post-mortem examinations, both for the hospital and the police, and examination of various types of smears for the early detection of cancer.

Public Health Laboratory

The Public Health Laboratory, located in the Institute of Anatomy, carried out a steady volume of tests of water and food samples, blood alcohol estimations and toxicological investigations. In addition preliminary work was started on the estimation of pesticide residues in food samples.

The total number of water and food samples, chemical analysis and sewerage and effluent tests during the year was 6,706. Among work done for police, and coronial inquiries, there was a marked increase in the number of samples received for blood alcohol testing.

School Medical Service

Medical examinations of children at both public and private schools—including Jervis Bay and Wreck Bay—were continued during the year. The number of children examined by the School Medical Service and defects noted are given in Table 50 on page 120. There was an increase of approximately one hundred per cent in the number examined when compared with the previous year, while the estimated school population increased by nearly fifteen per cent to approximately 28,000.

Defects of eyesight have been found in a significantly higher proportion of high school children (8.45 per cent of 4,605 children) than in primary school children (5.54 per cent of 10,732 children) during the past fifteen months.

Immunisation

The School Medical Officers undertook all immunisation work for the major part of the year. This was taken over by a full time Immunisation Officer who was employed in May 1968. A total of 11,316 injections of either Triple Antigen or combined diphtheria and tetanus vaccine were administered, compared with 10,311 the previous year. Regular clinics were also held at Jervis Bay and Wreck Bay.

Immunisation against poliomyelitis using the Sabin vaccine was also continued at several clinics. In all 26,644 doses of this were issued, thirty per cent of the recipients being adults. In 1966-67, 80,815 doses were administered but this figure included the vaccine used in the original campaign in the schools.

Ambulance Service

The administration of the A.C.T. Ambulance Service was transferred from the Canberra Community Hospital to the A.C.T. Health Services Branch in February 1968. The staff of five Station Officers and twenty-one Ambulance Officers, under the control of a Superintendent, operate seven ambulance vehicles from a central station in the suburb of Dickson and two vehicles from a sub-station in the suburb of Griffith. Further sub-stations are planned for the Woden and Belconnen districts. The central station provides the control centre for all future sub-stations. It is equipped with six incoming telephone lines, a radio control network to all vehicles and direct telephone lines to emergency numbers.

Health Inspectors

A feature of the Health Inspection Section's activities in the past year was work connected with sampling and testing of the water supply. As a result of drought conditions, turbidity of the water supply became a frequent source of complaint. This involved the Section in a heavy programme of inspection, sampling and testing. The continual sampling and testing, and the control measures which followed, helped ensure that no problems arose due to bacteriological contamination of the water supply during the drought period. The drought conditions and the consequent planning for emergency water supplies also necessitated the analysis of samples from all water sources which seemed likely to be required for domestic purposes.

The programme of daily water sampling to ensure that fluoride and chlorination treatments were kept at the proper levels was maintained. Apart from watching over the water supply, the Section maintained a close watch on the manufacture, transport, storage and sale conditions of all foodstuffs.

Canberra Mothercraft Society

Two new Mothercraft centres were opened in the past year and there are now twenty-two mothercraft centres and sub-centres operating in the A.C.T. These are administered by the Canberra Mothercraft Society—a voluntary organisation subsidised by the Commonwealth—and are staffed by a total of ten triple-certificated nursing sisters. Attendances at the centres totalled 53,688 for the year. The Society's nursing sisters also make an initial home visit to mothers following their discharge from hospital, and 2,200 of these visits were made during the year.

The Queen Elizabeth II Coronation Home for Mothers and Babies, also operated by the Canberra Mothercraft Society, provides post-natal care for mothers and babies following their discharge from hospital. During the year 236 mothers and 356 babies were admitted to the home.

Child Guidance Clinic

The Child Guidance Clinic worked actively during the year on the diagnosis and treatment of disturbed children and about seven new patients each week are now being referred to the Clinic. As far as possible, the working time is divided equally between diagnosis and treatment. Psychotherapy is the basic treatment given by the Clinic. Where drug administration is required in the management of a patient, it is carried out by a consulting psychiatrist. Although the child is the main patient it is policy to involve the family in therapy, and counselling with parents is carried out wherever possible.

Speech therapy has become an important part of the Clinic's activities as defects occur in a large number of children. It has been the Clinic's aim to see all speech cases without necessarily distinguishing them from other forms of behaviour disturbances.

National Fitness

National Fitness grants totalling \$5,302 were distributed to forty-six sporting and youth organisations in the A.C.T. during 1967-68. Pilot projects in leadership training were related to the development of leaders for vacation swimming schools, youth organisations and sporting bodies. Two scholarships to the Australian Recreation Leadership Course were awarded and programme aid services were also provided.

Vacation programmes were conducted in co-operation with the Department of the Interior and the Physical Education Branch of the N.S.W. Department of Education. A total of 3,393 children enrolled in three vacation swimming schools were taught by sixty-three teachers. Play centres catered for about 1,300 children per day during a three-week season in January.

District Nursing Service

Increased public health nursing duties were undertaken in 1967-68 by the District Nursing Service. The Service also assisted in influenza and Sabin vaccination campaigns, at the Immunisation Clinic and in industrial

nursing. District nurses continued to give assistance at the Rehabilitation Centre of the Canberra Community Hospital and to co-operate with general practitioners, hospital and departmental and voluntary agencies.

The number of patients referred to the District Nursing Service increased during 1967-68 and many people who would otherwise have been admitted to hospital were able to remain in their own homes. The expanding area of the Woden Valley and Belconnen districts caused a considerable increase in the mileage travelled by the nurses in the course of their duties.

Nursing Home Accommodation

The first nursing home in the A.C.T. was opened in February 1968 on the completion of stage one of the project. The home, known as Morling Lodge, was built by the New South Wales Baptist Homes Trust with financial assistance from the Commonwealth. Beds are now available for thirty-four patients and the second stage is expected to be completed during the forthcoming year. This will increase the number of beds available to seventy-one.

Professional Boards

The secretariat to the various professional Boards established under the A.C.T. ordinances had a busy year in 1967-68. The Medical Board of the A.C.T. held twelve meetings and registered forty-five medical practitioners. The Dental Board met eight times and registered four dental practitioners. The Nurses Registration Board held twelve meetings and registered 241 nurses and thirty-nine nursing aides. The Pharmacy Board met four times and registered twenty-five pharmacists and the Veterinary Surgeons' Board held three meetings and registered three veterinary surgeons. The Optometrists Board did not meet during the year and no optometrists were registered.

Five final examinations for nurses were held during the year at the Canberra Technical College on behalf of the New South Wales Nurses Registration Board, which continued to set and mark the examination papers.

Chest Clinic

Nineteen new cases of pulmonary tuberculosis and one relapsed case were notified in the A.C.T. in 1967-68. This compared with six new cases in 1966-67. At present 800 persons are under regular supervision at the Chest Clinic, which is located in the Canberra Community Hospital and is responsible for tuberculosis control in the A.C.T. and nearby areas. Another 200 persons are under surveillance by the Clinic. A total of 11,489 miniature X-ray films were taken during the year as part of the routine case-finding programme.

The recent emphasis on the need to record, and follow-up regularly, persons with pulmonary abnormalities, who constitute a high risk group, is increasing the work load of the Clinic.

Acoustic Service

Visiting Commonwealth Acoustic Laboratories officers in 1967-68 tested 140 children for the first time and re-tested 100 children. Eighteen Repatriation patients were tested for hearing problems and twenty were re-tested.

All children examined by the School Medical Services in the A.C.T. undergo testing by audiometry in order to assess any partial loss of hearing. If necessary, these children are referred to the Commonwealth Acoustic Laboratories for further investigation. This is performed by an officer from the central laboratory in Sydney who comes to Canberra for two days every three weeks. During his visit he also examines children referred by local medical practitioners or consultants. Any child requiring a hearing aid has it provided and serviced by the Acoustic Laboratories. A similar service is provided for Repatriation pensioners.

The Acoustic Laboratories have now begun a hearing aid service for pensioners and planning is proceeding for the establishment of a permanent clinic in Canberra.

Pharmaceutical Section

A Pharmaceutical Section has been established within the Branch and a pharmacist has been appointed. The pharmacist will inspect pharmacies and supervise the supply of drugs, narcotics and poisonous substances, and will also inspect, periodically, the relevant registers and records which must be maintained by pharmacists. He will issue licences for the sale of certain poisonous substances in shops and will be available to give advice to professional and business people regarding the interpretation of Ordinances and to advise members of the public, where necessary, on pharmaceutical problems.

Public Health

The past year brought a noticeable expansion in the activities of the Public Health Branch. Staff was increased and a new Epidemiology Section was created. The Branch continues to provide information on a wide range of general public health matters. This includes advice on subjects such as immunisation programmes and other methods of controlling infectious diseases, fluoridation of public water supplies, atmospheric pollution, tropical diseases, traffic injuries, alcoholism and zoonoses.

National Poisons Register

In an effort to overcome delays in the work associated with the National Poisons Register project, additional staff was recruited to the Toxicology Section. Encouraging progress has since been made and the first instalment of the revised National Poisons Register Manual, which now lists some 15,000 possibly hazardous products, is being prepared for printing. The States have co-operated in providing poison case reports and an examination of these has been made prior to coding for computer analysis and subsequent publication of the findings.

Food Standards Programme

The Department became more involved in the proceedings of the joint FAO/WHO Codex Alimentarius Commission during 1966-67. Some standards have reached the stage of being forwarded to Governments for acceptance and discussions have been held with State Government authorities to determine an Australian approach.

Senior officers of the Public Health Branch were included in the Australian delegations to the committees on food additives, pesticide residues in food and food hygiene as well as the fifth session of the Codex Alimentarius Commission, held in Rome during February 1968. The work in connection with the Commission and its subsidiary bodies is undertaken in collaboration with the Department of Primary Industry.

Communicable Diseases

Australia has for many years been free from quarantinable diseases, such as smallpox and cholera. There are, however, non-quarantinable diseases which also might be introduced to Australia and a careful watch must be kept on communicable diseases overseas. Because of the continuing problem of haemorrhagic fever in South-East Asia it was considered that control measures against the vector, a mosquito called *Aedes aegypti*, should be encouraged over that part of Northern and Eastern Australia in which this mosquito is found. As a result of evidence submitted to the National Health and Medical Research Council, the Council has recommended that a continuing effort should be made by State and local authorities to eliminate *Aedes aegypti*.

In 1967-68, 173 cases of malaria were notified to health authorities in Australia. These infections were acquired overseas. Through the National Health and Medical Research Council, the attention of the medical profession in Australia has been drawn to the need for epidemiological investigation and adequate treatment of all cases of malaria. Attention has also been drawn to the need for proper briefing of travellers going to malarious areas in the use of prophylactic drugs and to the need for radical treatment of such persons if, on return, they wish to enter an area where the mosquitoes are likely to transmit malaria.

The control of leprosy in Australia is still an important part of public health administration. Fifty-one new cases of this disease were notified in 1967. There does, however, appear to be a falling off in the number of cases notified, the total having been higher than this in fourteen out of the previous fifteen years. A report on leprosy control in Australia, endorsed by the National Health and Medical Research Council, has been given publicity among the medical profession. This report draws attention to the fact that, under adequate drug treatment, and with proper facilities for regular out-patient follow-up, it is possible to avoid the prolonged isolation of patients, which has been a feature of treatment in the past.

The infectious diseases which have been of major importance of recent years have been poliomyelitis, influenza and infective hepatitis. During the year only five suspected cases of poliomyelitis were referred to the Poliomyelitis Sub-Committee of the National Health and Medical Research Council and none of these were confirmed. This successful reduction of poliomyelitis to a place of minor importance has been achieved by the use of first Salk and now Sabin vaccine throughout the Australian States and Territories.

No major epidemic of influenza occurred in Australia during 1967-68, but the progress of epidemics in other parts of the world were closely watched. It has been noted that the A2 virus strain of influenza which has been responsible for recent Northern Hemisphere epidemics is practically identical antigenically with the A2 strain in the present Commonwealth Serum Laboratories vaccine.

The number of notifications of infective hepatitis rose in 1967 as in 1966. Total notifications between 1961 and 1965 had shown a decline. Hepatitis nevertheless remains a matter of concern to public health authorities and has been the subject of continuing health education campaigns.

Epidemiology and Medical Statistics

An Epidemiology and Medical Statistics Section has now been established within the Public Health Branch. Previously only a very limited volume of work was possible in these fields and this was dealt with in the various divisions as the need arose. The growing interest in studies such as the National Morbidity Survey, the results of which were published in 1966, and the Smoking Attitudes Survey, which began during 1967, has produced the need for a central section to advise on matters of a statistical or

epidemiological nature. The Section is now assisting in the Smoking Attitudes Survey and in preparation of epidemiological commentaries on the National Morbidity Survey.

The Section's work is expected to increase the use which can be made of health statistics available in Australia. These at present include statistics on infectious diseases and mortality. During the year collection of uniform hospital morbidity and of mental health statistics was begun in some States. When this system is developed throughout the Commonwealth, important new information relative to health and disease will be available for future investigation. Officers of the Section will work closely with the National Health and Medical Research Council and with those of its committees and sub-committees which have responsibilities in these fields.

Nursing

A variety of courses for nurses from overseas countries under government sponsored schemes was arranged during the year by the Nursing Section. At the end of 1967, twenty-six overseas nurses successfully completed post-graduate courses at colleges of nursing in Australia. The nurses came from Afghanistan, Burma, Indonesia, Korea, Kenya, Malaysia, the Maldives Islands, Nigeria, the Philippines, South Viet Nam and Thailand. The Nursing Section is working closely with the Departments of Immigration and External Affairs in order to improve and clarify arrangements for the entry of private nursing students from overseas and to provide them with a choice of useful and satisfying training programmes.

Therapeutic Substances

The Therapeutic Substances Branch has been particularly active over the past year in endeavouring to increase the level of reporting of adverse drug reactions. Commonwealth activities in the drug control field in Australia are co-ordinated by the Branch, which incorporates the Registry of Adverse Drug Reactions and provides the secretariat of the Australian Drug Evaluation Committee.

With the assistance of the State health authorities, medical faculties and medical superintendents of hospitals, the Registry of Adverse Drug Reactions has distributed pads of report forms throughout the larger hospitals. A total of 450 reports were received in 1967-68, bringing the total number received since August 1964, to 1,320. The number of reports received last year represented an increase of fifty-five per cent over the level of reporting in the preceding three years.

Seventy-two per cent of the reports last year were received from doctors in private practice and twenty-one per cent from hospitals. The remaining seven per cent of reports were received from the pharmaceutical industry. Support from the pharmaceutical industry continued during the year. In the last few months of the year report forms were distributed to investigators conducting clinical trials. It is hoped that much valuable information on the adverse effects of drugs will be obtained through these channels before drugs are released on the general market.

Another major achievement during the year was the distribution of the 'Report of Adverse Drug Reactions', in booklet form, to all registered medical practitioners in Australia. The response to the distribution of the report was most enthusiastic. Feedback of information to the reporting clinician is considered to be an important function of the Registry and, apart from its intrinsic value to clinicians, it is hoped that the 'Report of Adverse Drug Reactions' will stimulate the medical profession to more active participation in the reporting scheme.

Australia is now participating in the WHO pilot research project for international drug monitoring and details of reports received by the Registry are forwarded, as a matter of routine, to WHO on a report form specially designed to facilitate computer processing. With a world-wide accumulation of data on the adverse effects of drugs and sophisticated data processing facilities, it will be possible to determine more readily than in the past the statistical significance of reported adverse drug reactions.

Australian Drug Evaluation Committee

The Australian Drug Evaluation Committee was established in 1963 to provide expert advice on the assessment of new drugs and on reports of adverse reactions and, to 30 June 1968, had made 178 resolutions relating to therapeutic substances.

The question of adverse effects of oral contraceptives has continued to be the subject of close scrutiny. From time to time the Committee has indicated the need for a special study on this question in Australia and the Australian College of General Practitioners is now carrying out such a survey. The Committee has also made arrangements with the Hospital Morbidity Statistics Sub-Committee of the National Health and Medical Research Council for inclusion of information on the usage of oral contraceptives, in cases of thrombo-embolic episodes, in the collection of data for hospital morbidity statistics.

Close liaison with the drug control authorities in a number of overseas countries has continued to prove most beneficial to the work of the Committee. This collaboration, coupled with careful study of the medical literature, and investigations instituted locally, provides the Committee with reliable and up to date information.

Standard of Therapeutic Substances

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

The following table indicates the number of samples assayed by the Customs' Laboratories for the year ended 30 June 1968. Examination of the other categories of therapeutic substances is conducted by the National Biological Standards Laboratory and details of these examinations are outlined in the section of the report relating to that Laboratory—

<i>State</i>	<i>Number of Samples</i>	
	<i>Passed</i>	<i>Failed</i>
New South Wales	93	3
Victoria	81	2
Queensland .....	.....	.....
South Australia	18	1
Western Australia	1	.....
Tasmania .....	.....	.....

National Biological Standards Laboratory

The National Biological Standards Laboratory's drug testing programme was maintained during 1967-68 at previously established levels but was made more effective by selecting samples, as far as possible, from those products and sources most likely to be at fault.

The Laboratory's activities in the control of therapeutic standards were also made more efficient during the year by the development of better liaison arrangements with other Commonwealth and State authorities and with international bodies such as the World Health Organisation and the British Pharmacopoeia Commission. A number of Laboratory officers are now members of technical and expert advisory committees of WHO. Contacts with the British Pharmacopoeia Commission were maintained and extended through the visit to Australia during the year of Professor F. Hartley, a member of the Commission and Dean of the School of Pharmacy of the University of London. Valuable exchanges were also made possible through a visit by Dr A. S. Outschoorn, Chief of Biological Standardisation, WHO, particularly in relation to the international certification of vaccines.

Planning for a proposed National Biological Standards Laboratory building proceeded during the year. Following a feasibility study by the Department of Works and joint consultations with that Department, the National Capital Development Commission and this Department, it was considered that a site at Deakin, near the Royal Australian Mint, which had been originally allocated for the building, did not allow sufficient area for possible development. Subsequently a 50-acre site in the Narrabundah area of Canberra was set aside for this purpose. This area will permit more flexibility in laboratory design and the grazing of sheep and cattle used in the testing of veterinary products. A feasibility study of the new site has been completed by the Department of Works and preliminary plans are now being costed.

The Director of the Laboratory spent a month in India during the year as a short-term consultant for the World Health Organisation to report on measures which would strengthen drug quality control in that country. The major part of the assignment consisted of an evaluation of laboratory facilities already available and advice concerning the direction of future developments.

In addition to the sampling and testing of therapeutic products, the Laboratory during the year assisted other Commonwealth Departments and authorities by providing specifications for tenders for pharmaceutical products and surgical dressings and by the subsequent analysis of products against the specifications. The following is a summary of the activities of the various sections of the Laboratory, and statistics relating to analyses performed are in Tables 57 to 59 on pages 122 and 123.

Antibiotic Products

The programme for testing antibiotic products was broadened during the year to include antibiotic preparations which are not available as pharmaceutical benefits, veterinary antibiotics and products containing more than one antibiotic. There was also a greater concentration on the testing of goods supplied to various Commonwealth Departments and to territories of the Commonwealth. The testing of many of these products has required the laboratories to evaluate new variations of methods of analysis and this has been a time consuming process.

Work was continued during the year on the calibration of reference standards both for use in Australia and in connection with international standards being established by the World Health Organisation for certain antibiotics.

A systematic examination of each consignment of pre-sterilised, disposable hypodermic equipment imported into Australia from Japan has been carried out. Shortcomings were found in the packaging and labelling of certain brands of this equipment. One brand did not appear in fact to have been sterilised and its importation was subsequently prohibited.

Bacterial Products

Staff for the new microbial and immunological unit was recruited and work was begun on the purification of bacterial toxins. Developmental work on 'in vitro' tests for bacterial vaccines was also begun.

The programme of testing veterinary vaccines gathered momentum during the year. It is noteworthy that of thirty-one veterinary preparations purporting to vaccinate against tetanus, thirty-nine per cent failed. Pulpy kidney (enterotoxaemia) vaccines gave much better results and only fifteen per cent failed to meet requirements.

The manufacturers offered various explanations for the failure of their products but did not contest the Laboratory's results, which revealed a real deficiency in veterinary clostridial vaccines. The industry has been most co-operative in implementing suggested quality control procedures and it is evident that manufacturers are now exercising tighter quality control. Samples recently taken from manufacturers, whose products had previously failed, have shown a marked improvement.

Endocrine Products

Work in the Endocrine Products Section has been somewhat hampered by the inability to recruit a chief endocrinologist to take charge of this laboratory but the testing of products has continued. Collaborative studies with scientific staff of the Garvan Institute, in Sydney, were undertaken to develop a radio immuno-assay for secretin. This work has been published.

