ECONOMIC DEVELOPMENT COMMITTEE

MEMBERS

The Hon. C.A. Strong, M.L.C. (Chairman)

Mr P. Batchelor, M.P. (Deputy Chairman)

Hon. R.H. Bowden, M.L.C.

Mr G.P. Jenkins, M.P.

Mr M.A. Leighton, M.P.

Mr H. Lim, M.P.

Mrs D.F. McGill, M.P.

Hon. P. Power, M.L.C.

Mr D.L. Treasure, M.P.

ADMINISTRATIVE AND RESEARCH STAFF

Mr R.Willis, Executive Officer

Mr C. Chara, Office Manager/Research Assistant

Mr M. Scavone, Research Officer

Mr P. Bourke, Research Officer

The Committee's Address is:

Level 8

35 Spring Street

MELBOURNE 3000

Telephone: (03) 9651-3592

Facsimile: (03) 9651-3691

E-mail: ecodevpv@vicnet.net.au

PREVIOUS ECONOMIC DEVELOPMENT COMMITTEE

(Prior to 5th March 1996)

MEMBERS

The Hon. G.B. Ashman, M.L.C. (Chairman)

Mr M.A. Leighton, M.P. (Deputy Chairman)

Mr. G.W. Ashley, M.P.

Mr P. Batchelor, M.P.

Hon. G.P. Connard, M.L.C.

Hon. P.R. Davis, M.L.C.

Mr. B.A. Mildenhall, M.P.

Hon. P. Power, M.L.C.

Mr D.L. Treasure, M.P.

EXTRACT FROM THE RECORDS OF PARLIAMENT

MINUTES OF THE PROCEEDINGS OF THE LEGISLATIVE COUNCIL

Tuesday, 14th May 1996

17 ECONOMIC DEVELOPMENT COMMITTEE - The Honourable R.I. Knowles moved, by leave, That the Honourables R.H. Bowden, P. Power and C.A. Strong be members of the Economic Development Committee.

Question - put and resolved in the affirmative.

EXTRACT FROM THE RECORDS OF PARLIAMENT

VOTES AND PROCEEDINGS OF THE LEGISLATIVE ASSEMBLY

Tuesday, 14th May 1996

19 APPOINTMENT OF COMMITTEES - Motion made, by leave, and question - That

(c) Mr Batchelor, Mr Jenkins, Mr Leighton, Mr Lim, Mrs McGill and Mr Treasure be members of the Economic Development Committee.

(Mr Gude) - put and agreed to.

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Chapter 2. National Health & Medical Research Council

Chapter 3. Other Commonwealth Government Support

Chapter 4. State Government Support

Chapter 5. Support from Non-Government Organisations

FUNCTIONS OF THE ECONOMIC DEVELOPMENT COMMITTEE

The Economic Development Committee is constituted under *the Parliamentary Committees Act 1968* as amended by *the Parliamentary Committees (Joint Investigatory Committees) Act 1982, Parliamentary Committees (Amendment) Act 1989 and the Parliamentary Committees (Amendment) Act 1992*.

The Committee consists of nine Members of Parliament, three drawn from the Legislative Council and six from the Legislative Assembly. It is chaired by the Hon. Chris Strong, M.L.C. The Committee carries out investigations and reports to Parliament on matters associated with economic development or industrial affairs. Its specific functions under the Act are:-

- to inquire into, consider and report to the Parliament on any proposal, matter or thing connected with economic development or industrial affairs, if the Committee is required or permitted so to do by or under the Act.

TERMS OF REFERENCE

MEDICAL AND PUBLIC HEALTH RESEARCH IN VICTORIA

REFERENCE TO THE ECONOMIC DEVELOPMENT COMMITTEE

The Governor in Council, acting under section 4F (1) of the Parliamentary Committees Act 1968, by this Order requires the Economic Development Committee to inquire into, consider and report to the Parliament on medical and public health research in Victoria, and in particular to-

1. Review the support currently provided to medical and public health research bodies within Victoria, with particular emphasis on:

    - the relative roles of State and Commonwealth Governments;
    - contribution by the private sector to developments in medical research;
    - support through charitable organisations;
    - the basis for infrastructure support provided to major medical research institutions.

2. Review the focus and scope of medical and health research being undertaken in Victoria and make recommendations on whether State Government funding would benefit from greater co-ordination and strategic direction and appropriate structures to achieve this.

3. Review the ways in which the results of medical and public health research are disseminated and applied in Victoria, and make recommendations on:

    - ways to improve linkages between research, policy and product development; and
    - strategies to optimise the economic and health benefits to Victoria of research undertaken in this State.

In addressing the Terms of Reference, the Committee should take into account the Industry Commission Report on Research and Development (1995) and initiatives of other Australian Governments.

Dated 12 June 1996

Responsible Minister:

ROB KNOWLES
Minister for Health

ANNETTE WILTSHIRE
Acting Clerk of the Executive Council

EXECUTIVE SUMMARY

The Economic Development Committee believes there are a number of critical issues with respect to medical and public health research in Victoria that require policy direction to ensure Victoria remains a key contributor to world-wide medical research activity.

Format of Interim Report

Given the importance of this Inquiry to Victoria's medical research community, the Committee has decided to release an interim report for comment and feedback prior to the tabling of its final report to Parliament early in 1997.

This Interim Report outlines the direction the Committee is heading with its Inquiry based on evidence received to date. The Report has been divided into two parts.

Part One of the Interim Report provides a broad overview of the Committee's findings and, where appropriate, recommendations. In many instances the Committee has not formed a firm view and recommendation on certain issues. Accordingly, throughout this Overview, the Committee has indicated where it is seeking assistance from the medical research community in formulating its final recommendations.