Viral Products

The routine testing of viral vaccines continued during the year and a total of twelve batches of Salk and Sabin vaccines were cleared for use in Australia. In addition, five batches of canine distemper vaccine were cleared as satisfying requirements for potency. A preliminary draft of the proposed Australian minimum requirements for smallpox vaccine was

prepared and preliminary work has been carried out on similar requirements for influenza sub-unit vaccine.

Studies have been made of the effectiveness of living and inactivated vaccines in inducing immunity to respiratory viruses. Infectious laryngotracheitis of fowls, important in the poultry industry, has been used as the model and a close parallelism has been demonstrated with human para-influenza infections. It has been found that resistance to challenge with virulent virus does not correlate with circulating antibody titre. Live vaccines, despite low circulating antibodies, protect whereas killed vaccines with high levels of antibody confer little protection.

Pharmaceutical Chemistry

Because of accommodation problems, testing of products by the Pharmaceutical Chemistry Section was largely restricted to products which were pharmaceutical benefits or the subject of tenders to government authorities. The surgical dressing unit was not affected by the accommodation problems and the investigation of products available on the market continued in order to develop new standards. A considerable amount of testing of cotton wool, dressings and bandages was undertaken for the Department of Repatriation. A project on the development of automated spectrophotometric analysis of single tablets was begun. Very small amounts of active materials are contained in some tablets and there is a need to know that there is a uniform distribution of such materials. Traditional methods are too laborious for such work and automation appears to offer the only chance of carrying it out. Preliminary work was begun on the use of a differential scanning calorimeter which provides a method for the determination of absolute purity of materials used as reference standard substances. A study of the use of data retrieval systems for handling the records of samples tested and filing data on physical and chemical properties of drugs is continuing.

Pharmacology

The pre-clinical evaluation of new drugs has continued to be a major function of the Pharmacology Section and the number of drugs to be evaluated is increasing. A considerable amount of work was undertaken on parenteral iron preparations following the introduction of a toxicity test in the 1966 Addendum to the British Pharmacopoeia. A number of failures to meet this test were found, but the significance of these failures is not clear since the range of products to which it can be applied is uncertain, as is the validity of the test, since it is an intravenous test applied to intramuscular injections.

Products were examined following complaints by medical practitioners that the expected pharmacological response had not been obtained from the products, or that unexpected side effects had occurred. The most frequent complaint was of eye drops producing unexpected pupillary dilation. In only one case could contamination with an atropine-like substance be demonstrated. The manufacturer in this instance also found contamination and promptly withdrew the product from sale.

The considerable attention being given by the pharmaceutical industry to drugs acting on the cardiovascular system prompted a research programme on factors affecting catecholamine uptake and release with a view to applying the knowledge gained to the assessment of new and existing drugs.

Commonwealth Health Laboratories

Clinical pathology is a rapidly expanding field in Australia, and throughout the world, fulfilling an important role in the complex diagnostic and research procedures of current medical practice. The laboratory services provided by the fifteen Commonwealth Health Laboratories located at regional centres throughout Australia—at Albury, Alice Springs, Bendigo, Canberra, Cairns, Darwin, Hobart, Kalgoorlie, Launceston, Lismore, Port Pirie, Rockhampton, Tamworth, Toowoomba and Townsville—are being developed in line with the requirements of modern medical methods.

The Health Laboratories are, in most cases, attached to a base hospital and provide a clinical pathology service to the base hospital, to district hospitals and to the medical profession in the area. The work undertaken by the laboratories includes histo-pathology, morbid anatomy, biochemistry, microbiology, haematology, serology and cytology. Some of the laboratories also perform work of a public health nature such as bacteriological and chemical examinations of food, milk and water and the investigation of outbreaks of disease. The application of radio-isotope techniques to clinical diagnosis was introduced to the Health Laboratories with the recent establishment of a radio-isotopes section at the Canberra Health Laboratory.

The many advances in scientific knowledge and technology in recent years have stimulated a quite dramatic expansion in the range of pathology tests and procedures and the development of a great deal of new and sophisticated instrumentation. These factors have led to an accelerated requirement for scientific and technical staff for the Health Laboratories and have accentuated the Department's difficult and long-standing problem of recruitment of qualified persons to serve in country laboratories.

A significant advance towards a solution to this problem has been made during the past year with the introduction of a new scheme to train laboratory technologists and technical officers. The training scheme became a reality following the establishment of Institutes of Technology by the various State Departments of Education to provide tertiary-level education in technological and technical fields, and also the furthering of new concepts of professional and sub-professional employment in technical areas of the Public Service.

Following discussions between this Department and the Public Service Board, cadetships in medical technology and traineeships in biological techniques were established and the first group of these cadets and trainees commenced their studies at the beginning of 1968. Fifteen cadets commenced full-time study at the Queensland Institute of Technology, Brisbane, and a total of fifty trainee technical officers were appointed to the laboratories at Townsville, Rockhampton, Toowoomba and Canberra and began part-time study in Technical College certificate courses at those

centres. It is considered that the continuation of this training scheme offers a long-term, practical solution to some of the staffing problems of the Health Laboratories.

There is still, however, an urgent need for more pathologists in the Health Laboratories, and, in association with the Public Service Board, the Department is actively seeking a scheme for post-graduate pathology training which will be appropriate to the needs of the Health Laboratories. In the meantime, a further two scholarships have been provided to allow selected medical officers to proceed overseas in 1968 to undertake studies for the Diploma of Clinical Pathology at the Post-Graduate Medical School, London. Two medical officers are at present undertaking studies for the Diploma of Clinical Pathology in London, one having been awarded a Public Service Scholarship and the other a WHO Fellowship in 1967. Both officers are due to complete the diploma courses and return to duty in the Health Laboratories in late 1968.

Building work to provide extra laboratory space at the Port Pirie Laboratory is due to begin during the latter part of 1968 and plans for the building of a new laboratory at Tamworth are being finalised. The Department has begun an investigation of the overall requirements of the Health Laboratories Service in terms of staffing, instrumentation and accommodation with a view to formulating a co-ordinated plan of development.

Statistics of tests performed and the number of patients who attended the Laboratories during the year are given in Table 56 on page 122.

Commonwealth Acoustic Laboratories

There was a marked expansion of the Commonwealth Acoustic Laboratories clinical services in 1967-68 due to the introduction of the pensioner hearing aid service. To introduce this service the staff of the Laboratories was built up, special training programmes were undertaken and new laboratory accommodation was provided and equipped.

Further work was carried out on the development of hearing aids and a record number of aids was produced.

There was also a change in the directorship during the year. Mr R. A. Piesse, formerly physicist in charge of the Acoustics and Electroacoustics Research Section, was promoted to the position of Director to replace Mr N. E. Murray, O.B.E., who died in August 1967 after a long illness. Mr Murray had been Director of the Laboratories since their inception in January 1947.

Services

Clinical Audiology and Psychology

The scheme to provide pensioners and their dependants with hearing aids commenced on 1 April 1968 in Adelaide and Newcastle and was later extended to other State capitals and Canberra and Townsville. To 30 June



Testing a child's hearing at the Commonwealth Acoustic Laboratories

1968 a total of 2,505 applications for hearing aids had been received, 1,504 being from pensioners in the eligible age groups. (At 30 June 1968 services were available to pensioners as follows:—65-74 years—Sydney, Melbourne, Brisbane, Hobart, and Perth; all age groups—Adelaide, Newcastle, Canberra and Townsville.) In all, 1,190 pensioners were examined and 978 were fitted with hearing aids. A programme has been drawn up for the extension of the pensioner hearing aid service to other age groups and to country areas in 1968-69.

A new, permanently staffed laboratory was opened at Townsville in June 1968 and arrangements are proceeding to open new, full-time laboratories at Parramatta and Launceston.

The increase in the staff has meant much effort with training schemes, the most notable being the training programme undertaken in Sydney early in 1968 for psychologists, assistants (audiometry) and technical staff for the pensioner scheme. Members of the new category of sub-professional staff—assistants (audiometry)—are doing useful work in assisting psychologists with hearing tests, the fitting of hearing aids and taking ear-impressions.

Further exploratory work in the guidance of parents and pre-school aged deaf children shows promise of leading to the better use of hearing aids and hearing skills for these very young children. Other programmes for children and ex-servicemen continue to operate at a greater level of efficiency due to improved methods of testing and some extra case-work time.

Engineering

The pensioner hearing aid service dominated the resources of the Engineering Section in 1967-68. Assistance was given with the planning of accommodation and in supervising technical installations.

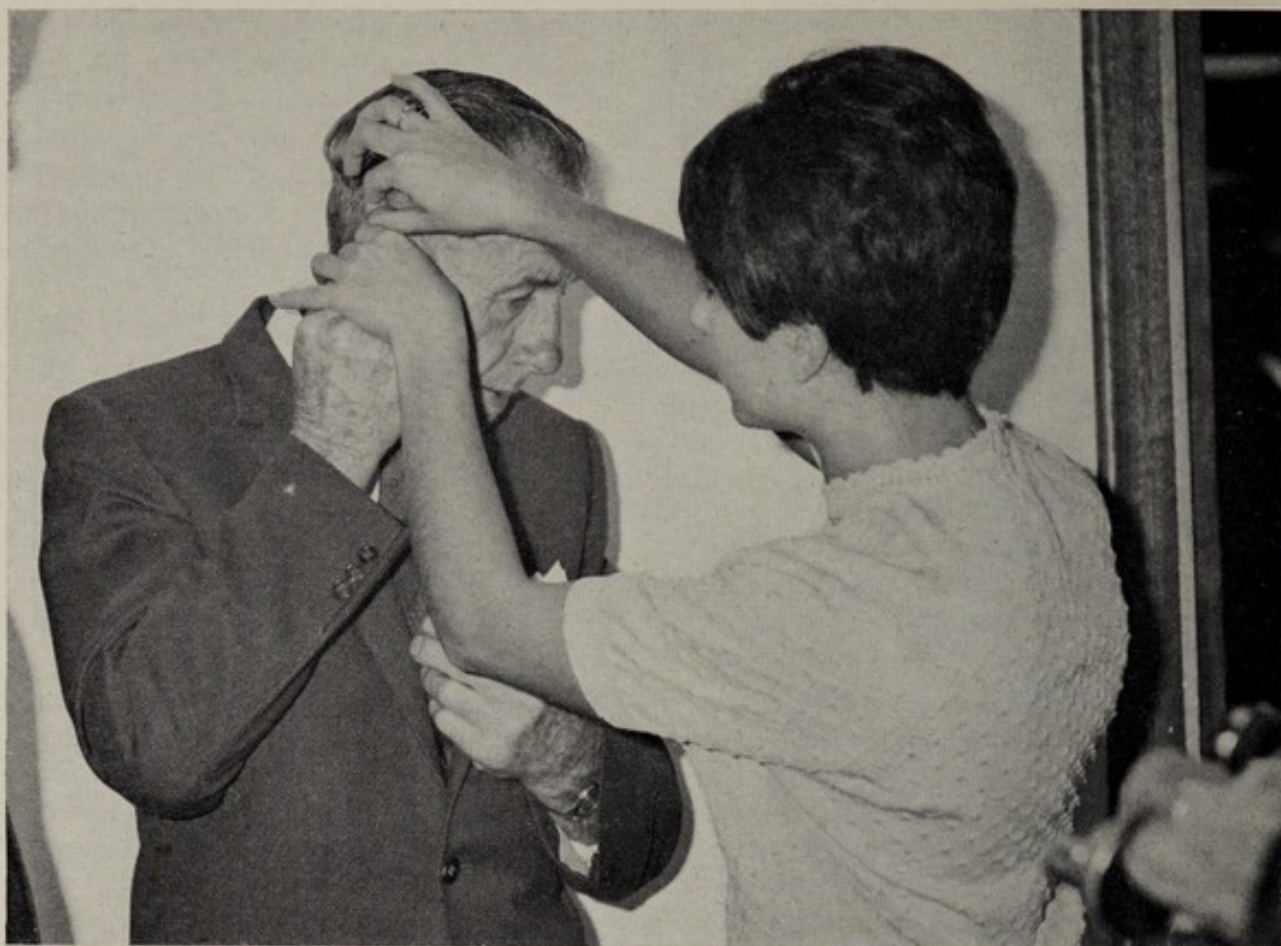
The Engineering Section also contributed to the training programme for the new technicians and psychologists appointed for the pensioner service and prepared an instruction manual for the technicians employed on maintenance and servicing of hearing aids. Equipment for calibrating and testing hearing aids was developed for use in the clinical laboratories and a record number of hearing aids was produced during the year.

Noise measurements were undertaken for the Quarantine Division of the Department at the international terminal, Kingsford Smith Airport, and for the Overseas Telecommunications Commission, the Department of the Navy and the Department of Customs and Excise. Visits were made to various Commonwealth Government Departments and instrumentalities such as the Commonwealth Serum Laboratories, Department of Supply, Postmaster-General's and Army Design establishments to assist with the introduction of hearing conservation programmes and give advice on noise problems.

Research

Acoustics and Electroacoustics

The work of the Acoustics and Electroacoustics Section was curtailed during the year as the staff members worked with the Engineering Section on various technical matters relating to the implementation of the pen-



A pensioner being fitted with a hearing aid

sioner hearing aid service. Despite these commitments, the Section designed a calibrator for an artificial mastoid and an audio switch with a fast rise time of signal for the evoked response audiometer. Further work was done on the development of hearing aids.

Audiology-Psychology

The Audiology-Psychology Section developed and standardised speech-hearing tests, using recorded sentences, for use in the pensioner hearing aid service. The standardisation showed a high degree of agreement with pure tone test results, and the sentence tests are now being used to supplement existing diagnostic speech tests.

The technique of cortical evoked response audiometry has been developed further. A series of experiments exploring the relations between stimulus and response is nearing completion. The results obtained to date have indicated an optimum strategy for detecting the pattern of response and this has been used in the design and development of a simple, self-contained evoked response audiometer, which has been undertaken in conjunction with staff from the Electroacoustics Section.

Further research has been done on the effects of powerful hearing aids on the residual hearing of children with sensorineural deafness. It has been found that short-term use of powerful aids can cause temporary deterioration in children's hearing and that recovery from the deteriora-

tion, when the aid is removed, proceeds at a very slow rate. A further analysis of data on the permanent effects of powerful aids has revealed that most of the damage effect probably occurs in the first four to five years of aid use and is added to any deterioration in hearing due to other causes.

Medical Ultrasonics

The clinical trials of the abdominal echoscope at the Royal Hospital for Women, Sydney, have been carried further and the results are being prepared for computer analysis. It is hoped in this way to determine the accuracy of diagnosis of various conditions of pregnancy and the accuracy of prediction of foetal size and growth rate. The standard of pictures has continued to improve and such structures as the heart, kidney and bladder of the foetus are now regularly seen. A further improvement should follow the installation of a new scanner early in the new financial year.

An echo-encephaloscope is undergoing continuing clinical trials at the Royal Newcastle Hospital. The improved system used in the instrument has allowed a significant improvement in the detection of mid-line shifts in the brain. Previously a shift of up to three millimetres was regarded as normal due to random errors in the technique. It has been shown that with the Commonwealth Acoustics Laboratories' instrument, indicated shifts of only one millimeter are clinically significant.

After some set-backs due to staff changes, the eye echoscope installed at the Royal Prince Alfred Hospital, Sydney, is now producing high quality echograms and will be used for clinical trials to determine the appearances of normal and pathological eyes. Work is continuing on clinical assessment of the breast echoscope at the Royal North Shore Hospital, Sydney, and on the study of the biological effects of ultrasound in conjunction with the School of Pathology, University of New South Wales.

Psychoacoustics

The main activities of the Psychoacoustics Section have concerned the investigation of the determinants of the loudness, detectability and annoyance of impulse noise. The final experiment on the loudness of pulses is under way but the acquisition of data and its evaluation will continue for some time before the project is complete.

Standards

Staff members of the Laboratories were actively engaged in work connected with Australian standards during the year. Two representatives of the Laboratories attended a meeting of the Standards Association of Australia at which it was decided that work in acoustics should be placed on a more formal basis by the establishment of an Acoustics Standards Committee. The Laboratories co-operated in the publication of a standard entitled 'Preferred Frequencies for Acoustical Measurements' and in the drafting of an Australian standard for the standard reference zero of the calibration of pure tone audiometers.

Commonwealth X-Ray and Radium Laboratory

The Commonwealth X-Ray and Radium Laboratory, established in 1929, is the Commonwealth centre for radiological physics and one of its important present day functions is the monitoring of the environment for radioactivity.

Radiochemistry and 'Low-Level' Measurements

Significant quantities of man-made radioactive materials may be contributed to the environment from two sources: the testing of nuclear weapons and the release of radioactive materials which have been used for peaceful purposes. In Australia, interest in the fall-out from nuclear weapons was revived when France began a series of tests in Polynesia in July 1966. A second series followed in June 1967, and a further series is planned for July 1968.

A continuing programme of monitoring the environment for radioactive materials is supplemented during actual testing of nuclear weapons in the atmosphere. The Laboratory makes relevant measurements for the Atomic Weapons Test Safety Committee and, through it, for the National Radiation Advisory Committee. The methods used for collecting, treating and measuring samples are frequently reviewed to ensure their efficiency. The complex calculations necessary are made by computer, using data programmed by the staff of the Laboratory.

A whole-body monitor, a device designed by the Laboratory for the detection and measurement of traces of radioactive materials present in the human body, is being installed at the Laboratory. A steel-walled room has been built, ancillary equipment installed and preliminary tests made. A dosimetry system, to measure radiation in the environment, has also been constructed and tested at the Laboratory.

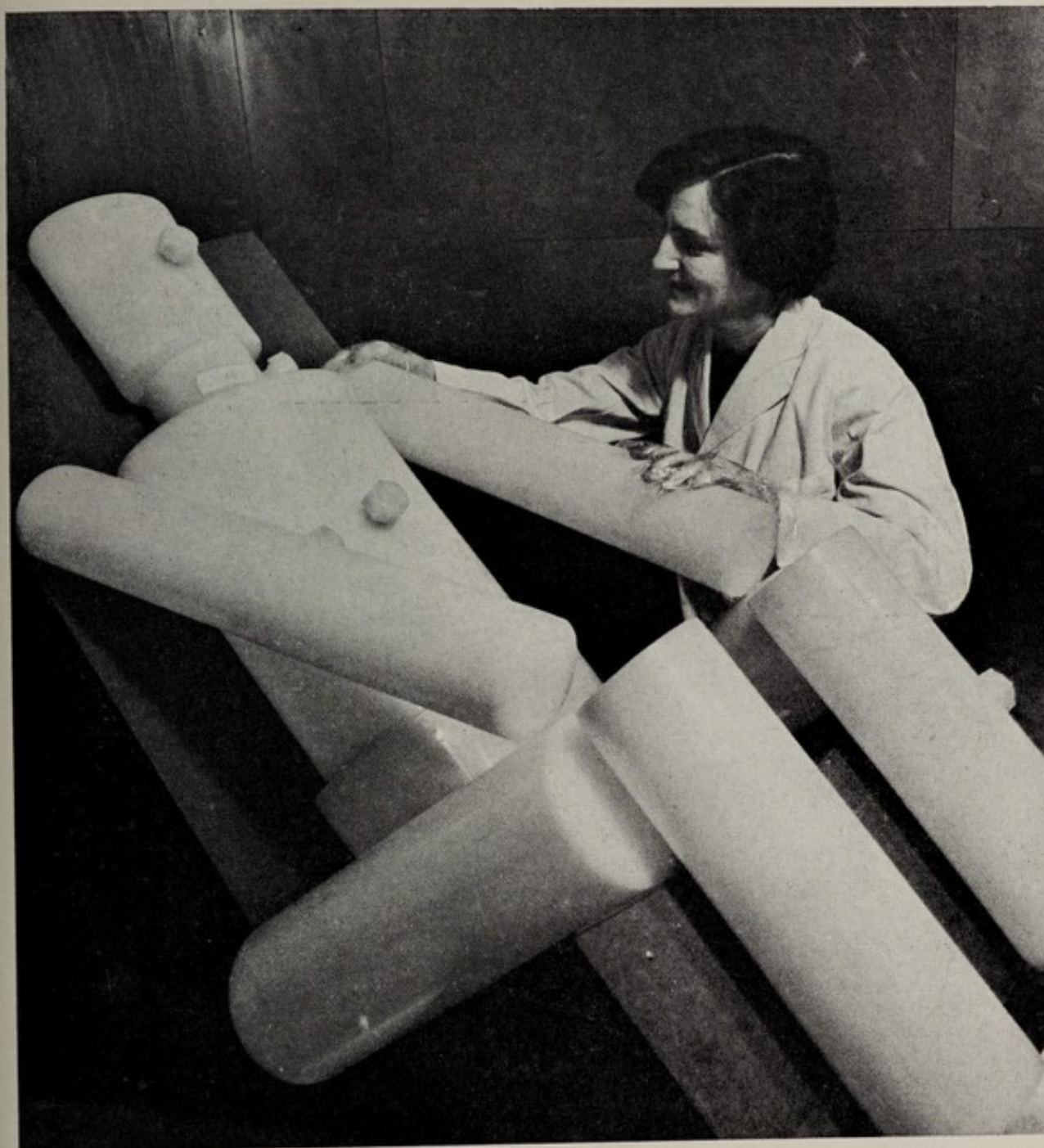
A Commonwealth Standard for the measurement of X-rays is maintained at the Laboratory and other related standards for the accurate measurement of X-rays are being developed. Equipment for the accurate measurement of radioactive materials has been developed and this equipment will be certified as providing working standards for the measurement of particular radio-nuclides.