In other instances the Committee has made draft recommendations or has started to develop recommendations. Input is also sought with respect to these draft recommendations.

Part Two of the Interim Report provides factual information relating to various sources of funding for medical and public health research in Victoria. This information is designed as background notes to support the Committee's findings/recommendations in Part One, throughout which, appropriate references are made to the supporting evidence in Part Two of the Report.

Overview of Findings

This Inquiry has provided the unique opportunity for an investigation into the economic and health benefits arising out of medical and public health research. The Committee believes this is a logical basis from which to make judgements about medical and public health research funding.

Medical and public health research has global benefits which make it difficult to determine the extent of economic and health benefits to Victoria as a result of the high level of medical research activity in this State.

Nevertheless, Australia has an international obligation to contribute to world-wide medical research efforts. Accepting this, the Committee's focus has been on strategies to maximise the benefit from existing levels of medical research funding.

Some key strategies include:-

- better utilisation of the National Health & Medical Research Council Grant Committees mechanism;

- promotion of co-location of medical research institutes to achieve critical mass;

- a formula based approach for the allocation of State Government infrastructure grants and hospital research grants, including appropriate criteria; and

- a greater emphasis and increased funding towards public health research.

Invitation for Comment

The Committee is seeking comments from interested individuals and organisations with respect to its Interim Report. Comments will take the form of:-

- written submissions to the Committee closing 31st January 1997;
- public hearings with selected witnesses commencing late January 1997; and
- informal meetings as required.

The Committee aims to table its Final Report during the 1997 Autumn Session of Parliament.

Written submissions should be addressed to:-

Hon. Chris Strong, MLC
Chairman
Economic Development Committee
Level 8, 35 Spring Street
Melbourne 3000

Part One

Report

Incorporating

Findings and Recommendations

1. INTRODUCTION

1.1 TERMS OF REFERENCE

On 5th September 1995, the Minister for Health issued the Economic Development Committee with a Reference to undertake a review of medical and public health research in Victoria. Briefly, the Reference required the Committee to review:-

- the support provided to medical and public health research bodies in Victoria;
- the focus and scope of research undertaken; and
- the benefits to Victoria arising out of medical and public health research undertaken in this State.

1.2 INQUIRY PROCESS

In December 1995, the previous Committee commenced its investigations and held discussions with relevant funding bodies, medical research institutes, public health organisations and pharmaceutical companies interstate and in Victoria.

In March 1996, the Victorian Parliament was dissolved for the State Election. As a consequence, the Committee also dissolved and its Terms of Reference lapsed.

Upon the resumption of Parliament in May 1996, the Committee was re-constituted (comprising five new Members) with the Hon. Chris Strong, MLC as Chairman. The previous Terms of Reference was subsequently re-issued to the Committee on 12th June 1996.

The Committee tabled an Interim Report in Parliament on 3rd December 1996 outlining the direction of the Inquiry and seeking feedback from the medical and public health research community on key issues.

Approximately 60 additional submissions were received in response to the Interim Report which greatly assisted the Committee in its final deliberations and formulation of recommendations.

Investigations throughout the Inquiry comprised formal public hearings, receipt of written submissions (125) and a series of informal meetings and visits to a large number of medical and public health research institutes and pharmaceutical companies in Melbourne and interstate. The Committee Chairman also held a number of meetings overseas with relevant organisations.

A working group of selected medical research institutes was also established in December 1996 as a means of assisting the Committee on the details of the infrastructure grant funding formula proposed in the Interim Report.

1.3 PURPOSE OF REVIEW

Medical research in Australia is a major industry. While it has been difficult to quantify, total spending in medical research in Australia is estimated to be over $600 million per annum. Victoria, as the nation's centre for medical research, receives the largest proportion of these funds. In 1994/95 Victoria's health R&D expenditure amounted to over $200 million.[1]

> ***"The inquiry represents the opportunity to consider the key economic aspects of medical research and provide guidance for future Government policy at both state and national level."***
>
> *Dr Chris Brook, Director of Public Health, Department of Human Services* [2]

The Committee's Reference required an analysis of existing medical research funding, both the quantum and methods of allocation. Given that the Terms of Reference has been issued to an economic development committee, as opposed to a health committee,

1 Australian Bureau of Statistics, 1992/93 - 1994/95, Cat. Nos. 8109.0, 8111.0 & 8112.0, AGPS, Canberra.

2 Victorian Department of Human Services, Submission No.66 to EDC, p.1

the Committee's Inquiry has the added dimension of relating the allocation of funds and research activity to the economic benefit of Victoria.

1.4 DEFINITION OF MEDICAL AND PUBLIC HEALTH RESEARCH

A clear definition and distinction is made between medical research and public health research. In general terms, medical research relates to understanding the disease mechanism leading to curative solutions, whereas public health research focuses on health enhancement and disease prevention of the population.

The Committee has noted there are several definitions of medical and public health research which can be summarised as follows.

Bio-medical or basic research examines the biological determinants of health and disease and establishes the biological base for preventing, treating and curing diseases.

Clinical or applied research looks at the effectiveness of strategies to diagnose and treat diseases.

Public health research is a population based approach, combining practical skills, statistical analysis and medical knowledge, all directed to the maintenance and improvement of health within the population as a whole, rather than for an individual.

The public health approach is generally seen as encompassing three broad streams:-

- **epidemiology** or the examination of the determinants and distribution of disease and risk factors;
- **health promotion research** into strategies for preventing illness; and
- **health services research** into better and more effective and efficient delivery systems.

2. OVERVIEW OF MEDICAL RESEARCH INDUSTRY

The following overview of the medical research industry summarises the complex arrangements and inter-relationships of the industry as well as lines of research, the source of funds, organisations involved and methods of fund allocation.

2.1 MEDICAL RESEARCH FUNDING

Total health R&D expenditure in Australia is estimated to be over $600 million per annum. Of this total, Government spending in medical research is approximately $300 million. The main contributor is the Commonwealth Government who, through the auspices of the National Health & Medical Research Council, contributed $135 million in medical and public health research grants throughout Australia in 1996.[3] It is estimated that Victoria receives over $180 million of the total investment in medical and public health research funding in Australia.

DISTRIBUTION OF NATIONAL HEALTH & MEDICAL RESEARCH COUNCIL GRANTS - 1996

Error! Not a valid link.(**Source:** National Health & Medical Research Council, *Grants 1996*, AGPS, Canberra, 1996, pp. 2, 176)

Other major funding sources include State Governments, Non-Government Organisations, the private sector, including pharmaceutical companies, charitable organisations and foundations, and numerous bequests and donations. Overseas agencies such as the U.S. National Institutes of Health and the Wellcome Trust in the U.K. also make significant contributions to medical research in Australia.

It should be noted that the Commonwealth also makes a significant, but difficult to quantify, indirect contribution to medical research through tax deductible allowances and concession schemes to the private sector and non-profit organisations including the Factor f Scheme for pharmaceutical companies.

[3] Refer Table 1, p. 153

With regard to these significant Commonwealth schemes, the Committee notes that at the time of finalising this Report, the 150% tax concession scheme had been reduced to 125% by the Federal Government and the Factor f Scheme is currently under critical review.

Within Victoria, funds for medical and public health research were allocated by the following organisations and agencies in 1996.

- The NHMRC allocated $55 million in grants representing 42% of the total Australia wide allocation, confirming Victoria's pre-eminent status in medical research.

- The pharmaceutical industry including leading companies Glaxo Wellcome Aust. Ltd, CSL Limited and AMRAD Corporation Ltd. There are eleven major pharmaceutical companies in Victoria. It is estimated that the pharmaceutical industry contributes approximately $25 million in direct funding to Victorian medical research.

- International sources including the National Institutes of Health in the United States and various philanthropic trusts such as the Wellcome Foundation in the United Kingdom. Direct overseas research grants to Victorian Institutes were estimated to be $12 million in 1996.
- Commonwealth Department of Health & Family Services which provides research funds within targeted health programs, including the Commonwealth AIDS Research Grants, amounting to approximately $8 million.

- Co-operative Research Centre grants administered by the Commonwealth Department of Industry, Science and Tourism totalling approximately $5 million.

- The Australian Research Council (ARC), under the auspices of the Commonwealth Department of Employment, Education, Training and Youth Affairs, allocated approximately $4 million in research funding together with infrastructure support to universities, the amount of which is unquantifiable for medical research activity.

- The Victorian Government, through various programs, contributed approximately $35 million to medical and public health research undertaken in this State.

- Non-Government Organisations such as VicHealth, the Anti-Cancer Council of Victoria and the National Heart Foundation who contributed approximately $11 million.

- Hospital Research Foundations specifically established on behalf of a hospital or medical research institute, to seek and manage research funds.

- Over 20 Disease/Organ specific Foundations including the Asthma Foundation, Australian Kidney Foundation and Cystic Fibrosis Association of Victoria together with numerous charitable trusts and endowments such as the Jack Brockoff Foundation and William Buckland Foundation. Charitable organisations contributed approximately $30 million to Victorian medical research in 1996.

- Private donations, corporate sponsors and bequests.

- Medical and Health Professional Colleges, Societies and Associations numbering approximately 20.

☛ *A detailed listing and description of these funding sources is provided in Part 2 of this Report.*

The vast majority of these funds are directed into investigator driven basic research which focuses on disease mechanisms. Less funds are allocated to strategically directed public health and disease prevention research.

In particular, the NHMRC has a predominant focus on pure biomedical research and only in recent years has the national funding body attempted to direct funds into public health research. The significant contribution by the private sector, through pharmaceutical companies, is also directed to medical research where the opportunity for commercialisation of pharmaceutical products is greatest.

2.2 MEDICAL RESEARCH ACTIVITY

Output of medical research effort is generally measured by the volume of scientific papers published. Australian scientists are known to contribute approximately 2% of the world's medical research effort which is considered to be *"ten times more output than would be expected for the size of our population and the money invested. We have had four Nobel Laureates in medicine and our scientists regularly win the world's most prestigious research awards."*[4]

Victoria is recognised internationally as Australia's centre of excellence in medical research. This reputation began decades ago based on the significant wealth of scientific talent and key medical discoveries emanating initially from the University of Melbourne, Royal Melbourne Hospital and the Walter and Eliza Hall Institute of Medical Research. The development of other highly reputable medical research institutes in the nearby vicinity has lead to what is now internationally known as the 'Parkville Strip'.

Medical and public health research activity in Victoria is predominantly carried out by the following organisations.

- There are approximately 20 major medical research institutes which received almost half of NHMRC grants to Victoria in 1996. Many of these are independent bodies and include the block funded[5] Walter & Eliza Hall, Baker, Howard Florey and Murdoch Institutes. Major non-block funded Institutes include Prince Henry's Institute of Medical Research and the Austin Research Institute.

- Eight universities, who combined received 45% of NHMRC grants to Victoria in 1996, with the University of Melbourne and Monash University being the major recipients.