Commonwealth Radium

The Laboratory continued to discharge its responsibility for the care and maintenance of the Commonwealth radium issued on loan to approved hospitals and research centres and the radon services to approved hospitals and private practitioners in Australia and New Zealand have been maintained. An interesting development in recent years has been the increasing use of radon by approved veterinary surgeons. All the radon issued is sealed in gold capillary tubing made in the Laboratory.

Diagnostic Radiology

The Laboratory has continued its service to orthodontists of maintaining specially-designed equipment for taking skull radiographs. The same equipment has also been made available to the Growth Unit of the Anatomy Department, University of Melbourne, in a co-operative, long-term investigation on the sequential developments of skull growth. Assistance to government instrumentalities, hospitals and universities has included advice in the planning of X-ray departments and in the specification of equipment.



A 'plastic phantom' filled with liquid of low radioactive content being positioned for the calibration of the Whole Body Monitor at the Commonwealth X-Ray and Radium Laboratory, Melbourne

Radiation Dosimetry

In association with the National Health and Medical Research Council planning has been carried out for a survey to assess the genetically-significant dose to the Australian population arising from the use of ionising radiations.

The Laboratory has maintained its routine services relating to the measurement of radiation output and the associated characteristics of X-ray equipment used for therapeutic purposes in hospitals and in private medical practices.

Radio-isotopes

During the year 2,625 shipments of radio-isotopes were procured by the Laboratory for medical use. The Laboratory is the central procurement agency for purchasing and distributing radio-isotopes used in Australia for medical diagnosis, treatment and research. The number of radio-isotopes procured in the past year increased by nine per cent over the number for the previous twelve months. Of the total, 370 shipments were procured from the Australian Atomic Energy Commission, compared with 266 shipments in 1966-67. The remainder of the shipments were from overseas sources which include the United Kingdom, the United States, Holland, India, France, Italy and West Germany. The total shipments included forty-eight different radio-isotopes in many different forms.

A total of 64,237 individual issues of radio-isotopes were made in 1967-68, an increase of 172 per cent over the number for the previous year. These doses are made available without charge to all classes of patients through the National Welfare Fund. The increase in expenditure from the National Welfare Fund for radio-isotopes procured by the Laboratory for medical purposes since 1956 is shown in Table 63 on page 124.

An interesting development has been the increasing use of special 'generators' from which radio-isotopes of short life can be extracted periodically. These short-lived materials are used on patients in special diagnostic techniques.

As part of the programme relating to the provision of national standards, equipment for the accurate measurements of certain radio-isotopes in terms of the Curie has been installed and tested.

Protection Against Ionising Radiation

The legislative control in Australia of the use of ionising radiations from irradiating apparatus and radioactive substances is mainly the responsibility of the States. The Laboratory co-operates with State authorities in this work but maintains its own advisory services. Technical assistance given by the Laboratory ranges from the detailed design of protective shielding in X-ray departments and radio-isotope laboratories to the monitoring of radiation levels and the assessment of proposed safety procedures.

During the year assistance was provided to Government departments in matters relating to the safe transport, storage and disposal of radioactive materials, and in framing the procedures to be followed during the entry of nuclear-powered vessels into Australian ports.

A review has been made of the present uses of radioactive luminous compounds and of the associated hazards. Investigation into the possible danger to those operating powerful radar installations from exposure to microwaves of high power density have been continued and an assessment is being made of the possible risks arising from the production of X-rays in colour-television receivers.

Film Badge Service

The Laboratory film badge service, under which film badges are issued to people to ensure that they are not exposed to unacceptably high levels of radiation in the course of their work continues to expand. In 1967-68, 77,301 individual monitoring films were assessed and reported on. The number of centres registered with the service is at present 1,186. The increasing demand for the service has made it necessary to employ automatic techniques, including an analogue computer, for assessing the films and recording the results.

Commonwealth Bureau of Dental Standards

The past year has seen active participation overseas in the work on international dental standards, greater assistance interstate in training dental personnel in materials and the installation at the Bureau of special equipment to assist in programmes of investigation and testing. The investigation, teaching and standards programmes of the Bureau have been maintained with particular emphasis being placed on recently introduced products. Several Asian and Pacific fellows and scholars in Australia have attended the laboratory during the year for instruction and training.

Australian Standards

Further assistance in the preparation of specifications for medical and dental items has been given through committees of the Standards Association of Australia, especially in regard to hypodermic syringes and needles, both of the re-usable and single-use types.

The Bureau has been investigating test methods and requirements for local anaesthetic solutions, elastomeric impression materials, dental X-ray film, denture repair resins, various orthodontic items of metal and rubber, gold and cobalt-chromium alloys, casting waxes, investments and amalgam alloys.

Testing

The testing programme for local and overseas dental manufacturers, distributors and for Government and other bodies has continued. Of the total of 200 samples tested, there were forty-eight cements and mineral products, twenty-five waxes and impression materials, thirty-four synthetic resins, fifty-two metals and alloys, twenty-five instruments and sixteen therapeutic materials. Some of these samples were related to the check-testing of products included in the list of certified products prepared by the Australian Dental Association.

Investigational Projects

Silicate cements, used for what is loosely called 'porcelain fillings', have some serious disabilities which shorten their useful life as restorative materials. One of these disabilities is the tendency to dissolve or disintegrate in the mouth and a study has been made of the substances leached out of silicate cement over a period of twelve months. Fluoride, one of these substances, assists in preventing further decay at the margins of the filling, but its loss together with other constituents gives rise to ultimate breakdown of the restoration itself. One manufacturer has devised a product claimed to have greatly enhanced resistance to breakdown and dissolution and this is under close examination.

Among recent developments being investigated are a new type of elastomeric impression material, zinc oxide eugenol cements modified with ethoxybenzoic acid—which is claimed to improve their properties—and some novel methods of dispensing and mixing cements and amalgams.

Equipment

Some new types of equipment have been installed at the Bureau to assist in its investigation and testing. These include an atomic absorption spectrophotometer, to be used for simplified analytical techniques not previously available, and an automatic induction casting machine for cobalt-chromium and other high-melting alloys.

A new versatile universal testing machine, which can handle by electronic devices specimens with breaking loads ranging from a few grams to ten tons, has proved very useful and further studies of its performance and application are being undertaken.

International Standards

The Bureau was represented by its Director at the Fourteenth World Dental Congress held in Paris in July 1967. Prior to and during the Congress, he attended meetings of the International Standardisation Organisation and its various working groups in particular dental fields, and of the Federation Dentaire International (Commission on Dental Materials, Instruments, Equipment, and Therapeutic Materials).

In the meetings of the International Standardisation Organisation particular attention was given to zinc oxide eugenol cements, synthetic resin teeth, elastomeric impression materials, tolerance for rotary dental instruments and dental nomenclature. Programmes of work on root canal instruments and dental radiographic film were arranged through appropriate secretariats.

The FDI Commission discussed with the ISO the co-ordination of its dental standardisation work, a code for radiation hygiene in dentistry, rules for the acceptance of dental therapeutic products by national associations and standards for various dental materials.

The Director of the Bureau also attended the annual conference of the British Dental Association, held in Birmingham at the end of July 1967, and visited a number of dental materials research and standards centres. It was noted that a much more vital interest in dental standardisation and product accreditation programmes has been stimulated in the United Kingdom over the past year or two and that there is close collaboration between the dental profession, manufacturers, government laboratories and the Ministry of Health.

Meetings and Lectures

Members of the staff have presented papers, clinics or exhibits at various meetings and have assisted in the training of dentists, dental therapists, nurses and technicians from South Australia, Tasmania and Victoria. Lectures to groups of practising or undergraduate dentists have been given in Tasmania, New South Wales, Queensland and Victoria.

Several overseas dentists on fellowships or scholarships have been instructed at the Bureau on the properties and testing of dental materials. The dentists came from India, Tonga, Taiwan and the Philippines.



A filariasis investigation patrol from the School of Public Health and Tropical Medicine climbs to a mountain village in Papua-New Guinea

School of Public Health and Tropical Medicine

The School of Public Health and Tropical Medicine maintained a busy and satisfying programme of research, teaching and consultative activities during 1967-68. The School is conducted by the Commonwealth Department of Health in association with the University of Sydney and its work comprises teaching and investigation and consultation in subjects relating to public health, social and preventive medicine and tropical medicine and hygiene.

Teaching

Courses at undergraduate, postgraduate and extra-mural levels were maintained and in cases extended. Full-time courses were provided for graduates in medicine for the Diploma of Public Health and the Diploma of Tropical Medicine and Hygiene. Courses were also provided for various subjects of the postgraduate diploma courses in Public Health Dentistry, Clinical Pathology and Social Work and for a three-weeks course in Occupational Health for medical practitioners. Undergraduate courses were given for medical students in preventive medicine (fifth year) and parasitology and malaria (fourth year) and in hygiene, industrial hygiene and safety, and in protozoology for students of architecture, engineering and science respectively.

Various extra-mural courses were undertaken for the Australian School of Pacific Administration, the University of New South Wales and the New South Wales College of Nursing and instruction was arranged for personnel of Commonwealth departments and organisations, the Armed Forces, and various institutions.

A seminar on rabies was held in February 1968 and attended by senior representatives of public health authorities and from medical and veterinary schools. The lectures in the seminar covered the epidemiology, symptomatology, diagnosis and prevention of the disease and were accompanied by practical demonstrations and film sessions.

Research

Entomology

The detailed investigation of unsolved problems concerned with populations of filth-flies in urban areas has continued. Statistical analysis of the extensive survey data has now revealed or substantiated the following points:

1. Within the complex of fly species of domestic importance some are almost entirely dependent on human activities for their existence whereas others attain significant population densities unaided by man.
2. Fluctuations in population densities of considerable magnitude can occur in a wide variety of environments at the same time, indicating dependence on general factors which are either climatic or dependent on climate.

3. Extremely rapid increases in fly population densities, which could justly be termed explosions, occur from time to time and cannot be interpreted as due to population build-up but only as due to release from normally effective controls almost certainly of a natural character. At times fly population can increase from close to minimal to maximal within the space of two to three weeks.
4. Since some species are of greater importance to man than others, conventional fly control should now be re-assessed on the basis of individual species and on an evaluation of the real contribution, if any, of methods of control now commonly employed. Observations ancillary to the fly survey itself have emphasised the local importance of aggregation of animals, poultry, pigs and cattle especially.

Reports of bush fly (*Musca vetustissima*) abundance in the Sydney area over past years have now revealed two distinct problems, one occurring in early November and the other throughout the summer. The November problem only affects suburbs immediately adjacent to the coastline and at times the city itself and the elevated country to the north, but not necessarily the valleys in this area. It is now clear that this is a windborne invasion following a particular wind sequence commonly experienced in the first week of November—that of westerly winds from the interior of the State converting suddenly to southerlies. Although dramatic, this invasion is of brief duration and western metropolitan areas, to which the southerlies do not penetrate, are free of bush flies at this time. The source of the invasion, although not known, would certainly be west of the Dividing Range. The summer problem is a feature of the rural and semi-rural areas peripheral to Sydney and is of local origin derived at least in part from breeding occurring in fresh cattle dung.

Work relating to mosquitoes has been dominated by the problems arising in an attempt to establish a laboratory colony of *Anopheles annulipes*. Although all previous attempts to colonise this species have failed, the introduction of an artificial mating technique has resulted in success so far to the sixth generation.

Environmental Health

Anti-malarial drugs are commonly administered to unacclimatised men and women as they enter, or are about to enter, a tropical area. If such drugs had a deleterious effect on heat tolerance this could be of material importance, especially in the military situation of unacclimatised troops from a temperate climate entering a war zone in the tropics.

An experiment was therefore conducted to determine if either proguanil or chloroquine, the two most commonly used anti-malarials, produced any such effect. The work was carried out in association with 1 Malaria Research Laboratory, Royal Australian Army Medical Corps, and was made possible by the collaboration of 1 Battalion, Royal Australian Regiment, which provided thirty-two volunteers to act as subjects.

A 'double-blind' trial was performed under the most rigid precautions, in which a subject was exposed twice to work in a hot environment and received on one occasion the active drug and on the other a placebo. The results, which have been submitted for publication, conclusively showed

that neither proguanil nor chloroquine, when administered in the dosage prescribed for the suppression of malaria, has any effect on heat tolerance.

Provision was made in the experiment on the effect of anti-malarials on heat tolerance for the results of the physiological measurements to be used in an assessment of the heat tolerance of the participating subjects. It was shown that the heat tolerance of these young soldiers in Australia lies almost exactly midway between that of two other groups with whom they were carefully matched for age and physical characteristics—one a group of sailors serving in England and the other a group of sailors serving in Singapore who were well acclimatised to a tropical climate. A paper to this effect is in course of preparation.

Information gained from routine observations of thermal comfort and of the inter-relations of blood pressure, skinfold thickness, body weight and oral temperature in Antarctica has been collected over the past seven years in collaboration with the medical officers of the Australian National Antarctic Research Expedition. Analysis has been made of the data so far collected. Only tentative conclusions can be drawn at this stage, but the results confirm the findings in a previous investigation in showing that discomfort due to heat as well as discomfort due to cold occurs in men living in Antarctica.

Biochemistry

An investigation of techniques for the estimation of quinoline derivatives, with the object of providing a suitable means of rapid anti-malarial drug assay, is proceeding.

A study has been commenced of changes in serum and plasma held at varying temperatures with reference to both enzyme decay and differential pattern with standard and borate media, especially in relation to lipoprotein, glycoprotein and mucoprotein quantitation. Work on copper metabolism and abnormal globulin patterns, to establish the nature of possible disturbances in copper metabolism occurring in leprosy and chronic liver damage, is proceeding.

Genetics

Linkage analyses for genetic markers and the beta-thalassaemia locus were completed. No evidence of close linkage was obtained for any loci.

Techniques have been established for short term tissue culture of human lymphocytes and for study of human immunoglobulins by fluorescent antibody and autoradiographic technique. Before embarking on pathological human material, immunological methods for determining reactivity of 'in vitro' immune systems are being developed.

Microbiology

Work on infection with *Mycoplasma pneumoniae* was continued. In throat specimens examined for the presence of the organism from sixty-two inmates of an institution for retarded children, none were isolated, although six *Mycoplasma hominis* and two yet unidentified Mycoplasmas were found.

No significant advance has been made in the development of procedures for the immunological diagnosis of *Histoplasma capsulatum* infections. Work in this field is proceeding.

Occupational Health

A survey was completed of all common loads and handling practices in Repatriation hospitals from the point of view of strain hazard to staff. The major emphasis was placed on the handling of patients, but loads in kitchens, stores, laundries and elsewhere were also studied. Strain injury reports of recent years were also analysed. The findings support the belief that handling-strain injuries are the greatest cause of time loss at work and that these constitute a greater proportion of all time loss than in the average type of employment. The sources of hazard, and their relative importance, were more clearly defined, and ways of lessening the hazards indicated. These have possible applications in all hospitals. A report on this survey is being printed.

A survey, undertaken to determine the amount of ink and paper dust in the air of rotary printing departments, and whether such dust is injurious to health, is nearing completion. It appears at the present stage that exposures to such dust in rotary printing has little adverse effect on lung infection.

An investigation was made into possible hazards associated with the transport of benzene in tankers on the Australian coast. This entailed work in the ships while at sea and in port, and the development of a sampling and analytical method for the estimation of benzene and other hydrocarbons in the breathing zone of workers. This method allows a large number of samples to be taken in inaccessible places prior to analysis by gas chromatography in the laboratory. A serious benzene hazard was discovered in the course of the work, which resulted in the issue of a directive to ship-owners by the Department of Shipping and Transport on the subject of the carriage of benzene and petroleum products containing benzene.

An investigation into a hazard from ethyl alcohol at a pharmaceutical works resulted in the development of a sampling method which recorded on a paper chart the exposure of a workman during his working day. The method can be modified for a number of other industrial contaminants and, unlike most other industrial hygiene sampling techniques, allows the determination of instantaneous values of contaminant to which a workman is exposed.

Parasitology

Assessment of the results of long-term study of the epidemiology and control of filariasis in New Guinea, undertaken in collaboration with the Department of Public Health of Papua and New Guinea, is proceeding. A report on 'Recommendations on the Control of Bancroftian Filariasis in the Territory of Papua and New Guinea' was submitted to the Medical Research Advisory Committee of the Territory.

Alimentary parasite surveys were continued in an effort to obtain a better understanding of the incidence and distribution of such infestation and an assessment of methodology. Five hundred and eighty-nine specimens, obtained from an infants' home and an Aboriginal children's home in New South Wales, and from native people in North Australia and New Guinea, were examined. A parasite survey, arranged at the request of the Director of Medical Services, Fiji, is proceeding.

Preventive and Social Medicine

A pilot-study of twenty persons with inherited forms of severe visual handicap yielded strong indications for further study of associated individual and social problems. This is now under way. The aim of this study is to define problems relevant to blindness in New South Wales and to recommend methods of assistance and guidance for the individual.

A study of the employment problems of 166 asthmatics was undertaken to determine whether agencies providing vocational guidance and employment to asthmatics were meeting the needs of asthmatics in this area. This study was conducted in collaboration with the Asthma Welfare Society of New South Wales and a paper has been submitted for publication.

The long-term investigation of the efficacy of BCG vaccination in the prevention of leprosy, which has been conducted in an area of high leprosy incidence at Karamui, in New Guinea, in collaboration with the Papua-New Guinea Department of Health, was extended for an additional year because of the considerable bearing its results could have on the final evaluation of BCG as a prophylactic. In a further visit to the area, data relating to the neurological assessment of all cases were collected and a study was made of the social structure covering the whole local population of 5,000, for use in the development of indices of exposure to infection.



Preparing to examine villagers during the Karamui leprosy project, Territory of Papua and New Guinea

[*Photograph by Dept. Medical Illustrations, University of New South Wales*]

An evaluated control programme using a depot sulphone, which was enthusiastically accepted by the people, was also commenced.

From the results to date, BCG appears to have protective efficacy of forty-six per cent where the vaccine is given prior to invasion by the leprosy bacillus. In situations where the disease is endemic and a large proportion of the population can be assumed to have been exposed to infection and probably invaded by the organism prior to vaccination, BCG offers no protection. This result is in accord with experimental studies in mice, and may explain the widely conflicting results reported from similar trials in Uganda and Burma. The phenomenon of self-healing in leprosy and the importance of lepromatous cases as sources of infection were conclusively confirmed.

Radiation Biology

Further work was done in the cytogenetic characterisation of experimental leukaemia. Within the confines imposed by the morphology of mouse chromosomes, chromosome analysis was made of forty-three radiation induced leukaemias. Cytogenetic variability of the leukaemias appears to lie abundantly outside the normal variation of non-malignant tissues. Inspection of the aberrations of chromosome number and form seen within the thymus and the distribution of distinctive clones and classes within aggregated tissues is consistent with an origin of the radiation induced neoplasm within the thymus.

Twenty patients treated by radiophosphorous for polycythaemia were examined by one or more cytogenetic means. It was found that the level of chromosome breakage was comparable with that found in two overseas studies but the number of stable and unstable aberrations were not as extensive as previously reported. A pilot study has been commenced of the aberrations induced in the bone marrow of some patients undergoing radiotherapy in order to correlate cytogenetic aberrations with radiation dosage. It is anticipated that the correlation should add to the information required to enable assessment of absorbed dose in radiation accidents.

Tropical Medicine

Very good progress was made in the continuing health study of an Aboriginal community in New South Wales. The good progress being made is attributed to the careful individual contact employed in the method of approach. Among these people economic hardship is related to the low educational level of most workers, the large number of children in some households and the apparent lack of motivation of many to spend available funds in the way which middle class people consider to be proper.

The survey made of their children shows that they have had their major medical problems attended to. At the same time the majority of the children suffer from complaints which may be 'minor' in the strictly medical sense but which are major social handicaps, being a barrier to social integration and equal opportunity at school and in employment. Others have less obvious 'minor' disabilities which produce persistently suboptimal health and indicate insufficient use of the medical services which are available. Psychological problems are evident among the older children. It is planned to explore ways and means by which the health status of these people can be improved by the use of a public health nurse working as a member of the study team.

Institute of Child Health

The Institute of Child Health moved into its new building in November 1967 and this event and the facilities now available have given impetus to many of the Institute's activities. The new building was made possible by a grant from the Australian Universities Commission to the University of Sydney, the funds being provided partly by the Commonwealth and partly by the State of New South Wales. Much of the equipment was provided by the Commonwealth.

The building has two floors, each of 6,000 sq ft. On the ground floor there are three clinical rooms, two rooms for social workers, five rooms for the child psychiatry section, a common room for secretarial staff, a large laboratory with two adjoining smaller laboratories, a balance room and an area yet to be completed as additional laboratories. On the first floor, there are offices for the medical staff, a seminar room for medical students, a meeting room for the medical and technical staff, a laboratory and a conference room.

The Institute is located partly in the School of Public Health and Tropical Medicine, in the grounds of the University of Sydney, and partly at the Royal Alexandra Hospital for Children. The staff of the Institute conduct research and also co-operate in both undergraduate and post-graduate teaching. An important part of the duties of the staff is as advisers to the Commonwealth on matters relating to child health.

Scope of Work

The work of the Institute is developing in three general directions: an increasing involvement in national and international advisory services related to child health and disease; a demonstration of the ways in which psychological adjustment to modern life can be assisted both individually by the medical profession and generally by society; and attention to problems of certain specific illnesses in childhood.

Fruitful international co-operation was a feature of the year's activities. Three Indonesian paediatricians worked at the Institute during the year. Special programmes were arranged for Dr Moeljono Trastotenojo, Head of the Department of Paediatrics of the University of Diponegoro, Semarang, Central Java, and for Dr Sutedjo, Head of the Department of Paediatrics of the University of Indonesia, Djakarta, and a member of the Advisory Board of the International Paediatric Association. Also from Indonesia, Dr Jan Mangiwa of the Department of Paediatrics, Macassar, Sulawesi, joined the staff as a Colombo Plan Fellow for both general paediatric training and special training in gastroenterology.

As in the previous year special advice was given, on request, to the Administration of Nauru and arrangements have been made for a member of the Institute staff to carry out a survey of genetic problems in Nauru.

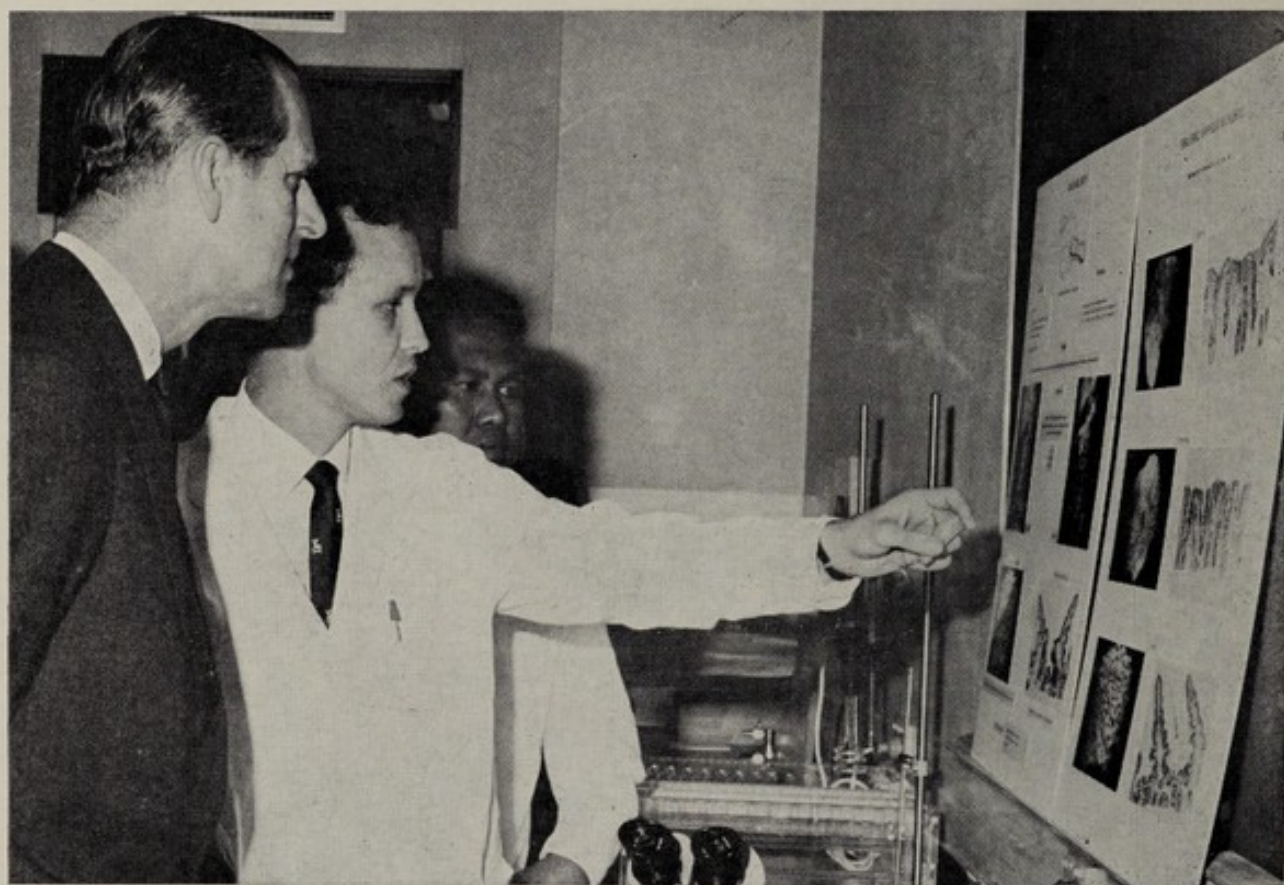
At the request of the World Health Organisation, Dr G. M. Alino, from the Philippines, spent two months at the Institute while making a special study of child health services in New South Wales.

Advisory Services

Dr F. W. Clements undertook an assignment for the World Health Organisation in the Philippines on a project for the control of endemic goitre by the use of iodized oil. He also went to India as a short term consultant to WHO during a seminar on the use of iodized salt in the prevention of goitre.

The Director has continued as Chairman of the Child Welfare Advisory Council of New South Wales. This is a statutory body which advises the State Government on Child Welfare matters. The Council has prepared a detailed report on the problems of hooliganism in New South Wales for submission to the relevant Ministries in the State.

During the year consultations were held with a number of hospital authorities on the planning of accommodation for children. Expert opinion was given in relation to the treatment of juvenile offenders and discussions continued with the New South Wales Child Welfare Department on the care of children in institutions.



*His Royal Highness the Duke of Edinburgh
visits the Institute of Child Health, Sydney*

Educational Activities

Since 1961 a number of booklets have been produced on paediatric subjects. These have been set up and printed by the University of Sydney. They were originally planned mainly as aids in the medical education of undergraduate students in the University. 'A Students' Guide to Dosage in Paediatrics', 'A Students' Guide to Infant Feeding', 'A Students' Guide to Fluid and Electrolyte Therapy', 'A Students' Guide to Fibrocystic Disease of the Pancreas' and 'A Students' Guide to Some Immunising Procedures' fall into this category.

Two books, however, have been recently produced mainly to assist parents of patients attending the Institute to understand some of the complexities and problems which arise in dealing with their children's illness. 'Fibrocystic Disease of the Pancreas: Some answers to Parents' Questions' and 'A Guide for Parents Whose Children have Thalassaemia' have been written in dialogue-form in the hope that a simple manual may assist understanding among affected families. The Cystic Fibrosis Association of New South Wales has been distributing the relevant booklets to medical practitioners on request. The publication on Thalassaemia is being issued in Greek, Italian and English versions.

Child Psychiatry

Active development of the Child Psychiatry Section has been made possible by the improved facilities available in the new building. In addition to the teaching of child psychiatry to undergraduates by lecture, seminar and case discussion, lectures and demonstrations have been given to candidates for the Diploma in Psychological Medicine and candidates for the entrance examination to the Australian and New Zealand College of Psychiatry and to students of the Department of Social Welfare. Formal training of psychiatrists wishing to specialise in child psychiatry has been developed.

Research

A gastroenterology laboratory has been established within the Institute and equipped initially for morphological studies and enzyme assay of small bowel mucosa. The main interests of the unit are morphology of small bowel mucosa in childhood, the diagnosis and the long-term follow-up of children with coeliac disease and the investigation of sugar intolerance in childhood and children who have had infective gastroenteritis. Sugar intolerance is being studied in the Laboratory by performing enzyme assay of mucosal specimens and clinically by an evaluation of barium-lactose meals as an aid to diagnosis. Ten children with coeliac disease are being followed clinically with particular reference to the effect of a gluten free diet on their serum immunoglobulins. Five children who have had gastroenteritis are also being followed-up to assess the long-term effects on growth and development.

A metabolic laboratory has been established in the Institute to investigate disorders of carbohydrate and amino acid metabolism. The initial projects commenced include the investigation and long-term management of infants and children with inborn errors of metabolism such as phenylketonuria. Many such infants are now being diagnosed early in life by

routine screening surveys such as that performed by the New South Wales Bureau of Maternal and Infant Welfare. The projects are important because prophylactic care can prevent mental retardation in phenylketonuria and renal calculi in cystinuria. About sixty children are now attending the special metabolic clinic.

The long-term study of rheumatic fever and chorea, begun in 1952, has been continued. The main aims of this study are to determine the effectiveness of penicillin prophylaxis in preventing rheumatic recurrence and ultimate cardiac damage and to study the history of the disease in as large a group of Australian children as possible.

Since the beginning of the study, 284 children have received regular oral penicillin prophylaxis, but thirty-six have been lost from the group during sixteen years, including five who have died. More than seventy of those remaining in the study are now over twenty years of age and are still attending for assessment at regular intervals. In addition to the 284 patients receiving penicillin, a large number of other rheumatic patients are reviewed annually. A paper, entitled 'Tonsillectomy and Rheumatic Fever' was published in the Medical Journal of Australia on 16 December 1967. Six hundred and sixty patients were reviewed to ascertain the effects of tonsillectomy on the disease. It was concluded that the occurrence of rheumatic fever is not an indication for the removal of tonsils when prophylaxis is given.

The Institute has also continued its study of chronic urinary tract infections in childhood. A simplified technique for bacterial colony counts as part of the routine urine culture introduced last year by the Bacteriology Department of the Royal Alexandra Hospital for Children, has been of great value in this study.

The number of children now included in the Institute's long-term study of cretinism is fifteen. In this study the main criteria of progress are measurements of height, span, weight and developmental quotient. An initial assessment of osseous age, cholesterol and protein bound iodine concentration of the serum is made. The latter test is repeated at twelve-monthly intervals, or more often if indicated by the clinical condition.

Active co-operation with the Australian Cancer Society and the Tumour Study Group of the Royal Alexandra Hospital for Children has continued. The Institute is the allocation centre for the treatment of patients with leukaemia in South Australia, Western Australia, Queensland and New South Wales.

Institute of Anatomy

The Nutrition Section of the Institute of Anatomy carried out during the year an interesting study of metabolic rates in New Guinea.

At the request of the South Pacific Commission, and with the co-operation of the Dean of the Papuan Medical College, Port Moresby, and the Baptist Missionaries at Baiyer River, near Mt Hagen, a study was made of the metabolic rates, under standard fasting, resting and exercising conditions, of healthy indigenous medical students who were consuming European-type diets compared with the rates of healthy New Guinea Highlanders whose diets were composed predominantly of sweet potatoes.

Contrary to the expectations which prompted the study, it was found that the fasting, resting metabolic rates, and the extra metabolism needed to perform a standard exercise, were considerably higher in the Highlanders than in the Port Moresby students.

A parallel study of diets and nitrogen balances carried out by Miss Margaret Corden in collaboration with Professor H. A. P. C. Oomen, of Amsterdam, confirmed a low protein consumption by the Highlanders, whose diet is based on sweet potatoes, compared with the students, whose diets were based on cereals plus meat. Final conclusions from this study must await the completion of the analysis of the collected samples.

It is, however, considered likely that the results of the metabolic study were due to the difference in protein consumption by the two groups.

Museum

Work in the Museum Section of the Institute on the display dealing with the brain and nervous system is continuing. A revision of the display dealing with the reproduction of life has begun.

Experimental work is being carried out on an exhibit designed to portray a concept of health and disease based on an analysis of basic needs of people and the ways in which these needs are satisfied.

All the Australian material of the ethnographic collections at present on hand has been catalogued and accessioned. New material is constantly being added through the activities of the Australian Institute of Aboriginal Studies. Work has begun on similar records for the Melanesian collections.

National Health and Medical Research Council

Two sessions of the National Health and Medical Research Council were held in 1967-68. The Sixty-fifth Session was held in Canberra on 27 October 1967 and the Sixty-sixth Session in Melbourne on 31 May 1968. Committees and sub-committees reporting to the Council held over ninety meetings. The membership of these committees and sub-committees includes recognised authorities in all fields of medicine and allied disciplines.

Medical Research

The Council continued to make important advances towards establishing a planned programme for financing the future medical research needs of Australia.

During the year some three hundred applications were received from research workers seeking project and scholarship support. Grants totalling over \$1,200,000 were divided between 140 research projects. This amount was thirty-two per cent more than the total approved in 1966-67. As the number and scope of research programmes expands there is a developing need for more trained workers in the fields of medicine and dentistry. The Council has recognised this need and, through its post-graduate research training scheme, is endeavouring to keep pace with the expansion in particular areas of research. At present thirty-five scholarships are held by medical and dental graduates engaged in research training. Each scholarship has a normal tenure of three years. An indication of the importance which the Council places on the scheme was the formation during the year of a standing committee, comprised mainly of experts in the field of medical education, to advise the Council on suitable applicants to receive the scholarships.

Mosquito Control

Recommendations have been made concerning the eradication of the *Aedes aegypti* mosquito in Australia. It is a potential vector of haemorrhagic fever, which is a problem in South-East Asia, and there is a risk of introduction of the disease into this country. The Council has recommended, as an objective, that *Aedes aegypti* be eradicated and that a study should be made of a programme to achieve this. This study would cover the practicability of an eradication campaign and the methods, costs and co-ordination involved.

Antibiotics in Stock Feeds

A special ad hoc committee has been formed to consider the question of antibiotics commonly used as additives to feed for livestock. The additives are used to promote growth in the animals. The Council has produced a list of antibiotics approved for this purpose and has specified the amounts and concentrations recommended. A list of antibiotics not approved as additives for livestock has also been prepared.

Codex Alimentarius

Work on the preparation of food standards is to be integrated more closely with that of the FAO/WHO Codex Alimentarius Commission. Acceptance of these standards by Australia requires enabling legislation in the various States. The Council has recommended that the acceptance procedure for standards be simplified by arranging representation from all States in the committee work.

Dental Health

The Council has recommended the intake of fluoride during pregnancy, since it considers the effectiveness of fluoride in the reduction of dental caries is now a proven fact and that there is no evidence that the ingestion of fluoride in normal amounts is harmful either to an expectant mother or to the foetus. However, the combination of fluoride with vitamin and mineral supplements can lead to uncontrolled dosage of certain of the ingredients and the Council believes that the use of such combined preparations should be discouraged.

Diabetes Surveys

The results of surveys conducted on the incidence of diabetes mellitus in country towns in Queensland and New South Wales have been studied by the Council, which has concluded that the organisation, planning and methods used in these surveys provides a useful model for future work on comparable diseases.

Epilepsy

The Council has pointed out the need for health education of the public in order to change attitudes towards persons suffering from epilepsy. Such people may be of normal, or above normal, intelligence and capacity, and even those with some handicap can do useful work. The report of the 65th Session of the Council contains a report on the management and care of patients with epilepsy. The Council has drawn the attention of State authorities, rehabilitation services, the medical profession, employers, insurance underwriters and lay organisations to this problem.

Food Additives and Food Standards

The Council has undertaken further review of permissible additives to foods and a further list of recommendations has been made. Modifications have been made to the suggested allowable tolerances for residues of agricultural chemicals in foodstuffs. Changes have been made in the food standards for fish and fish products and for imitation cream and ice cream. New standards have been recommended for liquid egg, for edible fats and oils and for the sale, service, storage, display and transportation of frozen foods.

Malaria

Although malaria is no longer endemic in Australia, there is a continuing danger that infections acquired abroad may become established in the Northern Territory and Queensland, parts of which are receptive to the foci of infection. The Council has set out detailed recommendations covering suggested procedure for treating malaria sufferers in both southern and northern parts of Australia.

Measles

Difficulties have arisen in various countries in the use of measles vaccine for mass campaigns amongst children. Inactivated vaccines were used, but it was found that the immunity they gave was of short duration and that, in some children, they produced severe reactions. This often occurred when an immunised child contracted natural measles. The Council has investigated this problem and has recommended that live attenuated vaccine should be used in Australia, instead of inactivated vaccine. It is considered that measles vaccine should be given as a routine to young Aboriginal children, amongst whom a serious epidemic of measles was successfully controlled in the Northern Territory in 1966 following mass administration of the vaccine.

Medical Statistics

A report has been prepared on the use of computers in hospital management. There is wide scope for advance in the medical use of computers and they are already being employed to analyse data collected on cervical cytology. Further work was done in the field of hospital morbidity statistics and the Council produced a basic document for hospital statistics recording, an outline of hospital morbidity statistics available in Australia and recommendations on possibilities and priorities for further development and use of hospital medical records staff and morbidity statistics.

Mental Health

The glossary of mental disorders produced for use with Section Five of the Eighth Revision of the International Classification of Diseases has been reviewed and amended and an index of mental disorders has been produced for use in the coding of such diseases until such time as the WHO Index becomes available.

Nurses' Training

The Council has pointed out the need for post-graduate training of nurses in the basic principles of research and survey methods, and that such training should be incorporated in the appropriate courses. Training of nurses in psychiatric wards was considered to be of limited value unless preliminary theoretical training in psychology and the study of human relationships had been given.

Pesticides

The Council has considered the dangers involved in the handling of pesticides. Draft uniform regulations have been prepared as a guide for the statutory control of the hazards arising from the commercial use of these substances.

Radiation Health

The Council has prepared a code of practice for the control and safe handling of sealed radioactive sources used in industrial radiography. A comprehensive set of notes has been prepared indicating recommended medical procedure for radiation accidents and radioactive contamination.

These notes are a guide for personnel in industry who may be called on to handle persons or environments contaminated with radioactive materials and they give detailed instructions for first aid and the organisation of decontamination procedures. A code of practice on radiation hygiene in dentistry has also been produced for distribution to the dental profession and university dental schools.

Smallpox Vaccination

A detailed recommendation was made setting out a list of disorders which the Council considers are contraindications to vaccination against smallpox. These include pregnancy and a number of skin and systemic conditions. The Council also prepared a list of recommended precautions in giving smallpox vaccinations.

Smoking Attitudes in Australia

The first phase of a survey of the attitudes of Australian children towards smoking is in progress. A preliminary report on the survey was considered at the conference of Commonwealth and State Ministers for Health in June 1968. The survey is designed to show how children acquire the habit of smoking.

Transplantation of Human Organs

An ad hoc committee has been set up to consider a wide range of problems raised by organ transplantation and renal dialysis. The committee includes in its membership representatives of the various specialities involved and representatives of hospital administration from three States. Through the work of this committee the Council hopes to be able to produce a plan for rationalisation of the facilities for transplantation and to make recommendations which will clarify the complex medico-legal difficulties.

Typhoid Vaccine

Typhoid vaccine has long been unpopular with Australians who have had courses of it in preparation for overseas travel and this has been because feverish reactions have been common. The Council has sought to minimise this by recommending the use of a modified vaccine which will give protection against typhoid fever but which should not produce reactions. This can be achieved by removing the paratyphoid A and B components from the vaccine. A WHO report indicates that these components do not give any added protection.

Veterinary Public Health

The Council examined the implications of the possible administration of radioactive isotopes to animals which are subsequently slaughtered for human consumption. It has recommended that an expert committee be available in each State to ensure that there is no risk to human health by consumption of meat from such animals.

World Health Organisation

The 21st World Health Assembly was held at Geneva from 6 to 24 May 1968 and, during the Assembly, the Organisation celebrated its Twentieth Anniversary. At the Assembly South Yemen was admitted to membership and Bahrain to associate membership. One hundred and twenty-one member Nations and two Associate Member Nations were represented out of a total membership of 127 and an associate membership of four. The retiring Director-General of WHO, Dr M. G. Candau, was re-elected at the Assembly for a further five-year term.

The Australian Delegation was led by the Director-General of Health. At a meeting of the Programme and Budget Committee the Director-General was appointed chairman of a special sub-committee on international quarantine. The Director-General, who is a serving member of the Executive Board, was also elected to the Standing Committee on Administration and Finance at the 42nd Session of the Executive Board, which was held immediately after the Assembly.

Budget

An effective working budget for 1969 was accepted unanimously at the level of \$U.S.60,749,800. This represents an increase of 8.1 per cent over the 1967 level and is within the previously agreed order of magnitude.



A field public health clinic in Africa

It was agreed to plan for a 9 per cent increase in expenditure in 1970. This will give a budget figure of about \$U.S.66,000,000. The health needs in many countries call for a tremendous expenditure of effort and funds. The role of WHO is, however, primarily to advise, co-ordinate and promote health measures, rather than serve as a channel for funds.