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4 National Health & Medical Research Council, *Researching for Health - Leading Australian Health and Medical Research into the 21st Century,* AGPS, Canberra, 1995, p.5

5 See details of block grants on p. 43

- Researchers from Melbourne's major hospitals. There are 17 major teaching hospitals in Melbourne, 7 of which received NHMRC grants in 1996 amounting to 5% of NHMRC grants to Victoria.

- Numerous other research organisations covering a wide range of research interests who do not receive NHMRC funds but are supported by non-government and charitable sources.

☛ *Full details of organisations involved in medical and public health research in Victoria are provided in Part 2 of this Report.*

Wide ranging affiliations and other relations exist between universities, hospitals and medical research institutes (see table on page 84). It is quite common for a Director or senior researcher within an Institute to also hold a professional position within a university and/or hospital.

The Committee found numerous examples of such affiliations during the course of its investigations:-

- Melbourne University is affiliated with the Walter & Eliza Hall Institute, Howard Florey Institute, Ludwig Institute, Macfarlane Burnet Institute, Microsurgery Research Centre, St.Vincent's Research Institute, St.Vincent's Hospital, Austin Research Institute, Austin and Repatriation Medical Centre, Bionic Ear Institute, Murdoch Institute, Heart Research Centre, Royal Melbourne Hospital, Royal Children's Hospital and the Alfred Hospital;

- Monash University is affiliated with the Baker Medical Research Institute, Prince Henry's Institute of Medical Research, the Alfred Hospital, and the Monash Medical Centre;

- the Royal Children's Hospital created the RCH Research Foundation which works closely with the University of Melbourne Department of Paediatrics, the Murdoch Institute for Research into Birth Defects and with the Royal Children's Hospital clinical staff; and

- the Bionic Ear Institute works in collaboration with research and clinical staff from the Royal Victorian Eye and Ear Hospital, Cochlear Implant Clinic, Department of Otolaryngology at Melbourne University, the Human Communication Research Centre and the Co-operative Research Centre for Cochlear Implant, Speech and Hearing.

The bulk of the research activity is carried out within the 10 large independent medical research institutes and researchers within the University of Melbourne and Monash University where the predominance is towards basic biomedical research as opposed to public health research.

Only in recent years has there been a recognition of the need to conduct public health/disease prevention research with the establishment of important public health focussed centres, most notably, the Monash University Department of Epidemiology and Preventative Medicine and four Centres of Excellence in public health supported by VicHealth.

2.3 ALLOCATION OF FUNDS

The distribution of medical and public health research grants in Australia is equally diverse and complex.

Approximately half of Australia's total government expenditure on medical and public health research is allocated through the National Health & Medical Research Council. The Council allocated $135 million in research grants throughout Australia in 1996 ($126 million to medical research and $9 million to public health research). These grants are allocated through a highly competitive peer-review process, with only 1 in 5 applications being successful.

Despite the fact that Victoria receives the majority of NHMRC funds, concern was expressed to the Committee that there has been a shift in funds away from Victoria to other States, particularly New South Wales and Queensland. The Committee believes that if funds are allocated on the basis of research excellence, then Victoria's share should not decrease. In fact, the Committee found this to be the case based on the distribution of grants over the past six years.

Other forms of competitive funds are allocated by the Commonwealth Government through targeted health programs administered by the Department of Health & Family Services, and through the Co-operative Research Centres Program managed by the Department of Industry, Science & Tourism. ☛*Details of this support are provided in Part 2 of the Report.*

DISTRIBUTION OF NHMRC GRANTS 1991-1996

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The State Department of Human Services provides hospitals with $14.2 million in 'research support' each year. The allocation of these funds can be much improved. Full details on the purpose and allocation of this money is addressed in part 4.3.1 of this Report.

Non-Government Organisations including VicHealth, the Anti-Cancer Council of Victoria and the National Heart Foundation, provide research grants through a competitive peer-review process. The various disease orientated foundations also provide funds on a similar process.

The research funds provided by numerous charitable trusts and endowments are generally not awarded through a competitive basis.

The Victorian Government, through the Department of Human Services, allocated $6.7 million in infrastructure support to 17 leading medical research institutes in 1996. These grants have been allocated on an historical basis and are a key aspect of the Committee's review. A detailed analysis of this support is provided in 4.2.1 of this Report.

The allocation of funds through the major funding bodies have traditionally favoured investigator driven research which is reflected in the highly competitive peer-review processes. As previously stated, less funds are allocated through strategically directed mechanisms to public health/disease prevention research in line with health priority areas determined by governments.

3. ECONOMIC BENEFITS OF MEDICAL AND PUBLIC HEALTH RESEARCH

3.1 FOCUS ON ECONOMIC BENEFITS

The following section provides an analysis of the extent of benefits arising out of medical and public health research based on evidence received throughout the Inquiry and an assessment as to whether the present levels of investment are adequate in terms of fostering Australia's medical research effort and maximising the return on investment.

The Committee's key focus has been to analyse the overall and relative benefits arising out of medical and public health research and the extent to which there has been a net benefit to Victoria from this investment, as the logical base from which to make funding judgements.

3.1.1 Health Benefits to the State

The Committee set out the following parameters to determine the health benefits:-

- prolonged life and improved Victorian community health;
- reduction in social costs arising out of rehabilitation;
- improved patient care and medical techniques;
- reduction in work absenteeism, sickness, injuries and workcare;
- reduced hospital, medical and pharmaceutical costs; and,
- less hospital stays, increased patient turnover, reduced waiting lists and an overall reduction in hospital demand.

3.1.2 Economic Benefits

In addition, the following parameters were established to determine the direct and indirect economic benefits of research activity:-

- increase in income and employment through the commercialisation of research, product development, sales and royalties;

- provision of materials and services supporting medical research;

- increased employment in the health industry, medical research institutes, education, equipment supply; and

- increase in skills and knowledge which in turn could lead to: further research; increase in the status of Victoria's educational institutions; enhanced international reputation (resulting in further overseas grants, collaborations); more pharmaceutical companies locating in Victoria; enhancement of medical R&D and a broader R&D base.

Throughout the Inquiry, the Committee has given high priority to the economic benefits arising out of medical research and has sought evidence that is economic in nature. While it is recognised that the economic benefits are only part of the total benefits that may accrue from medical and public health research activity, the Committee's function is an economic one which has logically directed the focus of its investigations.

The following provides an analysis of the evidence received on the health and economic benefits of medical research undertaken in Victoria.

3.2 EVIDENCE ON HEALTH BENEFITS OF MEDICAL RESEARCH

Investigator lead medical research which is aimed at disease mechanisms and improvements to community health, is short on data relating to economic benefits. While much has been written on the economic benefits of particular world-wide

discoveries (eg. savings arising out of polio vaccination), little has been written on the total economic benefits of medical research.

The primary focus of medical and health professionals is on health issues and this is reflected in submissions received by the Committee which have essentially concentrated on the health benefits of medical research.

Evidence presented to the Committee indicates there are significant but difficult to quantify economic benefits from medical public health research. These benefits include:-

- a healthier society, through either preventative or curative actions, which in turn leads to reduced hospital and medical costs, less absenteeism from the workplace, maintenance of skills through longer productive life;

- enhanced skills and knowledge in the health industry resulting in a more cost effective health system;

- potential economic activity from the commercialisation of discoveries; and

- various spillover benefits in other industries arising out of Victoria's medical research activity.

3.2.1 Analysis of Proposed Health Benefits

The reality of medical research is that regardless of where such research is performed the resulting health benefits are international in nature. Advances in Australia are soon available and known of around the world, just as activity in USA or UK is very quickly available in Australia.

Between Australian States this is even more the case. Knowledge does not stop at State boundaries so discoveries, new techniques and procedures discovered or developed in one State are available in other States.

Nevertheless, this Reference provides a unique opportunity to assess whether or not there have been additional health benefits to Victoria as a result of medical research activity in the State being greater than any other State. The Terms of Reference specifically requires the Committee to 'make recommendations on strategies to optimise the economic and health benefits to Victoria of research undertaken in this State.'

In response to the evidence received on possible health benefits, the Committee finds generally as follows.

(i) Economic benefits from a healthier society

There is a clear and demonstrable benefit arising out of medical and public health research in terms of lifesaving drugs, lifesaving clinical procedures, vaccination developments to protect against disease, preventative behaviour and risk education. All of these lead to a longer, healthier and more productive life for the community.

In theory, a healthy society should lead to economic benefits through reduced hospital and medical costs, less absenteeism from the workplace and maintenance of skills through longer productive life.

The benefits of medical research have been world-wide from which the Australian population has clearly benefited. However, in view of the focus and scope of the Committee's Inquiry, an attempt has been made to determine the extent of any extra health benefits to Victoria from our higher level of investment in research.

Prior to the release of the Interim Report, it was put to the Committee that an added health benefit has accrued to the Victorian community because of the large and vibrant medical research industry in this State. The Committee therefore sought, in the Interim Report, further evidence of where the higher than average medical research activities undertaken in this State have resulted in a healthier Victorian society compared to other States.

Evidence in response to the Interim Report dismissed this argument highlighting that health status is related not only to health research, but also to education, employment, income, housing, nutrition, physical environment, and cultural and social services.

The Committee finds therefore, that there is no causal link between Victoria's high level of medical research activity and a healthier than average Victorian society.

It should be noted however, that there are a number of examples of how Victoria's medical research activities have provided selected proportions of the Victorian population with accelerated access to treatments, vaccines, therapies and techniques. This accelerated access may have, in turn, resulted in cost savings to Victoria, but these are difficult to quantify.

Key examples of accelerated health benefits include:-

- clinical development of G-CSF and GM-CSF, which are now used in bone marrow transplantation and chemotherapy world-wide; and

- clinical trials for cancer which has resulted in a large number of cancer patients benefiting from the early application of developments in treatments.

(ii) Economic benefits from a more cost effective health system

Initial anecdotal evidence put to the Committee suggested that active medical research enhances technology transfer leading to a better assessment of new technologies, drugs and procedures from overseas and interstate. This would, in turn, result in a more cost effective and efficient health care system.

However evidence put to the Committee suggests there has been very little proper evaluation and assessment of the cost effectiveness and allocative efficiency of health procedures and programs arising out of medical research. The Centre for Health Program Evaluation in its submission to the Committee noted as follows:-

"There is now a very large literature demonstrating that many, and probably the majority, of the activities in the health sector have never been subject to this type of evaluation. One OECD study suggests that 4/5ths of medical procedures and 2/3rds of medical goods have never been evaluated with respect to effectiveness or cost..... Historically the procedures and programs arising from research have transitioned from 'promising report' into 'standard procedure' for some populations after a grossly inadequate evaluation of effectiveness and after no economic evaluation of either technical or allocative efficiency".[6]

Initial evidence put to the Committee was inconclusive in establishing a link between high levels of medical research and greater health delivery efficiency in Victoria. Accordingly, in the Interim Report, the Committee sought further evidence to assess the extent to which the skills and knowledge of Victoria's medical research community has enhanced the cost effectiveness of Victoria's health system.