International Sanitary Regulations

The Committee on International Quarantine, at its meeting in December 1967, made a detailed review of the International Sanitary Regulations. It was proposed that these Regulations should be revised and be known as International Health Regulations. This was the first review for fifteen years and in that time many changes have occurred in the speed and volume of international traffic as well as in the knowledge and control of disease. In view of the details and volume of the Committee's report, a special sub-committee on International Quarantine was set up and as a result of its deliberations, a resolution was adopted recommending the use of an approved method of vapour disinfection of aircraft as from 31 December 1970. It was not possible at the Assembly to deal with all the proposed amendments to the Regulations and Member States have been asked to send their comments to WHO by 31 October 1968, so that the matter can be taken up again at the 22nd World Health Assembly.

Malaria Eradication

The campaign to eradicate malaria is the largest and most widespread activity of the World Health Organisation. In 1967-68 expenditure of \$U.S.16,000,000 was directed towards the eradication of malaria and, in addition, many countries devoted much effort and money to their national campaigns against malaria. WHO has decided to set up four high level consultant teams to study the problems and advise countries concerned on the best methods of carrying out eradication campaigns. One of the tasks of the consultant teams will be to bring home to affected countries the socio-economic advantages of malaria eradication. The Director of Tropical Medicine of the School of Public Health and Tropical Medicine, Sydney, Professor R. H. Black, has been appointed malariologist of one of the teams to study the problems. Professor Black spent three months with the Malaria Eradication Division of WHO at Geneva early in 1968, during which he compiled a handbook on the epidemiology of malaria.

Smallpox Eradication

Smallpox is still endemic in South East Asia, India and parts of Africa and South America. The ten-year eradication campaign, started in 1967, is considered by WHO to be capable of completely eradicating this disease which is not dependent on an intermediate host for transmission amongst humans. The United States has announced the formation of a reserve of twenty million doses of freeze dried vaccine for emergency use against smallpox.

Quality Control of Drugs

The quality control of drugs had been discussed at the 20th World Health Assembly, and particularly the question of controls in international commerce. A proposal to draft international regulations was considered at the 21st Assembly but it was decided to formulate instead, suitable requirements for good manufacturing practice; to consider a possible certification scheme for drugs in international commerce; and to assist in the development of central control laboratories. The advertising of pharmaceutical preparations was also discussed and principles were enumerated requiring adherence to truth, a statement of toxic effects, designation, and dosage, and prohibition of advertising of prescription drugs to the public. Implementation of these principles is to be left to the individual countries.

Surveillance of Communicable Diseases

In conjunction with the 21st World Health Assembly a technical discussion was held on the question of national and international surveillance of communicable diseases. It was considered there are three main features of surveillance:—the systematic collection of pertinent data; the orderly consolidation and evaluation of data; and the prompt dissemination of the results to those who need to know, particularly those who are in a position to take action.

WHO has a distinct role in the surveillance of communicable disease. Initially this role was limited to quarantinable diseases. In recent years surveillance has been extended to several other diseases of international importance. These include influenza, endemic treponematoses, malaria, tuberculosis, dengue, haemorrhagic fever, salmonellosis and wildlife rabies. Surveillance is also applied to vector populations with regard to their distribution, density, resistance to insecticides and ecological factors. Perhaps the most important aspect of the future role of WHO in surveillance is to help governments in formulating a rational approach to better utilisation of existing facilities and resources.

The Regional Committee for the Western Pacific Region

The 18th Session of the Regional Committee for the Western Pacific Region of WHO was held in Taiwan from 13 to 19 September 1967 and the Australian Delegation was led by Dr H. E. Downes.

The work of WHO in the Western Pacific Region includes a number of important programmes. The malaria eradication programme now extends to fifty million people in malarious areas, and only 3.5 million are still unprotected in the Western Pacific Region. Campaigns against tuberculosis are now being carried out in almost every country or territory in the region. Approximately four million BCG vaccinations are given each year under WHO/UNICEF programmes. However, this coverage is still only twenty to thirty per cent of the total population.

Many countries in the Region are now operating campaigns against poliomyelitis. Other fields of endeavour include health education, nursing training, environmental health protection by the provision of safe water supplies and adequate sanitation systems, maternal and child health measures and studies on nutrition.

Commonwealth Grants

The Commonwealth Government, through the Department of Health, made grants totalling \$15.8 million in 1967-68 to State Governments and non-profit making organisations to subsidise various schemes for the promotion and maintenance of certain health services for the community.

Blood Transfusion Service

The Australian Red Cross Society operates a nation-wide blood transfusion service from blood banks situated in each capital city. Blood transfusions and other treatments are provided free of charge. Since 1954 the Commonwealth has made an annual grant to each State Government equal to 30 per cent of the operating costs of the Blood Transfusion Service incurred by the Society in each State, provided that 60 per cent of the operating costs are paid by the State concerned. This has left 10 per cent of the operating costs to be met by the Society. Grants to the States for 1967-68 amounted to \$631,996. Tables 65 and 66 on page 125 show the grants made since 1953-54.

The Society also operates blood transfusion services in the Australian Capital Territory and Northern Territory and the Commonwealth makes grants to the Society equal to 90 per cent of the operating expenses. Grants during 1967-68 were \$4,180 for the Australian Capital Territory and \$19,389 for the Northern Territory. The figure for the Northern Territory represents an increase of \$17,000 compared with the previous year and reflects the greatly expanded service being provided from the new Red Cross headquarters in the Territory.

Royal Flying Doctor Service

An important development in recent years in the services provided by the Royal Flying Doctor Service to people living in sparsely settled areas has been the introduction of regular field clinics. The number of consultations conducted by flying doctors, dentists and eye specialists at these clinics now exceeds radio consultations.

During the three-year period to 30 June 1968, the Commonwealth provided financial assistance to the Service in the form of annual subsidies for operational expenditure amounting to \$450,000 and capital grants on a \$1 for \$1 basis of \$390,000.

Free Milk for School Children

Commonwealth grants to the States under the States Grants (Milk for School Children) Act during 1967-68 amounted to \$9,649,802 and a further \$181,415 was paid for the provision of milk in the Northern Territory and the Australian Capital Territory.

Under the Free Milk Scheme one-third of a pint of milk is distributed each school day to some 1,819,000 school children under thirteen years of age.

Expenditure by the Commonwealth on the Free Milk Scheme since its commencement is shown in Table 69 on page 126. These figures do not include amounts reimbursed to the States for half the cost of capital, administrative and incidental expenditure, which was \$29,937 for 1967-68.

Mental Health Institutions

Following the introduction of Commonwealth capital grants for mental health institutions, annual expenditure by the States on the provision of buildings and equipment for such institutions has risen from \$4,639,000 in 1955-56 to \$12,728,000 in 1967-68. Under the States Grants (Mental Health Institutions) Act the Commonwealth pays one-third of the capital expenditure incurred by the States for and on approved institutions.

Details of the total expenditure each year since the inception of the capital grants scheme in 1955-56, together with amounts contributed by the Commonwealth and the States, are shown in Table 71 on page 127.

Home Nursing Subsidy Scheme

During 1967-68 subsidies totalling \$764,959 were paid to sixty-five home nursing organisations employing approximately 675 nurses. This was an increase in subsidies of \$101,000 compared with the previous year and reflects the steady growth which is occurring in both the number of organisations and the number of nurses engaged in this work. Details of the annual subsidies paid by the Commonwealth since the inception of the Scheme are given in Tables 67 and 68 on page 126.

To be eligible for subsidy, an organisation must provide a home nursing service, be non-profit making, employ registered nurses and receive assistance from a State Government or a local governing body established under a State Act.

Subsidy payments are based on the number of nurses employed over and above the number employed during September 1956, in the case of existing organisations, and on the total number of registered nurses employed by organisations formed after that date.

Lady Gowrie Child Centres

The Commonwealth subsidises the activities of the Australian Pre-School Association, which administers the Lady Gowrie Centres, and in 1967-68 the grant was \$120,000. This was divided equally among the six Centres. In addition, a grant of \$14,800 was made to the Australian Pre-School Association.

The Commonwealth established a Lady Gowrie Child Centre in each State capital in 1940 and made provision towards the cost of their operation. The Centres carry out specialised demonstrations and research work in the problems of physical growth, nutrition and development and test and demonstrate methods for the care and instruction of the young child. In more recent years the activities have included the mental development of children.



Children receive expert advice at a National Fitness tennis coaching camp at Howman's Gap, Victoria

National Fitness

The stimulus of the increase in Commonwealth assistance to the National Fitness Movement in the past two years continues to have a significant influence on the range and extent of activities undertaken in the community by State National Fitness Councils.

All States have taken advantage of the Commonwealth's offer of capital assistance on the basis of \$1 Commonwealth to \$2 State for national fitness capital projects. National fitness camps have been enlarged to provide additional accommodation and, in Victoria and Tasmania, new camps have been purchased to cater for the increased demand for a wider variety of activities. These increased facilities have also been widely used by youth and sporting groups in order to operate their own training programmes.

There has been a general increase in the number of staff employed by State Councils to meet the demand for professional advice in the field of community recreation. In Queensland, numerous regional national fitness officers have been appointed following the offer of financial support for such officers by local government authorities.

There has been emphasis in each State's programme on camping activities. Most States are catering for the growing interest in outdoor activities such as bush walking, rock climbing and canoeing.

State Education Departments

The Commonwealth grant to State Education Departments during the year was \$34,000. Assistance was given for training of teachers in physical education and for publications, films and equipment. School camping has also been developed in most States as an integral part of the general education programme.

Universities

Grants totalling \$24,800 were made during the year to universities to assist in the training of specialist physical education teachers. Physical education departments of the universities concerned also provided physical recreation activities for the general student body. The Universities of Melbourne, Queensland, Adelaide and Western Australia each received \$4,200 and the Universities of Sydney and Tasmania each received \$4,000.

'Keeping Fit'

Following the offer of the AMP Society to provide financial assistance to enable the printing and distribution of the booklet 'Keeping Fit', 800,000 copies were distributed between August and December 1967. The booklet received wide acceptance throughout Australia and had the effect of stimulating a greater awareness of the need for fitness. Some State Councils have established permanent committees which are continuing to promote fitness activities in industry and in the community generally.

The Commonwealth Council for National Fitness is investigating the possibility of developing a broad national campaign which will aim at encouraging public participation in a wide variety of recreational activities.

Duke of Edinburgh's Award

The Duke of Edinburgh's Award Scheme was actively promoted in Australia by Award Committees in each State in association with the State National Fitness Councils. More than 5,000 young people are currently participating in the scheme within Australia through some 700 individual groups.

During May 1968, His Royal Highness, the Duke of Edinburgh, presented 121 gold awards to recipients in Sydney, Brisbane and Adelaide. The Award Scheme is being recognised by an increasing number of youth groups as a valuable aspect of their training programmes.



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Appendix 1 STATISTICS

Table 1 Departmental Expenditure 1963-64 to 1967-68

Year ended 30 June	1964	1965	1966	1967	1968
	\$'000	\$'000	\$'000	\$'000	\$'000
National Welfare Fund					
Hospital Benefits	56,216	58,791	60,743	67,398	74,750
Medical Benefits	24,848	35,277	41,282	43,841	46,431
Pharmaceutical Benefits	78,839	82,203	91,784	101,281	105,134
Pensioner Medical Service	9,531	9,320	13,365	14,351	16,116
Free Milk for School Children	7,775	8,059	8,493	9,021	9,831
Tuberculosis*	10,473	10,146	13,379	10,983	11,269
Miscellaneous	1,785	2,859	3,453	3,947	4,349
Total National Welfare Fund	189,467	206,655	232,500	250,821	267,881
Consolidated Revenue Fund					
Tuberculosis Capital Reimbursement	598	696	696	499	780
Administration	1,762	2,087	8,836†	10,677†	11,706†
Quarantine	908	1,078			
Health Services	4,943	4,817			
Subsidies and Grants	1,989	2,152	2,256	2,363	3,161
Northern Territory	2,732	3,136	3,682‡	4,420‡	5,102‡
Australian Capital Territory	1,451	1,916	2,388	3,291	3,805
Capital Works and Services	242	869	1,105	1,096	1,545
Total Consolidated Revenue Fund	14,625	16,751	18,962	22,346	26,099
Special Capital Grants to States for Mental Health Institutions	1,595	2,504	4,539	4,973	4,243
Total Expenditure	205,687	225,909	256,001	278,141	298,222

Apparent minor errors in totals are due to 'rounding off'.

*In addition to the amounts shown, allowances are paid by the Department of Social Services—see Table 35, page 114.

†Under the division of expenditure introduced by the Department of the Treasury, it is not now possible to derive separate figures for these three items.

‡Certain expenditure previously included in Administration is now included in this item.

Table 2 Hospital Benefits

Number of registered organisations, membership and coverage—1952-53 to 1967-68

As at 30 June	No. of registered organisations	Membership*	Estimated coverage	Percentage of population covered
		000's	000's	%
1953	139	1,500	3,413	39
1954	127	1,865	4,601	51
1955	128	2,111	5,121	56
1956	124	2,247	5,499	59
1957	122	2,373	5,878	61
1958	119	2,514	6,195	63
1959	116	2,749	6,774	68
1960	115	2,908	7,208	72
1961	115	3,044	7,500	72
1962	113	3,130	7,738	73
1963	110	3,176	7,895	73
1964	112	3,286	8,194	74
1965	111	3,407	8,732	77
1966	111	3,489	8,915	78
1967	109	3,657	9,342	80
1968	109	3,680	9,254†	77†

*As advised by the organisations.

†Decrease due to reassessment of coverage by a major organisation.

Table 3 **Hospital Benefits**

Number of registered organisations, membership and coverage—by States—
30 June 1968

State	No. of registered organisations	Membership*	Estimated coverage	Percentage of population covered
		000's	000's	%
New South Wales	32	1,449†	3,525†	79†
Victoria	42	1,092	2,926	88
Queensland	4	317	812	47
South Australia	13	411	997	84
Western Australia	9	293	699	78
Tasmania	9	118	295	77
Commonwealth	109	3,680	9,254	77

*As advised by the organisations.

†Membership and coverage in a major organisation reassessed.

Table 4 **Hospital Benefits**

Benefits paid to contributors by registered organisations—1952–53 to 1967–68

Year ended 30 June	No. of days fund benefit paid	Average daily benefit	No. of claims per 100 members	Average stay in hospital per claim
	000's	\$		days
1953	1,874	1.03	13.4	10.98
1954	3,413	1.40	19.9	10.17
1955	4,642	1.58	23.5	9.92
1956	4,808	1.81	20.8	10.60
1957	5,492	2.32	23.3	10.30
1958	6,215	2.62	25.6	9.96
1959	7,049	2.75	26.9	9.74
1960	8,937	2.68	29.4	10.81
1961	9,740	2.88	29.7	11.02
1962	10,341	3.17	30.9	10.78
1963	10,419	3.43	32.1	10.29
1964	9,576	4.40	30.7	9.39
1965	9,988	4.83	32.5	9.23
1966	10,252	5.40	32.8	9.05
1967	10,444	6.61	33.4	8.72
1968	10,572	7.46	34.1	8.47

Table 5 **Hospital Benefits**

Benefits paid to contributors by registered organisations—by States—1967–68

State	No. of days fund benefit paid	Average daily benefit	No. of claims per 100 members	Average stay in hospital per claim
	000's	\$		days
New South Wales	4,578	7.94	35.6	8.82
Victoria	2,593	7.93	27.2	8.85
Queensland	1,120	4.45	40.3	8.74
South Australia	1,138	6.53	38.3	7.41
Western Australia	811	8.32	39.4	7.10
Tasmania	332	8.60	35.2	8.18
Commonwealth	10,572	7.46	34.1	8.47

Table 6 **Hospital Benefits**

Amount of Commonwealth and fund benefits paid—1962-63 to 1967-68

Year ended 30 June					Commonwealth		Fund		
					Uninsured patients	Insured patients	Pensioner patients	Special account deficit	Total
					\$'000	\$'000	\$'000	\$'000	\$'000
1963	..	..	..	..	1,028	6,636	4,731	4,246	40,681*
1964	..	..	..	..	2,578	18,657	13,354	3,749	33,338
1965	..	..	..	..	2,614	19,221	13,585	3,576	38,995
1966	..	..	..	..	2,464	19,616	14,665	2,873	39,619
1967	..	..	..	..	2,376	19,740	18,731	3,784	44,631
1968	..	..	..	..	2,298	19,807	23,665	4,494	50,264
									78,903
									2,879
									81,782

Apparent minor errors in totals are due to 'rounding off'.

*Includes Commonwealth ordinary benefit of \$10,953,000 and additional benefit of \$13,088,000.

Table 7 **Hospital Benefits**

Amount of Commonwealth and fund benefits paid—by States—1967-68

State					Commonwealth		Fund		
					Uninsured patients	Insured patients	Pensioner patients	Special account deficits	Total
					\$'000	\$'000	\$'000	\$'000	\$'000
New South Wales	..	..	..	..	620	8,477	8,871	2,600	20,568
Victoria	..	..	..	..	405	4,872	5,272	1,002	11,551
Queensland	..	..	..	..	879	2,176	4,259	213	7,527
South Australia	..	..	..	..	103	1,998	1,969	367	4,437
Western Australia	..	..	..	..	153	1,620	2,316	287	4,376
Tasmania	..	..	..	..	47	664	783	24	1,518
Australian Capital Territory	..	..	..	..	12	†	156	..	168
Northern Territory	..	..	..	..	80	†	40	..	120
Overseas	..	..	..	..	*	†	..	..	†
Commonwealth	..	..	..	..	2,298	19,807	23,665	4,494	50,264
									78,903
									2,879
									81,782

Apparent minor errors in totals are due to 'rounding off'.

†A.C.T. included with N.S.W., N.T. with S.A., Overseas with State in which contributor is insured.

*Commonwealth payment to uninsured patients overseas was \$6.40.

Table 8 **Hospital Benefits**

Amount of Commonwealth nursing home benefits paid—1962-63 to 1967-68

Year ended 30 June					Public nursing homes	Private nursing homes	Total
					\$'000	\$'000	\$'000
1963*	..	..	..	..	2,513	4,133	6,646
1964	..	..	..	..	6,503	11,377	17,880
1965	..	..	..	..	6,773	13,023	19,796
1966	..	..	..	..	6,970	14,253	21,223
1967	..	..	..	..	7,249	15,518	22,767
1968	..	..	..	..	7,694	16,792	24,486

Apparent minor errors in totals are due to 'rounding off'.

*Six months 1/1/63 to 30/6/63.

Table 9 **Hospital Benefits**

Amount of Commonwealth nursing home benefit paid—by States—1967–68

State	Public nursing homes	Private nursing homes	Total
	\$'000	\$'000	\$'000
New South Wales	1,773	8,616	10,388
Victoria	2,446	2,676	5,122
Queensland	1,819	1,933	3,752
South Australia	452	1,750	2,202
Western Australia	855	1,367	2,222
Tasmania	349	450	800
Commonwealth	7,694	16,792	24,486

Apparent minor errors in totals are due to 'rounding off'.

Table 10 **Medical Benefits**

Number of registered organisations, membership and coverage—1953–54 to 1967–68

As at 30 June	No. of registered organisations	Membership*	Estimated coverage	Percentage of population covered
		000's	000's	%
1954	79	1,358	3,502	39
1955	80	1,666	4,154	45
1956	82	1,901	4,806	51
1957	81	2,229	5,715	60
1958	81	2,422	6,148	63
1959	82	2,667	6,713	67
1960	83	2,908	7,311	72
1961	83	2,850†	7,173†	68†
1962	82	2,846	7,275	68
1963	78	2,952	7,686	71
1964	81	3,095	8,058	73
1965	80	3,217	8,462	75
1966	80	3,313	8,679	76
1967	78	3,418	8,846	76
1968	78	3,456	8,817†	74

*As advised by the organisations.

†Variations from previous year result from revision of membership figures in one of the major organisations.

Table 11 **Medical Benefits**

Number of registered organisations, membership and coverage—by States—30 June 1968

State	No. of registered organisations	Membership*	Estimated coverage	Percentage of population covered
		000's	000's	%
New South Wales	28	1,350	3,317	74
Victoria	19	1,010	2,750	83
Queensland	6	316	822	48
South Australia	8	381	952	80
Western Australia	8	284	687	76
Tasmania	9	115	289	76
Commonwealth	78	3,456	8,817	74

*As advised by the organisations.