In reviewing this additional evidence, it would appear that there is no direct causal relationship between technology transfer from medical research and a more cost effective and efficient health care system. In fact, biomedical research is cost additive rather than cost reducing. However, this may not necessarily be the case with public health research where there is greater opportunity to impact upon the cost-effectiveness of the health care system.

3.2.2 Health Benefits Summary

The Committee believes that while it is indisputable that there is a health benefit from medical research, it is not true that there is causal relation between a predominance of medical research in Victoria and a more healthy Victorian population or efficient health care system.

➪ FINDING

It could be argued that the majority of health benefits would have flowed on to Australia and Victoria even if the Government had made no

6 Centre for Health Program Evaluation, Submission No.25 to EDC, p.2

investment in medical research. The Committee finds however, that this is not a viable proposition as investment in medical research is clearly a national and international obligation.

From this finding two major questions have to be considered.

1. What is the optimal level of national investment in medical research as a means of maintaining Australia's international medical research obligation?

2. Given that Australia has an obligation to invest in medical research, what can be done to achieve an added benefit to Victoria from this investment obligation?

> ***"It is necessary for us to make this contribution, as this justifies our heavy drawings on the total pool of medical research knowledge, and because we are a developed country, this input is perceived as obligatory by the other contributors."***
>
> Howard Florey Institute of Experimental Physiology and Medicine [7]

3.2.3 Appropriate Level of National Investment

In order to assess the appropriateness of Australia's level of government investment in medical research it is necessary to bench mark against international health R&D investment together with the research output of various western industrialised nations.

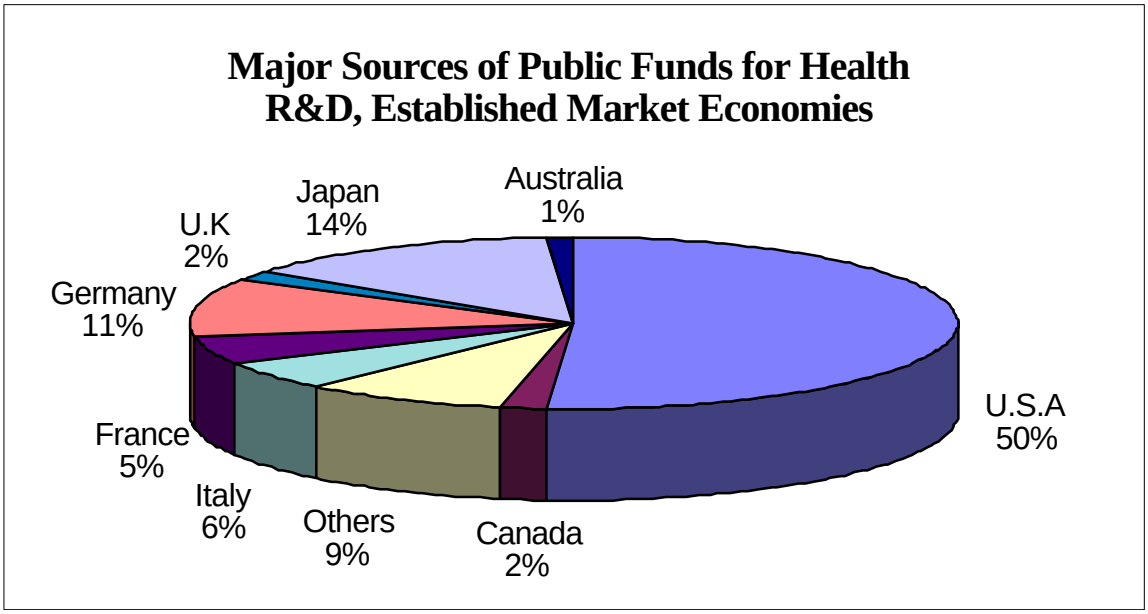
Accurate figures on world-wide health R&D expenditure are difficult to obtain, however the World Health Organisation's data would appear to be the most authoritative source.

The World Health Organisation estimated that global investment in health R&D in 1992 totalled approximately US$55 billion or 3.4% of health expenditure world-wide. Of this total investment, government spending was approximately US$28 billion or 1.6% of health expenditure world-wide.

[7] Howard Florey Institute of Experimental Physiology and Medicine, Submission No. 48 to EDC , p. 2

Governments in established market economies spent US$26.9 billion on domestic health R&D and governments in low income and middle income countries spent US$1.2 billion.

The United States Government is the major contributor with US$13.6 billion or 50% of world-wide government funding for health R&D in 1992. Australian governments' investment amounted to US$256 million, less than one percent of world-wide government funding for health R&D (see chart below). As a percentage of a country's total GDP, Australia ranks 12th in the world. [8]



(**Source:** World Health Organisation, *Investing in Health Research and Development-Report of the Ad Hoc Committee on Health Research Relating to Future Intervention Options,* 1996, p.218)

As a measure of research output, Australia was ranked 10th on the list of world-wide medical research publications in 1994, having contributed 2% of world publications. This contribution is considerable given Australia's relatively small population.

8 World Health Organisation, *Investing in Health Research and Development - Report of the Ad Hoc Committee on Health Research Relating to Future Intervention Options,* World Health Organisation, 1996, pp.217-219)

It can be seen that Australian government investment in health R&D is not low by international standards and that our ranking in investment is consistent with the ranking in research publications.

The NHMRC's research budget was increased in the 1996 Federal Budget despite a very tight fiscal environment which would suggest that medical research is accorded a high priority in terms of national investment in R&D. The success of the medical research community in lobbying for additional funds from the Government each year indicates the high regard in which medical research is held.

➪ FINDING

The Committee believes the National Health & Medical Research Council needs to undertake international benchmarking to assess the appropriate level of funding in medical research as a means of Australia fulfilling its international research obligations and opportunities.

3.2.4 Victoria's Level of Investment

The Committee believes the Federal and State Governments have a different focus in their medical and public health research funding priorities.

- The Commonwealth Government, as a national agency, has a responsibility to focus on scientific research in line with national endeavours. Accordingly, the Commonwealth has a priority to fund biomedical research.

- The State Government, on the other hand, has a different responsibility, to run an efficient health care system.

The Committee believes that public health research, which focuses on disease prevention and improved health delivery, will have a more immediate and direct benefit to the health status of Victorians which will lead to real economic benefits in terms of savings to the State's health system and a more healthy community.

➪ FINDING

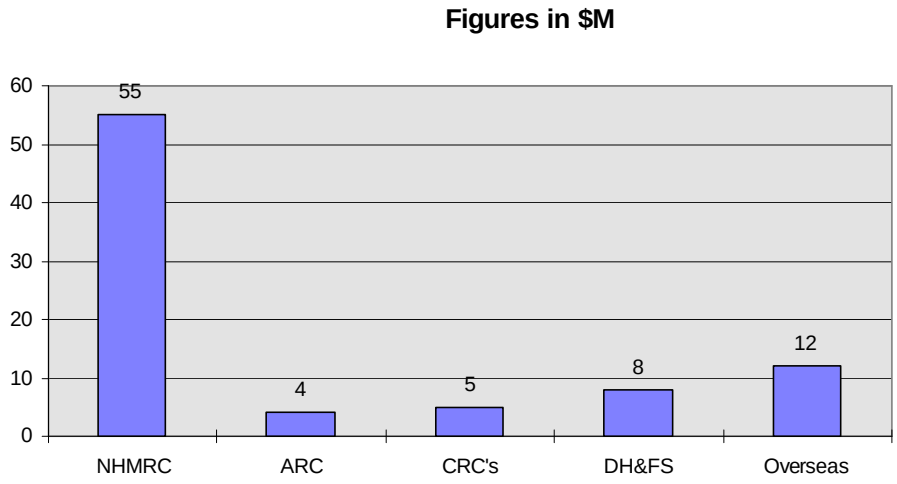
The Committee finds that given the Commonwealth has a major role in supporting science based biomedical research, the State's responsibility must be towards increasing the levels of funding directed to research into public health, disease prevention and health delivery. This research has the greatest impact on maximising economic benefits to the State.

3.3 EVIDENCE ON ECONOMIC BENEFITS TO VICTORIA OF MEDICAL RESEARCH

3.3.1 Attraction of Funds from Outside the State

The major quantifiable economic benefit to the State of Victoria is that the medical research community attracts over $85 million in funds from outside the State each year.[9]

MEDICAL RESEARCH INCOME ATTRACTED FROM OUTSIDE VICTORIA



3.3.2 Economic Activity from Commercialisation of Discoveries

The majority of medical research expenditure is directed towards basic biomedical research where, although potential exists for the development and commercialisation of pharmaceutical products, full commercialisation in Australia is minimal. As only 2% of world-wide medical research activity takes place in Australia, the chances of building an industry on the commercialisation of research discoveries is limited.

It is worth noting that two of Australia's leading medical R&D companies, AMRAD and CSL Limited are located in Victoria.

[9] Refer Table 2, p. 154

Australia does not choose to put resources into the high risk capital required for commercial development in what is a predominantly international market place. Clearly the best hope lies, as is already happening, in collaborations with major international pharmaceutical companies.

> ***"CSL, which has contributed millions to research, has entered a multi-million dollar agreement with a Swedish company, Astra AB, to collaborate in researching and developing an oral vaccine"*** [10]

Protection of Intellectual Property

As a consequence, the Committee believes the most profitable form of commercialisation will be through joint ventures with major pharmaceutical companies. The key to such joint ventures is the 'ownership' of a promising discovery that has commercial potential and can attract funds for further development.

Therefore of paramount importance is the need to protect intellectual property rights to avoid commercialisation opportunities being lost.

The creation of AMRAD Corporation in Victoria ten years ago was a significant initiative in attempting to protect and develop potential pharmaceutical discoveries arising out of Victorian and Australian medical research activity. At the time, major research discoveries were being lost to companies in the U.S.A, Europe and Japan which denied Australia the opportunity to benefit from the commercial return of these discoveries.

Experience from The Walter and Eliza Hall Institute's programme discovery of blood cell growth factors (CGF) indicates that these can become multi-million dollar commercial products. For Australia to receive the maximum possible financial returns in this highly competitive area, two requirements have proved critical: a mechanism for

[10] Victoria Gurvich, *Australia leads the way in ulcer vaccine,* 'The Age' Melbourne, 10/10/96, p.A6

funding the accelerated completion of a project and an awareness of the need for prompt patent filing, with adequate funds to achieve this.

The Committee visited AMRAD Corporation and CSL Limited and notes the important role of these companies in assisting medical research institutes in Australia with commercialisation partnerships and intellectual property issues.

The Interim Report indicated that despite the creation of AMRAD, not all of Victoria's medical research activity is adequately covered in terms of intellectual property protection and commercialisation advice.

Recent evidence suggests AMRAD covers up to 60% of the commercialisation needs of Victoria's medical research community. Most major Medical Research Institutes, who perform the bulk of biomedical research, are members and shareholders of AMRAD.

Over 30% of medical research activity is performed in universities who receive basic intellectual property advice from the relevant University commercialisation/technology transfer units (Montech and Unimelb) and often seek specialised medical research advice from AMRAD.