Table 12 Medical Benefits

Medical services received by contributors to registered organisations—fee-for-service only—1953-54 to 1967-68

Year ended 30 June					No. of services received	Percentage of G.P. to Total	Average No. of services per contributor	Average No. of services per person covered	Average cost per service
					000's	%			\$
1954	..	..	..	..	3,284	74	3.4	1.3	2.85
1955	..	..	..	..	9,453	70	6.2	2.5	2.91
1956	..	..	..	..	12,259	71	6.8	2.7	2.91
1957	..	..	..	..	13,668	75	6.6	2.6	3.10
1958	..	..	..	..	15,582	75	6.7	2.6	3.24
1959	..	..	..	..	16,819	75	6.5	2.5	3.28
1960	..	..	..	..	19,625	75	7.1	2.8	3.30
1961	..	..	..	..	20,123	73	7.3	2.8	3.56
1962	..	..	..	..	21,669	72	7.7	3.0	3.64
1963	..	..	..	..	23,431	72	8.0	3.1	3.69
1964	..	..	..	..	24,308	71	7.8	3.1	3.85
1965	..	..	..	..	25,847	70	8.3	3.2	4.02
1966	..	..	..	..	28,210	69	8.7	3.3	4.20
1967	..	..	..	..	29,269	68	8.7	3.4	4.48
1968	..	..	..	..	31,991	63	9.4	3.7	4.67

Table 13 Medical Benefits

Medical services received by contributors to registered organisations—fee-for-service only—by States—1967-68

State					No. of services received	Percentage of G.P. to Total	Average No. of services per contributor	Average No. of services per persons covered	Average cost per service
					000's	%			\$
New South Wales	..	..	..	..	12,527	62	9.2	3.7	5.04
Victoria	..	..	..	..	8,602	65	8.8	3.2	4.63
Queensland	..	..	..	..	3,382	64	10.6	4.1	4.23
South Australia	..	..	..	..	3,923	62	10.6	4.2	4.30
Western Australia	..	..	..	..	2,595	61	9.5	3.8	4.18
Tasmania	..	..	..	..	962	55	8.8	3.5	4.49
Commonwealth	..	..	..	..	31,991	63	9.4	3.7	4.67

Table 14

Medical Benefits

Cost of medical services to contributors to registered organisations—1953–54 to 1967–68

Year ended 30 June					Total cost of services (fee-for-service and contract)	Percentage of total cost met by—(fee-for-service only)		
						Fund	Commonwealth	Contributor
					\$'000	%	%	%
1954	..	..	..	..	9,112	31.7	31.4	36.9
1955	..	..	..	..	27,169	33.9	30.9	35.2
1956	..	..	..	..	35,276	35.0	30.6	34.4
1957	..	..	..	..	42,003	34.1	29.3	36.6
1958	..	..	..	..	49,625	33.9	28.3	37.8
1959	..	..	..	..	54,619	34.4	28.5	37.1
1960	..	..	..	..	64,203	35.4	28.2	36.4
1961	..	..	..	..	71,242	36.0	27.4	36.6
1962	..	..	..	..	78,499	36.9	27.0	36.1
1963	..	..	..	..	86,213	37.1	26.6	36.3
1964	..	..	..	..	93,313	36.8	25.9	37.3
1965	..	..	..	..	104,624	35.2	32.9	31.9
1966	..	..	..	..	119,021	35.7	33.9	30.4
1967	..	..	..	..	131,770	35.5	32.2	32.3
1968	..	..	..	..	141,982	35.4	32.0	32.6

Table 15

Medical Benefits

Cost of medical services to contributors to registered organisations—by States—1967–68

State					Total cost of services (fee-for-service and contract)	Percentage of total cost met by— (fee-for-service only)		
						Fund	Commonwealth	Contributor
					\$'000	%	%	%
New South Wales	..	..	..	..	59,902	35.7	29.4	34.9
Victoria	..	..	..	..	38,580	33.1	31.6	35.3
Queensland	..	..	..	..	13,696	35.9	33.0	31.1
South Australia	..	..	..	..	15,041	37.3	37.8	24.9
Western Australia	..	..	..	..	10,852	37.9	37.2	24.9
Tasmania	..	..	..	..	3,911	36.4	36.9	26.7
Commonwealth	..	..	..	..	141,982	35.4	32.0	32.6

Apparent minor errors in totals are due to 'rounding off'.

Table 16 **Medical Benefits**

Amount of Commonwealth and fund benefits paid—1953–54 to 1967–68

Year ended 30 June	Commonwealth			Fund		
	Benefits	Special account deficits	Total	Excluding ancillary	Ancillary	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1954.. ..	2,868	..	2,868	2,929	..	2,929
1955.. ..	8,420	..	8,420	9,296	..	9,296
1956.. ..	10,827	..	10,827	12,408	..	12,408
1957.. ..	12,292	..	12,292	14,414	508	14,922
1958.. ..	14,171	..	14,171	16,953	636	17,589
1959.. ..	15,559	..	15,559	18,821	781	19,602
1960.. ..	18,410	173	18,583	22,790	997	23,787
1961.. ..	19,567	385	19,952	25,794	1,338	27,132
1962.. ..	21,291	532	21,823	29,062	1,744	30,806
1963.. ..	22,982	492	23,474	32,042	1,564	33,606
1964.. ..	24,232	615	24,847	34,442	1,708	36,150
1965.. ..	34,594	682	35,276	36,880	1,996	38,876
1966.. ..	40,507	775	41,282	42,560	1,942	44,502
1967.. ..	42,884	956	43,841	46,898	2,042	48,940
1968.. ..	45,475	956	46,431	50,332	2,244	52,576

Apparent minor errors in totals due to 'rounding off'.

Table 17 **Medical Benefits**

Amount of Commonwealth and fund benefits paid—by States—1967–68

Year ended 30 June	Commonwealth			Fund		
	Benefits	Special account deficits	Total	Excluding ancillary	Ancillary	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
New South Wales ..	17,613	702	18,315	21,434	1,168	22,602
Victoria	12,183	118	12,301	12,794	373	13,167
Queensland	4,499	..	4,499	4,916	235	5,151
South Australia ..	5,720	53	5,773	5,608	261	5,869
Western Australia ..	4,013	80	4,093	4,144	124	4,268
Tasmania	1,446	4	1,450	1,436	83	1,519
Commonwealth ..	45,475	956	46,431	50,332	2,244	52,576

Apparent minor errors in totals are due to 'rounding off'.

Table 18

Pensioner Medical Service

Number enrolled, number of services received and average attendances per enrolled person per annum—1951-52 to 1967-68

Year ended 30 June					No. of pensioners and dependants enrolled at 30 June	No. of services received			Average No. of services per enrolled person
						Surgery	Domiciliary	Total	
					000's	000's	000's	000's	
1952	..	..	..	..	501	1,228	1,105	2,334	5.0
1953	..	..	..	..	558	1,671	1,651	3,322	6.2
1954	..	..	..	..	597	2,076	2,092	4,168	7.2
1955	..	..	..	..	640	2,375	2,346	4,721	7.6
1956	..	..	..	..	668	2,669	2,514	5,183	7.9
1957	..	..	..	..	684	2,778	2,603	5,381	8.0
1958	..	..	..	..	697	2,992	2,774	5,766	8.3
1959	..	..	..	..	720	3,462	2,980	6,441	9.0
1960	..	..	..	..	740	3,763	3,076	6,839	9.4
1961	..	..	..	..	766	3,866	3,131	6,996	9.4
1962	..	..	..	..	810	4,139	3,223	7,363	9.3
1963	..	..	..	..	831	4,278	3,111	7,389	9.0
1964	..	..	..	..	844	4,406	3,020	7,426	8.9
1965	..	..	..	..	849	4,389	2,859	7,248	8.6
1966	..	..	..	..	1,006	4,670	2,824	7,494	8.4
1967	..	..	..	..	1,043	5,215	2,972	8,187	8.0
1968	..	..	..	..	1,115	5,757	2,898	8,655	7.9

Apparent minor errors in totals are due to 'rounding off'.

Table 19

Pensioner Medical Service

Number enrolled, number of services received and average attendances per enrolled person per annum—by States—1967-68

State				No. of pensioners and dependants enrolled at 30 June 1968	No. of services received			Average No. of services per enrolled person
					Surgery	Domiciliary	Total	
				000's	000's	000's	000's	
New South Wales	..	..	..	425	2,295	1,084	3,379	8.0
Victoria	..	..	..	282	1,380	870	2,250	8.2
Queensland	..	..	..	183	942	346	1,288	7.2
South Australia	..	..	..	108	511	338	849	8.1
Western Australia	..	..	..	81	464	184	647	8.2
Tasmania	..	..	..	36	166	76	242	6.9
Commonwealth	..	..	..	1,115	5,757	2,898	8,655	7.9

Apparent minor errors in totals are due to 'rounding off'.

Table 20

Pensioner Medical Service

Number of participating doctors, payments received and average annual payment per doctor—1951–52 to 1967–68

Year ended 30 June							No. of participating doctors at 30 June	Payments to doctors	Average receipts per annum
								\$'000	\$
1952..	..	..	..	..	..	..	3,502	2,070	620
1953..	..	..	..	..	..	..	3,898	3,480	928
1954..	..	..	..	..	..	..	4,239	4,231	1,024
1955..	..	..	..	..	..	..	4,567	5,032	1,132
1956..	..	..	..	..	..	..	4,730	5,749	1,236
1957..	..	..	..	..	..	..	4,990	5,998	1,234
1958..	..	..	..	..	..	..	5,243	6,398	1,250
1959..	..	..	..	..	..	..	5,531	7,613	1,376
1960..	..	..	..	..	..	..	5,685	8,225	1,466
1961..	..	..	..	..	..	..	5,861	8,401	1,456
1962..	..	..	..	..	..	..	6,012	8,796	1,476
1963..	..	..	..	..	..	..	6,025	9,146	1,520
1964..	..	..	..	..	..	..	5,899	9,531	1,598
1965..	..	..	..	..	..	..	5,896	9,320	1,578
1966..	..	..	..	..	..	..	6,034	13,365	2,246
1967..	..	..	..	..	..	..	6,175	14,351	2,360
1968..	..	..	..	..	..	..	6,333	16,115	2,573

Table 21

Pensioner Medical Service

Number of participating doctors, payments received and average annual payment per doctor—by States—1967–68

State							No. of participating doctors at 30 June 1968	Payments to doctors	Average receipts per annum
								\$'000	\$
New South Wales	..	..	..	..	..	..	2,439	6,267	2,600
Victoria	..	..	..	..	..	..	1,767	4,241	2,411
Queensland	..	..	..	..	..	..	845	2,364	2,842
South Australia	..	..	..	..	..	..	609	1,611	2,673
Western Australia	..	..	..	..	..	..	476	1,172	2,503
Tasmania	..	..	..	..	..	..	197	460	2,406
Commonwealth	..	..	..	..	..	..	6,333	16,115	2,573

Table 22

Pharmaceutical Benefits

Cost of prescriptions—1960–61 to 1967–68

Year ended 30 June					Payments by Commonwealth			Patient contribution	Total cost
					Excluding pensioners	Pensioners	Total		
					\$'000	\$'000	\$'000	\$'000	\$'000
1961	..	..	..	..	34,282	14,677	48,959	10,325	59,284
1962	..	..	..	..	44,632	18,195	62,827	13,008	75,835
1963	..	..	..	..	47,093	19,831	66,924	14,742	81,666
1964	..	..	..	..	46,461	20,602	67,063	15,574	82,637
1965	..	..	..	..	48,930	21,564	70,494	16,841	87,336
1966	..	..	..	..	53,078	24,071	77,149	17,481	94,630
1967	..	..	..	..	56,656	29,280	85,936	18,347	104,283
1968	..	..	..	..	56,800	32,115	88,916	18,504	107,420

Apparent minor errors in totals are due to 'rounding off'.

Table 23

Pharmaceutical Benefits

Cost of prescriptions—by States—1967–68

State	Payments by Commonwealth			Patient contribution	Total cost
	Excluding pensioners	Pensioners	Total		
	\$'000	\$'000	\$'000	\$'000	\$'000
New South Wales	22,833	13,563	36,396	7,441	43,836
Victoria	15,821	7,505	23,326	5,045	28,371
Queensland	7,790	5,016	12,806	2,665	15,471
South Australia	5,256	3,038	8,294	1,699	9,992
Western Australia	3,663	2,143	5,806	1,185	6,991
Tasmania	1,438	850	2,288	470	2,758
Commonwealth	56,800	32,115	88,916	18,504	107,420

Apparent minor errors in totals are due to 'rounding off'.

Table 24

Pharmaceutical Benefits

Payments to hospitals and miscellaneous services

Year ended 30 June	N.S.W.	Victoria	Queensland	South Aust.	Western Aust.	Tasmania	Miscellaneous	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1961.. ..	1,785	2,620	1,190	511	415	172	110	6,803
1962.. ..	2,454	2,536	1,413	417	652	170	71	7,712
1963.. ..	2,890	3,360	1,856	597	822	247	214	9,986
1964.. ..	3,341	4,300	2,200	712	892	75	256	11,776
1965.. ..	3,039	4,396	2,114	738	764	414	243	11,708
1966.. ..	6,692	4,000	1,613	607	700	713	309	14,635
1967.. ..	5,233	5,000	2,041	1,110	1,100	538	322	15,344
1968.. ..	6,222	4,103	2,198	1,416	1,286	602	392*	16,219

*Miscellaneous services expenditure consisted of—

Biological products and prophylactic materials

Commonwealth Medical Officers and Immigration Service ..

Miscellaneous (including bush nursing and testing expenses) ..

\$'000

239

16

138

392

Apparent minor errors in totals are due to 'rounding off'.

Table 25

Pharmaceutical Benefits

Dissection of benefit prescription costs into ingredient cost and chemists' remuneration—1960–61 to 1967–68

Year ended 30 June								Cost of ingredients and containers	Chemists' remuneration	Total cost
								\$'000	\$'000	\$'000
1961.. ..								35,629	23,655	59,284
1962.. ..								46,714	29,121	75,835
1963.. ..								49,113	32,553	81,666
1964.. ..								49,398	33,239	82,637
1965.. ..								52,139	35,197	87,336
1966.. ..								57,293	37,337	94,630
1967.. ..								63,676	40,608	104,284
1968.. ..								66,662	40,758	107,420

Apparent minor errors in totals are due to 'rounding off'.

Table 26 Pharmaceutical Benefits

Dissection of benefit prescription costs into ingredient cost and chemists' remuneration—by States—1967-68

State	Cost of ingredients and containers					Chemists' remuneration	Total cost
	\$'000					\$'000	\$'000
New South Wales	27,197	43,836
Victoria	17,697	28,371
Queensland	9,496	15,471
South Australia	6,210	9,992
Western Australia	4,342	6,991
Tasmania	1,719	2,758
Commonwealth	66,662	107,420

Cost of ingredients and containers includes payments to chemists for wastages on broken quantities of ready-prepared items.

Chemists' remuneration includes mark up on wholesale price and professional fees, but does not include discount allowed to chemists by wholesalers and manufacturers.

Table 27 Pharmaceutical Benefits

Number of prescriptions and average cost per prescription—1960-61 to 1967-68

Year ended 30 June		No. of benefit prescriptions			Average cost per benefit prescription*		
		Total population	Population excluding pensioners	Pensioner population	Total population	Population excluding pensioners	Pensioner population
		000's	000's	000's	\$	\$	\$
1961..	..	31,217	20,489	10,728	1.90	2.18	1.37
1962..	..	37,714	26,050	11,664	2.01	2.22	1.56
1963..	..	42,192	29,518	12,674	1.93	2.09	1.57
1964..	..	44,357	31,040	13,317	1.86	2.00	1.55
1965..	..	47,556	33,715	13,841	1.83	1.95	1.56
1966..	..	49,993	35,085	14,908	1.89	2.01	1.61
1967..	..	53,687	36,751	16,936	1.94	2.04	1.73
1968..	..	55,423	37,053	18,370	1.94	2.03	1.75

* Includes patient contribution where applicable.

Table 28 Pharmaceutical Benefits

Number of prescriptions and average cost per prescription—by States—1967-68

State		No. of benefit prescriptions			Average cost per benefit prescription*		
		Total population	Population excluding pensioners	Pensioner population	Total population	Population excluding pensioners	Pensioner population
		000's	000's	000's	\$	\$	\$
New South Wales	..	22,698	14,897	7,801	1.93	2.03	1.74
Victoria	..	14,296	10,113	4,184	1.98	2.06	1.79
Queensland	..	8,351	5,331	3,020	1.85	1.96	1.66
South Australia	..	5,092	3,398	1,693	1.96	2.05	1.79
Western Australia	..	3,588	2,374	1,215	1.95	2.04	1.76
Tasmania	..	1,397	941	457	1.97	2.03	1.86
Commonwealth	..	55,423	37,053	18,370	1.94	2.03	1.75

* Includes patient contribution where applicable.

Table 29

Pharmaceutical Benefits

Number of prescriptions per head of population and average cost per head of population—1960-61 to 1967-68

Year ended 30 June	Number of prescriptions per head of population			Average cost per head of population*		
	Total Population	Population excluding pensioners	Pensioner population	Total population	Population excluding pensioners	Pensioner population
1961.. .. .	3.00	2.13	14.25	\$ 5.70	\$ 4.62	\$ 19.86
1962.. .. .	3.56	2.65	14.80	7.20	5.92	23.08
1963.. .. .	3.90	2.95	15.45	7.48	6.12	23.95
1964.. .. .	4.02	3.05	15.91	7.51	6.10	24.38
1965.. .. .	4.23	3.24	16.35	7.93	6.47	25.88
1966.. .. .	4.36	3.32	16.38	8.25	6.68	26.45
1967.. .. .	4.61	3.46	16.59	8.95	7.06	28.68
1968.. .. .	4.65	3.42	16.82	9.01	6.95	29.40

* Includes patient contribution where applicable.

Table 30

Pharmaceutical Benefits

Number of prescriptions per head of population and average cost per head of population—by States—1967-68

State	Number of prescriptions per head of population			Average cost per head of population*		
	Total Population	Population excluding Pensioners	Pensioner Population	Total population	Population excluding pensioners	Pensioner population
New South Wales ..	5.10	3.69	18.56	\$ 9.84	\$ 7.51	\$ 32.26
Victoria	4.33	3.34	15.36	8.59	6.88	27.55
Queensland	4.86	3.46	16.87	9.00	6.79	28.03
South Australia ..	4.31	3.16	16.08	8.47	6.47	28.85
Western Australia ..	4.03	2.93	15.20	7.84	5.98	26.82
Tasmania	3.68	2.73	12.97	7.27	5.55	24.13
Commonwealth ..	4.65	3.42	16.82	9.01	6.95	29.40

* Includes patient contribution where applicable.

Table 31

Pharmaceutical Benefits

Drugs dispensed by chemists—1967-68
(Benefits dispensed in hospitals are excluded)

Therapeutic category	Percentage of total expenditure	Percentage of total prescriptions	Therapeutic category	Percentage of total expenditure	Percentage of total prescriptions
Broad Spectrum Antibiotics ..	12.7	9.1	Tranquillisers	2.5	1.6
Penicillins	8.7	7.9	Antacids	2.3	3.4
Blood Vessels—Drugs Acting On	9.7	5.5	Heart—Drugs Acting On ..	2.2	2.3
Diuretics	8.0	4.5	Anti-Diabetics	2.1	1.1
Analgesics	7.9	7.9	Eye Drops	1.7	2.1
Sedative and Hypnotic Drugs ..	6.0	12.1	Bronchial Spasm	1.4	1.7
Anti-Histamines	5.4	6.0	Anti-Convulsants	1.4	0.7
Anti-Cholinergics	3.0	1.6	Sulphonamides	1.3	1.9
Genito-Urinary Infections—Drugs Acting On	2.9	2.3	Iron Preparations	1.1	1.9
			Gastro Intestinal Sedatives	1.1	1.2
			Expectorants and Cough Suppressants	0.8	1.9
			Other Drugs	17.8	23.3

Table 32 **Pharmaceutical Benefits**

Number of Pharmaceutical Chemists and Medical Practitioners dispensing pharmaceutical benefits prescriptions—1949–50 to 1967–68

A. *Pharmaceutical Chemists* approved under Section 90 of the *National Health Act* 1953–1967 for the purpose of supplying pharmaceutical benefits.

B. *Medical Practitioners* approved under Section 92 of the *National Health Act* 1953–1967 for the purpose of supplying pharmaceutical benefits in areas in which there are no other pharmaceutical services available.

As at 30 June	New South Wales		Victoria		Queensland		South Australia		Western Australia		Tasmania		Common- wealth	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1950 ..	1,200	2	1,038	6	285	3	265	27	202	12	90	..	3,080	50
1951 ..	1,252	25	1,054	6	332	4	292	30	208	12	93	7	3,231	84
1952 ..	1,323	26	1,070	7	348	5	305	29	212	12	95	8	3,353	87
1953 ..	1,368	29	1,102	8	388	5	329	24	221	10	94	10	3,502	86
1954 ..	1,452	31	1,170	8	437	6	368	25	232	11	95	11	3,754	92
1955 ..	1,519	32	1,206	5	476	7	384	20	243	12	95	12	3,923	88
1956 ..	1,574	31	1,245	6	520	8	396	20	261	11	97	11	4,093	87
1957 ..	1,615	27	1,284	7	554	8	403	19	270	12	101	11	4,227	84
1958 ..	1,681	28	1,299	7	571	8	424	18	282	12	111	11	4,368	84
1959 ..	1,763	30	1,348	6	603	9	433	16	292	11	113	12	4,552	84
1960 ..	1,818	29	1,383	6	645	9	436	17	296	10	118	12	4,696	83
1961 ..	1,877	34	1,402	6	676	7	449	14	311	7	123	12	4,838	80
1962 ..	1,933	36	1,414	6	696	6	459	13	312	6	127	11	4,941	78
1963 ..	2,008	32	1,445	6	721	7	470	14	325	7	131	10	5,100	76
1964 ..	2,065	31	1,482	7	750	6	474	12	338	8	134	12	5,243	76
1965 ..	2,101	32	1,520	7	775	5	487	10	354	8	138	12	5,375	74
1966 ..	2,140	33	1,545	6	805	6	507	9	363	5	141	12	5,501	71
1967 ..	2,204	34	1,583	5	818	4	520	9	370	5	143	13	5,638	70
1968 ..	2,228	30	1,602	3	843	5	527	9	382	5	146	14	5,728	66

Table 33 **Tuberculosis**

Number of allowances, notifications and mortality—1952 to 1967

Year ended 31 December	No. of Allowances Current	Notifications			Deaths		
		No. pulmonary	No. all forms	Incidence per 100,000 all forms	No. pulmonary	No. all forms	Per 100,000 all forms
1952..	6,127	4,761	4,786	54.8	1,165	1,290	14.8
1953..	5,696	4,787	4,979	55.9	879	974	10.9
1954..	5,742	4,650	4,952	54.5	823	897	9.9
1955..	5,029	4,360	4,602	49.4	672	729	7.8
1956..	4,182	4,169	4,419	46.4	663	724	7.6
1957..	3,326	3,762	4,035	41.4	543	585	6.0
1958..	2,750	3,632	3,708	37.2	501	538	5.4
1959..	2,503	3,160	3,582	35.2	509	549	5.4
1960..	2,235	3,556	4,084	39.2	447	489	4.7
1961..	2,017	3,239	3,570	34.0	412	447	4.3
1962..	1,845	3,503	3,825	35.3	448	475	4.4
1963..	1,796	3,574	3,883	35.2	410	440	4.0
1964..	1,573	3,113	3,446	30.6	388	413	3.7
1965..	1,378	2,624	2,903	25.3	259	294	2.6
1966..	1,177	2,276	2,549	21.8	303	321	2.8
1967..	1,009	2,005	2,293	19.2	249	275	2.3

Table 34

Tuberculosis

Number of allowances, notifications and mortality—by States—year ended
31 December 1967

State	No. of Allowances current	Notifications			Deaths		
		No. pulmonary	No. all forms	Incidence per 100,000 all forms	No. pulmonary	No. all forms	Per 100,000 all forms
New South Wales.. ..	298	778	853	19.6	67	72	1.7
Victoria	241	495	599	18.1	80	93	2.8
Queensland	293	415	454	26.4	56	58	3.4
South Australia	86	120	141	12.6	23	26	2.3
Western Australia	51	109	142	15.9	10	10	1.1
Tasmania	40	47	50	13.4	6	7	1.8
Aust. Capital Territory	*	7	9	8.3	..	..	..
Northern Territory	†	34	45	74.2	7	9	14.8
Commonwealth	1,009	2,005	2,293	19.2	249	275	2.3

* Included in New South Wales figure.

† Included in South Australian figure.

Table 35

Tuberculosis

Expenditure under the Tuberculosis Act—1949–50 to 1967–68

Year ended 30 June					Capital reimbursements to States	Maintenance reimbursements to States	Allowances paid to sufferers	Total
					\$'000	\$'000	\$'000	\$'000
1950	..	..	..	..	472	692	..	1,165
1951	..	..	..	..	809	1,887	2,690	5,386
1952	..	..	..	..	1,290	4,229	3,555	9,074
1953	..	..	..	..	2,327	5,965	3,816	12,107
1954	..	..	..	..	2,591	7,478	3,753	13,822
1955	..	..	..	..	3,422	7,601	3,809	14,832
1956	..	..	..	..	3,495	8,101	3,380	14,976
1957	..	..	..	..	4,757	9,610	2,921	17,289
1958	..	..	..	..	4,257	9,138	2,509	15,905
1959	..	..	..	..	2,822	9,688	2,125	14,636
1960	..	..	..	..	1,458	8,753	2,051	12,262
1961	..	..	..	..	776	8,473	1,893	11,142
1962	..	..	..	..	756	8,800	1,746	11,302
1963	..	..	..	..	984	9,932	1,607	12,523
1964	..	..	..	..	598	10,669	1,593	12,861
1965	..	..	..	..	703	10,337	1,458	12,497
1966	..	..	..	..	689	13,577	1,286	15,552
1967	..	..	..	..	499	11,238	1,193	12,930
1968	..	..	..	..	780	11,508	1,091	13,380
Total	..	..	..	..	33,487	157,677	42,476	233,640

Apparent minor errors in totals are due to 'rounding off'.

Table 36

Tuberculosis

Expenditure under the Tuberculosis Act—by States—1967-68

State	Capital	Maintenance	Allowances	Total
	\$'000	\$'000	\$'000	\$'000
New South Wales	591	3,864	366*	4,821
Victoria	10	3,395	251	3,656
Queensland	136	2,394	285	2,815
South Australia	31	651	97†	779
Western Australia	10	844	55	909
Tasmania	3	360	38	401
Commonwealth	780	11,508	1,091	13,380

Apparent minor errors in totals are due to 'rounding off'.

* Includes the Australian Capital Territory.

† Includes the Northern Territory.

Table 37

Tuberculosis

Results of mass X-ray surveys—by States—year ended 31 December 1967

State	No. examined	No. active T.B.	Rate per 1,000	No. inactive T.B.	Rate per 1,000	Suspect active T.B. at 31.12.66	Rate per 1,000
New South Wales	772,739	156	0.20	4,173	5.40	44	0.06
Victoria	641,974	235	0.37	1,755	1.37	..	..
Queensland	293,255	81	0.28	1,434	4.89	151	0.51
South Australia	112,475	31	0.27	1,136	10.10	9	0.08
Western Australia	62,993	12	0.19	71	1.13	7	0.11
Tasmania	79,883	8	0.10	221	2.77	6	0.08
Australian Capital Territory .. ..	..	..	..	..	..	..	..
Northern Territory	10,823	8	0.74	120	11.09	79	7.30
Commonwealth	1,974,142	531	0.27	8,910	3.41	296	0.11

Table 38

Public Health

Notifiable diseases in the States of Australia—1967-68†

Disease	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	N.T.	Aust.
Acute Encephalitis .. .. .	..	..	..	..	..	..	..	..	..
Acute Rheumatism	*	24	88	1	*	6	..	2	121
Amoebiasis	*	..	3	..	3	..	..	1	7
Ancylostomiasis	*	1	4	..	29	..	..	998	1,032
Anthrax	5	..	..	..	..	..	..	..	5
Bilharziasis .. .. .	*	..	..	..	..	..	..	..	..
Breast Abscess .. .. .	..	13	10	*	*	*	1	1	25
Brucellosis	13	36	11	4	1	..	..	..	65
Chorea (St. Vitus Dance) .. .. .	*	..	..	1	*	*	..	1	2
Dengue .. .. .	..	..	..	..	*	*	..	..	..
Diarrhoea, Infantile	499	731	246	5	*	16	5	180	1,682
Diphtheria	29	33	..	..	1	..	..	5	68
Dysentery, Bacillary	*	43	89	96	188	4	1	14	435
Erythema Nodosum	*	7	..	8	*	*	1	..	16
Encephalitis	20	23	15	15	..	..	..	..	73
Filariasis	*	..	1	..	..	..	..	..	1
Homologous S. Jaundice	*	2	*	..	..	..	..	..	2
Hydatid	22	11	..	..	..	17	..	..	50
Infective Hepatitis	3,307	3,100	2,281	1,103	169	570	213	126	10,869
Lead Poisoning	*	*	..	1	..	*	..	1	2
Leprosy .. .. .	..	2	4	..	6	..	..	26	38
Leptospirosis	8	..	117	..	2	*	..	..	127
Leukaemia	*	2	*	*	*	*	..	..	2
Malaria	36	27	56	4	6	..	4	17	150
Meningococcal Infection	*	31	160	7	4	1	..	9	212
Ophthalmia .. .. .	*	*	*	..	*	..	..	9	9
Ornithosis	5	..	2	..	..	*	..	..	7
Paratyphoid	1	2	1	..	1	..	..	..	5
Puerperal Fever	*	3	7	1	2	..	..	..	13
Q. Fever	9	*	112	*	*	*	*	*	121
Rubella	*	1,225	29	962	*	73	8	42	2,339
Salmonella Infection	*	*	*	164	115	*	15	29	323
Scarlet Fever	*	484	160	49	26	41	6	2	768
Staph Disease Infantile	*	5	7	*	*	*	*	*	12
Tetanus	8	3	9	..	1	..	..	..	21
Trachoma	*	1	*	..	*	*	..	7	8
Trichinosis .. .. .	*	*	*	..	..	*	..	..	..
Tuberculosis	436	293	276	26	97	25	5	33	1,191
Typhoid Fever	11	7	8	11	2	..	..	27	66
Typhus (flea, mite or tick borne) .. .. .	..	..	4	..	..	..	..	..	4

* Not notifiable. .. No cases.

† The figures shown in this table are the number of cases notified by individual medical practitioners to State Health Departments.

No case of cholera, plague, smallpox, epidemic typhus or yellow fever.

Table 39

Public Health

Poliomyelitis—number of confirmed cases—by States—1957-58 to 1967-68

Year ended 30 June	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	N.T.	Cwlth
1958.. .. .	21	3	3	5	2	3	..	..	37
1959.. .. .	18	78	3	1	1	1	..	..	102
1960.. .. .	17	10	4	7	6	2	..	14	60
1961.. .. .	8	80	19	22	..	46	..	3	178
1962.. .. .	367	21	157	19	6	..	..	2	572
1963.. .. .	5	11	..	17	2	..	..	..	35
1964.. .. .	2	19	..	2	2	..	..	..	25
1965.. .. .	4	..	..	..	..	..	..	..	4
1966.. .. .	..	..	1	..	..	1	..	..	2
1967.. .. .	..	1	..	..	..	..	..	..	1
1968.. .. .	..	..	..	..	..	..	..	..	..

Table 40 **Public Health**

Infectious Hepatitis—cases notified—by States—1961 to 1967

State	1961	1962	1963	1964	1965	1966	1967
New South Wales	6,025	3,358	2,822	2,667	3,299	4,191	4,015
Victoria	3,515	3,533	3,840	2,705	1,988	2,142	3,017
Queensland	1,022	885	1,433	1,148	511	843	1,972
South Australia	1,406	504	293	277	413	978	1,295
Western Australia	262	117	145	101	86	31	160
Tasmania	304	630	856	638	199	202	423
Aust. Capital Territory	281	88	20	12	51	125	248
Northern Territory	61	100	104	57	128	83	166
Commonwealth	12,876	9,215	9,513	7,605	6,675	8,595	11,296

Table 41 **Public Health**

Radio and television scripts on medical matters examined—1967-68

Type of script	Number examined	Approved		Approved as amended		Rejected	
		Number	Per cent	Number	Per cent	Number	Per cent
Radio	893	513	57.4	349	39.1	31	3.5
Television	277	168	60.7	102	36.8	7	2.5
Total	1,170	681	58.2	451	38.6	38	3.2

Table 42 **Quarantine**

Vessels boarded and cleared—by States—1967-68

State	Surface			Air		
	Vessels	Crew	Passengers	Vessels	Crew	Passengers
New South Wales	1,172	66,903	49,870	2,576	28,283	190,743
Victoria	433	26,914	27,769	23	222	169
Queensland	922	44,732	12,504	379	3,561	22 104
South Australia	280	14,067	6,650	5	50	54
Western Australia	1,310	84,313	116,421	723	8,114	61,039
Tasmania	158	4,674	81	3	8	..
Northern Territory	165	3,703	226	1,259	10,912	89,648
Commonwealth	4,440	245,306	213,521	4,968	51,150	363,757

Table 43 **Quarantine**

Infectious diseases on overseas vessels arriving in Australia—1967-68

<i>Disease</i>	<i>No. of cases</i>	<i>Disease</i>	<i>No. of cases</i>
Chickenpox	64	Salmonella Infection	1
Glandular Fever	2	Scarlet Fever	1
Infectious Hepatitis	3	Typhoid Fever	2
Influenza	6	Venereal Disease	280
Measles	195		
Mumps	15		
Paratyphoid	1		
Rubella	31	Total	601

Table 44 **Quarantine**

Animal importations subject to quarantine—1967-1968

<i>Type</i>	<i>Number</i>
Horses—from United Kingdom	112
from New Zealand	793
Dogs and cats—from United Kingdom	720
from New Zealand	657
Small laboratory animals for scientific institutions	662
Monkeys from Malaysia and U.S.A. for Commonwealth Serum Laboratories	306
Animals for permanent quarantine in registered zoological gardens and circuses	517
Total	3,767

Table 45 **Northern Territory Health**

Aerial Medical Service—1967-68

	<i>Darwin</i>	<i>Alice Springs</i>
Emergency flights	206	2
Routine flights	205	217
Hours flown	1,645	724
Miles flown	216,739	101,020
Patients carried	771	391
Patients carried by charter and commercial services	1,722	387
Radio medical consultations	2,433	2,391

Table 46 **Northern Territory Health**

Health services provided at main Northern Territory hospitals—1967-68

	Darwin	Alice Springs	Tennant Creek	Katherine	Batchelor
Total No. of daily occupied beds	83,383	42,063	5,548	14,911	..
Total No. of admissions	7,553	3,199	810	1,527	..
Average daily No. of patients	227.5	115.4	15.1	40.7	..
Total No. of births	907	305	70	136	..
Total No. of deaths in hospital	98	73	6	13	..
Total No. of post mortem examinations ..	115	40	18	19	..
Total No. of major operations	893	203	2	5	..
Total No. of minor operations	2,333	962	319	209	..
Total No. of outpatients treated	81,544	34,490	12,289	10,706	{ 1,513* 6,170†
Dispensaries—					
Prescriptions dispensed	113,911	68,931	5,768	10,230	..
Average No. of prescriptions dispensed per working day	464.3	282.9	22.5	31.9	..
X-ray Department—‡					
No. of exposures	44,163	10,428	2,260	2,743	..
Ambulance Services—					
No. of trips	2,377	489	125	285	..
No. of patients carried	3,265	568	157	304	..
No. of miles travelled	28,827	27,843	16,341	14,980	..
Physiotherapy Department—‡					
No. of patients	1,379	1,284	..	..	..
No. of treatments	7,152	6,819	..	..	..

* Doctor's clinic.

† Daily clinic.

‡ Inpatients and outpatients.

Table 47 **Northern Territory Health**

Dental services provided in the Northern Territory—1967-68

	Darwin Dental Clinic	Aerial Mobile (operating from Darwin)	Overland Mobile (operating from Darwin)	Darwin Schools	Alice Springs (including Mobiles and Schools)	Nightcliff Clinic
Examinations	5,509	1,870	1,215	941	1,414	1,668
Extractions	3,172	731	475	98	1,060	2,009
Porcelain restoration	534	91	137	80	297	505
Amalgam restoration	2,778	440	416	457	1,885	3,078
Inlays	50	..	11	1	37	42
Crowns	16	..	..	..	12	14
Bridges .. .. .	..	..	..	..	5	..
Dressings	1,684	42	47	29	838	918
X-rays	1,242	..	36	1,693	575	921
G.A.'s hospital	26	..	2	..	..	30
Root treatment	16	..	..	..	13	12
Scale and clean	86	33	11	..	69	91
Infective Gingivitis	1	..	..	..	4	..
Orthodontist	1,003	..	..	..	17	64
Oral surgery	77	1	1	1	33	4
Jaw fracture	16	..	..	..	..	2
Other treatment	1,313	83	150	84	939	1,248
Dentures—Full	158	..	33	3	60	95
Partial	121	..	18	6	41	112
Repair	525	..	33	..	82	377
Remodel	34	..	4	..	8	36
Impressions	601	..	93	12	164	378

Table 48 **Australian Capital Territory Health**

Licences issued under the Public Health Ordinance—1967

Barber shops	73	Meat vendors	68
Eating houses	78	Milk distributors	73
Boarding houses	67	Milk vendors	201
Ice cream vendors	6	Prepared meat vendors	233

Table 49 **Australian Capital Territory Health**

Samples collected by Health Inspection Section—1967-68

	For bacteriological examination	For chemical examination
Milk	769	474
Cream	99	105
Meat .. .. .	..	20
Other foods	16	10
Water—City supply	1,090	151
Swimming pools	104	..
Picnic resorts and other supplies	206	21
Fluoride .. .. .	..	936
Sewerage	29	..
Lake Burley Griffin and Molongo River	544	52

Table 50 **Australian Capital Territory Health**

School medical service examinations—1967-68

	Defects as Percentage of Children examined
No. of children examined	13,679
Defects notified—	
Eye	1,090
Nose and throat	38
Hearing loss	335
Speech	67
Cardiac abnormality	25
Hernia.	11
Orthopaedic	25
Miscellaneous.	264
	8.0
	0.3
	2.4
	0.5
	0.2
	0.1
	0.2
	1.9

Table 51 **Australian Capital Territory Health**

Registrations granted—1967-68

Type	Number	Type	Number
Medical Practitioners	45	Pharmacists	25
Dental Practitioners	4	Optometrists	0
Nurses	241	Veterinary Surgeons	3
Nursing Aides	39		

Table 52 **National Fitness**

Allocation of annual grant to State National Fitness Councils—1967-68

Item	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Cwlth
	\$	\$	\$	\$	\$	\$	\$
Wages, salaries, allowances, overtime and services not otherwise provided for ..	10,646	10,646	9,124	9,124	9,124	9,124	57,788
Services to associated groups, including leader training	12,178	12,178	9,124	9,124	9,124	9,124	60,852
Grants to voluntary youth organisations ..	3,034	3,034	2,680	2,680	2,680	1,564	15,672
Subsidies to local national fitness committees	4,572	4,572	3,986	3,986	3,986	2,356	23,458
Services to sports organisations	1,476	1,476	908	908	908	610	6,286
Development of camps and hostels ..	12,178	12,178	9,124	9,124	9,124	9,124	60,852
Total	44,084	44,084	34,946	34,946	34,946	31,902	224,908

Table 53 **National Fitness**

Allocation of annual grants to State Education Departments—1967-68

Item	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Cwlth
	\$	\$	\$	\$	\$	\$	\$
Training of general teachers in physical education—							
(a) Short courses	1,000	1,000	1,000	600	600	600	4,800
(b) Residential courses	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Provision of bursaries to enable selected teachers to undertake university courses ..	..	..	..	1,200	1,200	1,200	3,600
Development of health and physical education in practising schools and teachers colleges—							
(a) Equipment	600	600	600	400	400	400	3,000
(b) Camps for teachers college students	500	500	500	300	300	300	2,400
Publications, films, records, etc.	968	968	966	966	966	966	5,800
Development of school camping and hostelling—							
(a) Equipment of camps and schools ..	1,000	1,000	1,000	800	800	800	5,400
(b) School camping and hostelling ..	600	600	600	400	400	400	3,000
Total	5,668	5,668	5,666	5,666	5,666	5,666	34,000

Table 54 **Commonwealth Medical Officers**

Number of clinical examinations by Commonwealth Medical Officers—by States—1967-68

State	Departments	Seamen	Pensioners	Others	Total
New South Wales	26,430	1,151	6,016	4	33,601
Victoria	15,783	228	3,846	12	19,869
Queensland	6,116	139	1,991	..	8,246
South Australia	3,894	78	2,450	..	6,422
Western Australia	2,913	355	1,604	3	4,875
Tasmania	1,163	2	422	156	1,743
Australian Capital Territory	6,288	..	116	1,806	8,210
Northern Territory	1,377	..	66	1,284	2,727
Commonwealth	63,964	1,953	16,511	3,265	85,693

Table 55

Commonwealth Medical Officers

Number of vaccinations by Commonwealth Medical Officers—by States—1967-68

State	Smallpox	Yellow Fever	Cholera	T.A.B.	Tetanus	Plague	Total
New South Wales	30,088	1,344	25,944	1,760	207	176	59,519
Victoria	3,284	753	3,292	1,079	298	24	8,730
Queensland	5,226	237	4,565	338	261	68	10,695
South Australia	3,117	180	1,564	211	2,186	3	7,261
Western Australia	2,742	231	2,650	106	90	6	5,825
Tasmania	1,484	67	1,279	141	24	4	2,999
Australian Capital Territory	3,199	147	4,548	4,540	226	162	12,822
Northern Territory	2,371	39	2,825	421	739	30	6,425
Commonwealth	51,511	2,998	46,667	8,596	4,031	473	114,276

Table 56

Commonwealth Health Laboratories

Number of pathological examinations and laboratory tests performed and number of patients—1967-68

Health laboratory	Examinations and tests*	No. of patients
Albury	146,821	22,489
Alice Springs	64,035	12,591
Bendigo	204,462	31,051
Cairns	393,761	52,070
Canberra	707,928	124,456
Darwin	209,641	45,162
Hobart	234,021	22,453
Kalgoorlie	49,991	9,778
Launceston	62,814	16,107
Lismore	320,649	43,219
Port Pirie	64,236	12,606
Rockhampton	319,252	70,488
Tamworth	260,393	42,892
Toowoomba	291,280	42,029
Townsville	431,682	56,233
Total	3,760,966	603,624

* Nuffield points score.

Table 57

National Biological Standards Laboratory

Summary of all samples examined—1967-68

Type	No. examined	Failures	Percentage of failures
			%
For Department of Health—			
Products for human use	1,003	291	29
Products for veterinary use	141	92	65
For other Commonwealth Departments and Authorities	214	37	17
Miscellaneous drug samples*	39	17	44
Dressings tested	91	24	26
Surgical equipment tested†	133	15	11
Total	1,621	476	29

*e.g. Samples tested at the request of hospitals and other authorities, samples of products about which complaints have been received, samples taken prior to granting authority to import products subject to Item 28A—Customs (Prohibited Imports) Regulations.

†Number of batches of needles tested.

Table 58

National Biological Standards Laboratory

Reasons for failure as percentage of total failures—1967–68

Reason*	Products for Human Use†		Products for Veterinary Use	
	%		%	
Safety, contamination or misidentification	2		2	
Sterility	1		31	
Potency	31		26	
Disintegration	12		..	
Uniformity of weight	4		..	
Acidity or alkalinity	4		..	
Loss on drying	5		..	
Container content	3		4	
Miscellaneous (e.g. colouring, physical appearance, moisture content, grading, etc.)	10		6	
Particulate matter .. .. .	..		7	
Labelling	45		78	

*These reasons are listed in order of seriousness.

†This figure represents the percentage of total failures due to the specific cause. Where a product has failed for more than one reason it is included in more than one category.

Table 59

National Biological Standards Laboratory

Safety tests performed—1967–68

Type	No. examined	Passed	Failed	Suspect failures not confirmed
Sterility—				
Standard test technique	387	327	60	3
Millipore technique	47	47	..	1
Histamine-like substances	33	33	..	..
Toxicity	56	53	3	..
Pyrogens	63	61	1	1

Table 60

Commonwealth Acoustic Laboratories

Cases examined—1967–68

New cases attending laboratories	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Cwlth
Pensioners	287	191	207	444	47	14	1,190
Repatriation	2,396	755	746	428	367	80	4,772
Persons under 21 years	2,479	1,362	1,857	975	751	332	7,756
Armed Forces (Serving)	439	348	68	142	69	186	1,252
Commonwealth Departments	300	194	50	93	31	5	673
State Departments .. .. .	..	..	134	..	1	..	135
Miscellaneous	133	86	561	162	88	38	1,068
Total	6,034	2,936	3,623	2,244	1,354	655	16,846
Civil Aviation referrals	358	491	198	149	210	19	1,425

Table 61 **Commonwealth Acoustic Laboratories**

Calaid hearing aids fitted—1967-68

<i>Calaid fitted</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Cwlth</i>
Pensioners	278	127	164	359	39	11	978
Repatriation	1,558	996	631	433	358	174	4,150
Persons under 21 years	457	343	183	171	103	65	1,322
Armed Forces (Serving)	9	3	2	..	..	..	14
Commonwealth Departments	25	37	20	31	1	18	132
Total	2,327	1,506	1,000	994	501	268	6,596

Table 62 **Commonwealth Acoustic Laboratories**

Calaid hearing aids maintained—1967-68

<i>Calaid Maintained</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Cwlth</i>
Pensioners	278	127	164	359	39	11	978
Repatriation	5,404	4,964	2,065	1,896	1,586	577	16,492
Persons under 21 years	2,208	2,095	1,048	932	492	268	7,043
Armed Forces (Serving)	42	25	11	10	2	1	91
Commonwealth Departments	1,235	691	543	392	270	95	3,226
Total	9,167	7,902	3,831	3,589	2,389	952	27,830

Table 63 **Commonwealth X-Ray and Radium Laboratory**

Expenditure under the National Welfare Fund on radio-isotopes for medical purposes—1955-56 to 1967-68

<i>Year ended 30 June</i>	<i>Expenditure</i>	<i>Year ended 30 June</i>	<i>Expenditure</i>
	<i>\$</i>		<i>\$</i>
1956	6,172	1963	35,936
1957	13,900	1964	55,874
1958	15,954	1965	67,942
1959	21,382	1966	81,755
1960	19,368	1967	132,201
1961	27,736	1968	154,764
1962	28,988		

Table 64

National Health and Medical Research Council**Grants made from the Medical Research Endowment Fund—1967-68**

<i>Universities, institutions and hospitals</i>	<i>Research workers</i>	<i>Scholarships</i>	<i>Technical assistance maintenance and equipment</i>	<i>Total</i>
	\$	\$	£	\$
Universities				
University of Adelaide	28,535	42,147	70,332	141,014
University of Melbourne	125,475	35,493	168,750	329,718
Monash University	29,373	5,230	50,049	84,652
University of New South Wales ..	33,518	7,694	52,218	93,430
University of Queensland	20,395	3,370	36,410	60,175
University of Sydney	47,930	41,500	91,348	180,778
University of Western Australia ..	34,760	9,530	49,398	93,688
Institutions and hospitals				
New South Wales	100,070	4,730	23,289	128,089
Victoria	240,782	9,100	59,639	309,521
Queensland	2,415	..	21,809	24,224
South Australia .. ..	..	..	6,300	6,300
Miscellaneous .. ..	..	..	3,465	3,465
Travelling Fellowships	23,230	..	..	23,230
Total	686,483	158,794	633,007	1,478,284

Table 65

Commonwealth Grants**Red Cross Blood Transfusion Service—1953-54 to 1967-68**

<i>Year ended 30 June</i>	<i>Commonwealth grant</i>	<i>Year ended 30 June</i>	<i>Commonwealth grant</i>
	\$'000		\$'000
1954	88	1962	349
1955	138	1963	369
1956	172	1964	402
1957	214	1965	435
1958	251	1966	490
1959	263	1967*	974
1960	282	1968	656
1961	315		

* The figure for this year reflects an alteration in accounting procedures during 1966-67, when annual payments were replaced by quarterly payments. The grant relates to expenditure incurred by the Society during the period 1 July 1965 to 31 March 1967.

Table 66

Commonwealth Grants**Red Cross Blood Transfusion Service—by States—1967-68**

<i>State</i>	<i>Payments 1967-68</i>	<i>State</i>	<i>Payments 1967-68</i>
	\$'000		\$'000
New South Wales	168	Tasmania	14
Victoria	176	Australian Capital Territory	19
Queensland	119	Northern Territory	4
South Australia	76		
Western Australia	80	Commonwealth	656

Table 67 **Commonwealth Grants**

Home Nursing Subsidy Scheme—1956-57 to 1967-68

Year ended 30 June						Annual subsidy	Year ended 30 June						Annual subsidy
						\$'000							\$'000
1957	..	..	..	..	..	4	1963	..	..	..	..	..	289
1958	..	..	..	..	..	36	1964	..	..	..	..	..	372
1959	..	..	..	..	..	69	1965	..	..	..	..	..	465
1960	..	..	..	..	..	107	1966	..	..	..	..	..	546
1961	..	..	..	..	..	156	1967	..	..	..	..	..	664
1962	..	..	..	..	..	215	1968	..	..	..	..	..	765

Table 68 **Commonwealth Grants**

Home Nursing Subsidy Scheme—by States—1967-68

State						Payments 1967-68	State						Payments 1967-68
						\$'000							\$'000
New South Wales	..	..	..	..	..	209	Western Australia	..	..	..	..	..	131
Victoria	..	..	..	..	..	288	Tasmania	..	..	..	..	..	10
Queensland	..	..	..	..	..	95							
South Australia	..	..	..	..	..	32	Commonwealth..	..	..	..	..	..	765

Table 69 **Commonwealth Grants**

Free Milk for School Children—1950-51 to 1967-68

Year ended 30 June						Commonwealth Grant	Year ended 30 June						Commonwealth Grant
						\$'000							\$'000
1951	..	..	..	..	..	72	1960	..	..	..	..	..	6,719
1952	..	..	..	..	..	1,630	1961	..	..	..	..	..	7,120
1953	..	..	..	..	..	3,043	1962	..	..	..	..	..	7,483
1954	..	..	..	..	..	3,999	1963	..	..	..	..	..	7,454
1955	..	..	..	..	..	4,475	1964	..	..	..	..	..	7,775
1956	..	..	..	..	..	4,811	1965	..	..	..	..	..	8,059
1957	..	..	..	..	..	5,214	1966	..	..	..	..	..	8,493
1958	..	..	..	..	..	5,511	1967	..	..	..	..	..	9,021
1959	..	..	..	..	..	6,137	1968	..	..	..	..	..	9,831

Table 70 **Commonwealth Grants**

Free Milk for School Children—by States—1967-68

State										No. of children*	Payments
										As at 31 Dec. 1967	1967-68
										000's	\$'000
New South Wales	..	..	..	..	..	..	..	..	..	633	3,350
Victoria	..	..	..	..	..	..	..	..	..	500	2,623
Queensland	..	..	..	..	..	..	..	..	..	266	1,372
South Australia	..	..	..	..	..	..	..	..	..	184	952
Western Australia	..	..	..	..	..	..	..	..	..	144	850
Tasmania	..	..	..	..	..	..	..	..	..	61	503
Australian Capital Territory	..	..	..	..	..	..	..	..	..	18	106
Northern Territory	..	..	..	..	..	..	..	..	..	13	75
Commonwealth..	..	..	..	..	..	..	..	..	..	1,819	9,831

*These figures represent the approximate number of school children eligible to participate in the free milk scheme.

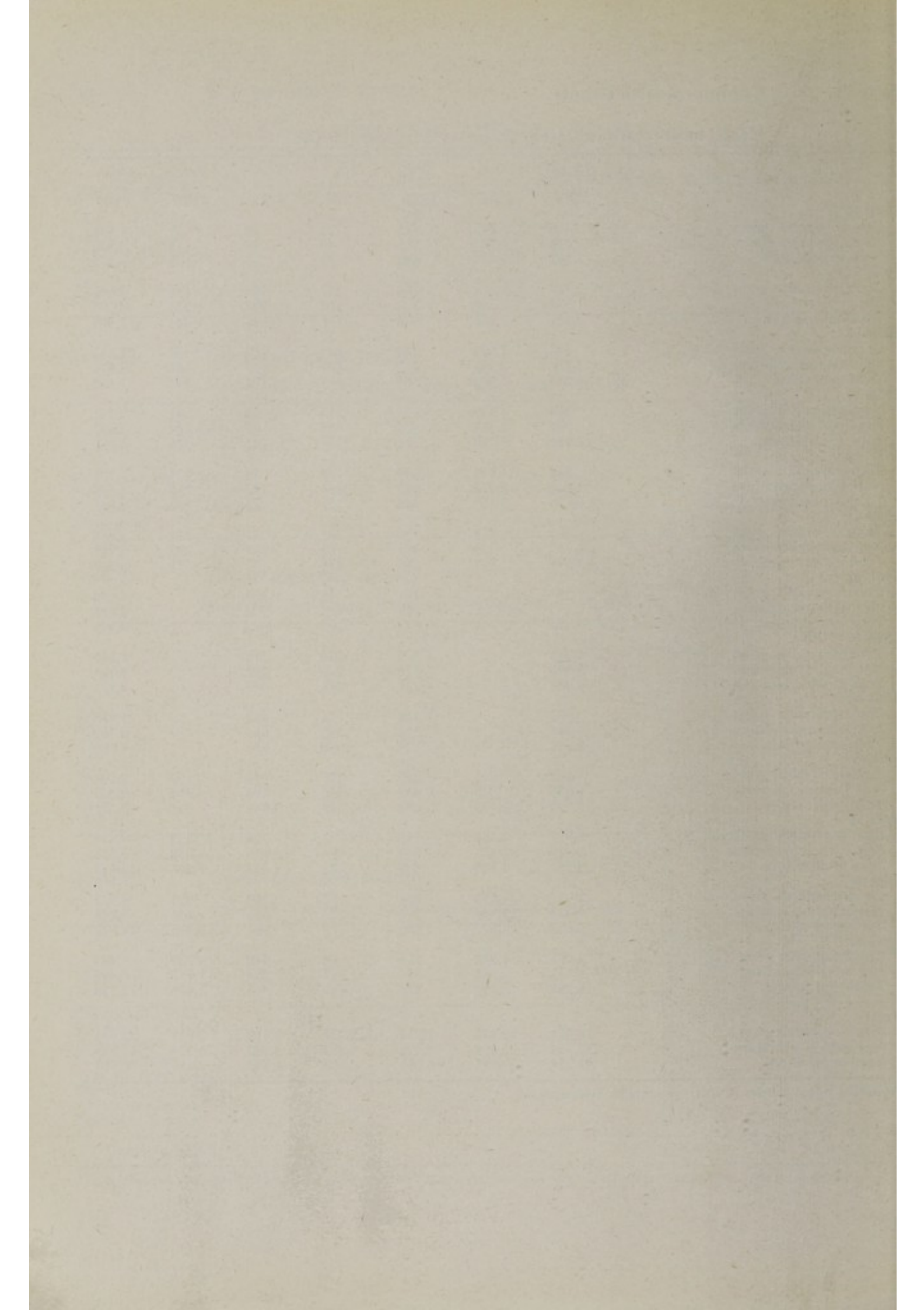
Table 71

Commonwealth Grants

Mental health institutions—by States—1955-56 to 1967-68

			N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Cwlth
			\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1955-56									
Commonwealth grant	..	..	418	892	133	24	20	59	1,546
Net State expenditure	..	..	835	1,783	266	49	40	119	3,093
Total expenditure..	..	..	1,253	2,674	400	73	60	179	4,639
1956-57									
Commonwealth grant	..	..	767	1,054	176	257	104	138	2,496
Net State expenditure	..	..	1,534	2,109	352	514	207	276	4,993
Total expenditure..	..	..	2,301	3,163	528	771	311	414	7,489
1957-58									
Commonwealth grant	..	..	648	1,091	228	304	58	183	2,513
Net State expenditure	..	..	1,297	2,181	456	609	117	366	5,026
Total expenditure..	..	..	1,945	3,272	685	913	175	548	7,538
1958-59									
Commonwealth grant	..	..	394	1,239	237	245	34	92	2,241
Net State expenditure	..	..	787	2,478	474	489	69	184	4,482
Total expenditure..	..	..	1,181	3,718	711	734	103	275	6,722
1959-60									
Commonwealth grant	..	..	718	1,036	149	184	74	134	2,295
Net State expenditure	..	..	1,436	2,073	298	367	147	268	4,590
Total expenditure..	..	..	2,154	3,109	448	551	221	402	6,885
1960-61									
Commonwealth grant	..	..	866	168	195	91	31	104	1,454
Net State expenditure	..	..	1,732	335	391	183	61	208	2,909
Total expenditure..	..	..	2,597	503	586	274	92	312	4,363
1961-62									
Commonwealth grant	..	..	1,297	..	141	56	154	..	1,648
Net State expenditure	..	..	2,595	..	283	111	308	..	3,297
Total expenditure..	..	..	3,892	..	424	167	462	..	4,945
1962-63									
Commonwealth grant	..	..	1,295	..	75	104	116	..	1,590
Net State expenditure	..	..	2,590	..	150	208	232	..	3,181
Total expenditure..	..	..	3,885	..	226	313	347	..	4,771
1963-64									
Commonwealth grant	..	..	982	..	108	173	332	..	1,595
Net State expenditure	..	..	1,964	..	216	345	663	..	3,189
Total expenditure..	..	..	2,947	..	324	518	995	..	4,784
1964-65									
Commonwealth grant	..	..	659	711	225	265	447	197	2,504
Net State expenditure	..	..	1,319	1,423	449	530	893	394	5,007
Total expenditure..	..	..	1,978	2,134	674	794	1,340	591	7,511
1965-66									
Commonwealth grant	..	..	1,717	1,567	146	242	338	529	4,539
Net State expenditure	..	..	3,434	3,134	293	484	675	1,058	9,078
Total expenditure..	..	..	5,151	4,700	439	726	1,013	1,586	13,617
1966-67									
Commonwealth grant	..	..	2,217	1,192	288	193	260	823	4,973
Net State expenditure	..	..	4,434	2,385	576	385	521	1,646	9,947
Total expenditure..	..	..	6,652	3,577	863	578	781	2,469	14,920
1967-68									
Commonwealth grant	..	..	2,095	1,382	196	64	148	358	4,243
Net State expenditure	..	..	4,191	2,763	391	127	297	717	8,485
Total expenditure..	..	..	6,256	4,144	587	190	445	1,075	12,728
Total									
Commonwealth grant	..	..	14,074	10,333	2,299	2,201	2,115	2,617	33,638
Net State expenditure	..	..	28,148	20,664	4,596	4,402	4,230	5,235	67,275
Total expenditure..	42,222	30,996	6,895	6,602	6,345	7,851	100,912

Apparent minor errors in totals are due to 'rounding off'.



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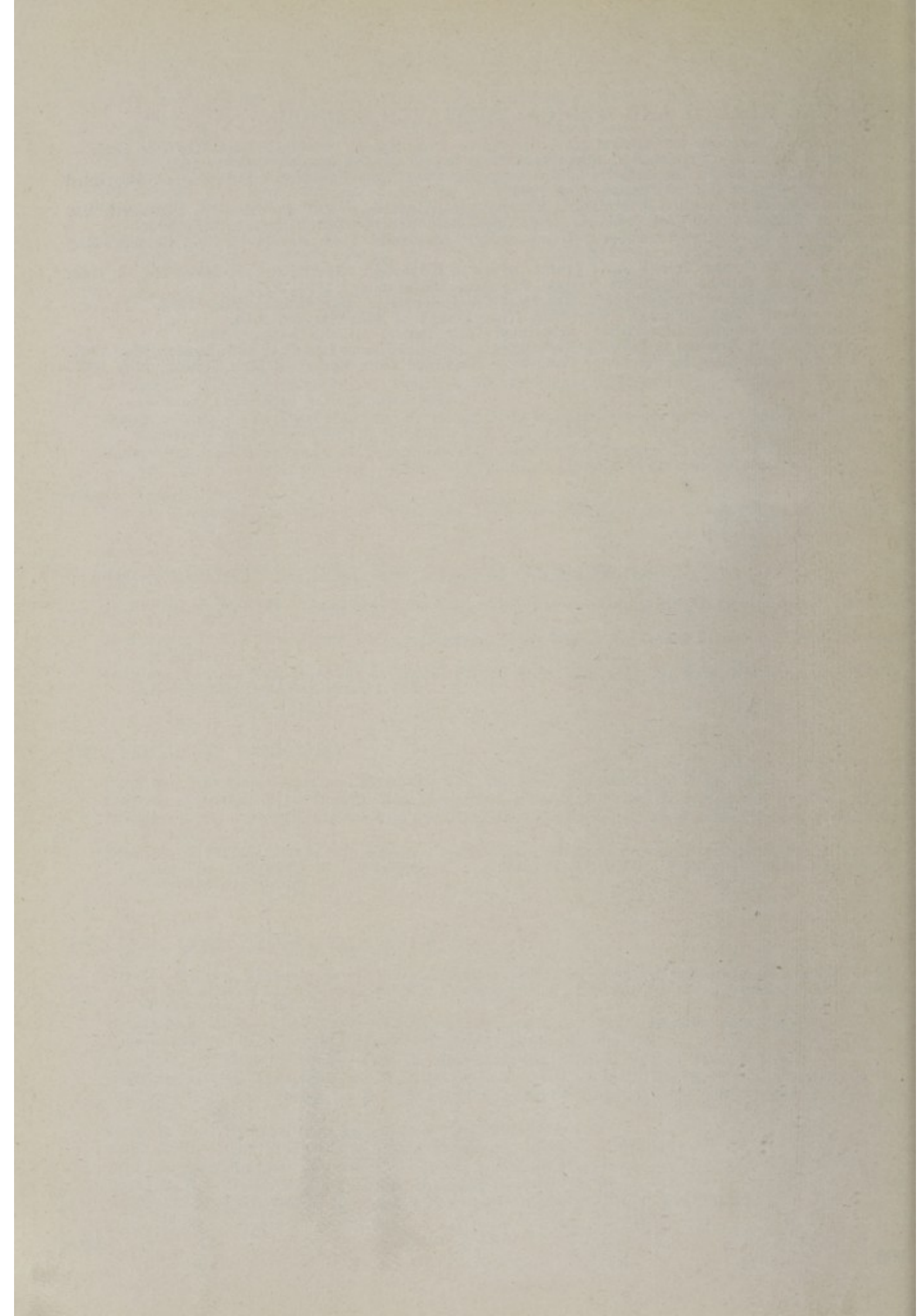
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