The relatively small balance of medical research activity in Victoria which is carried out in hospitals and smaller research institutes not affiliated with AMRAD or universities, may not receive adequate intellectual property and commercialisation advice.

Part 4.2.2 of this Report recommends strategies to enhance the existing commercialisation prospects of Victoria's total medical research activity.

3.3.3 Clinical Trials

Prior to the release of its Interim Report, the Committee had received contradictory evidence with respect to the potential for further development of the clinical trials industry in Victoria. Accordingly, the Committee sought further submissions on the extent of potential economic benefits that may arise out of the conduct of clinical trials.

Recent evidence suggests the conduct of clinical trials in Victoria offers benefits to the hospitals in terms of skill building, providing patients with accelerated access to treatments and making a contribution to world-wide testing of new drugs. Whilst the trials are conducted at no net cost or profit to the hospitals due to the sponsorship from overseas pharmaceutical companies, there is little evidence to suggest there is a substantial net monetary benefit to the State from an investment in clinical trial activity.

Nevertheless, the Committee acknowledges that the conduct of clinical trials is a necessary part of hospital activity and that there may be opportunities to increase the level of clinical trial activity in Victoria and subsequently enhance the albeit difficult to quantify economic benefits.

Part 4.2.3 of this Report deals with strategies aimed at enhancing clinical trial activity in Victoria.

3.3.4 Potential Growth from Spillover Sectors

The Committee's Interim Report noted that the vibrant medical research industry in Victoria is seen as having the potential to create growth in spillover industries. In particular, the Committee identified spillover benefits in the areas of higher education exports and Victoria's status as a centre of excellence in scientific research.

(i) Industries Associated with Medical Research

Anecdotal evidence put to the Committee prior to the Interim Report suggested that medical research activity in Victoria has created economic growth in related industries such as the pharmaceutical industry and medical manufacturing industry.

However, investigations into the location of pharmaceutical and medical manufacturing industries throughout Australia did not support the view that our dominance in medical research activity is reflected in an equal dominance in these related industries.

For example, the majority of pharmaceutical companies in Australia are located in New South Wales as are the majority of medical equipment manufacturers and associated employment in this industry. Almost half of Australia's medical device manufacturers are also located in NSW, compared to Victoria's 30%.[11]

Even taking into account the population levels of the two States, there appears to be no increased activity in medical manufacturing industries or the pharmaceutical industry in Victoria, as a result of its medical research activity.

Despite these figures, submissions in response to the Interim Report indicate that there are some opportunities for further growth of these industries in Victoria.

The Committee considers it is unlikely that the pharmaceutical and medical manufacturing industries will achieve significant growth in this State as these industries are already well established. It could even be argued that the potential to attract new companies and to gain further substantial growth in these industries is limited and may be reduced given the doubts over the long-term future of the Factor f Scheme and the reduction in the R&D tax concession Scheme.

➪ FINDING

The Committee finds that the State Government should maintain a watching brief to ensure that the pharmaceutical and medical manufacturing industries are maintained in Victoria and that any future opportunities to attract business to the State in these sectors are capitalised upon.

[11] Refer Tables 3, 4 & 5, p.155

(ii) Export of higher education

The export of higher education services has achieved dramatic growth in recent years and it is estimated this growth will further escalate in the immediate future. The growth of this industry is particularly evident in the rapidly developing SE Asian countries.

While the present focus of Australia's educational exports is in business/commerce courses, the increasing socio-economic advancement in this region means that this focus will begin to change. Most commentators suggest the next wave of educational service exports will be in the lifestyle/service related fields of which medical/health is clearly an important sector.

Victoria's world class status in the medical and health industry puts the State in a position of strength to capitalise upon potential growth in the demand for the export of medical/health educational services. Australia's proximity to the SE Asian region would also place Victoria in an advantageous position over international competitors in this export market.

(iii) Victoria's medical research status as a magnet

Victoria's outstanding research establishments act as a magnet in attracting the highest standard of medical students, doctors, hospital clinicians and researchers. This spillover effect can significantly enhance Victoria's international reputation as a centre of excellence in scientific research in general.

The Committee believes Victoria's medical research excellence is something of which we should be proud. More needs to be done to market Victoria's position of excellence in scientific research internationally to bring an increase of this activity to Victoria.

In its Interim Report, the Committee sought feedback from Government, the wider scientific research community and universities with respect to the concept of new export opportunities in the higher education sector and strategies to use our status to attract general science based activity.

Unfortunately the education industry and State Government were virtually silent on the opportunities in these two spillover areas. The Committee believes both the education industry and the Government are overlooking major opportunities for further economic growth.

➪ FINDING

The Committee finds that the State Government should, as a matter of priority, ensure that Victoria is in a position to capitalise upon potential spillovers in the emerging growth areas of higher educational service exports in the medical/health fields and marketing Victoria's status as a centre of excellence in scientific research.

3.3.5 Conclusion on Economic Benefits

(i) Medical Research

The Committee finds that the main economic benefit from the conduct of medical research in Victoria is the attraction of approximately $85 million per annum in revenue from outside the State which has resulted in increased employment and research activity.

Other potential benefits include:-

- commercialisation of discoveries;
- conduct of clinical trials;
- growth of industries associated with medical research;
- spillover benefits in higher education service exports and marketing Victoria as a centre of excellence in scientific research; and
- accelerated access to treatments.

The economic impact of these other activities on Victoria is almost impossible to quantify. As a consequence, the Committee believes it is more relevant to consider the

impact likely from any increase or decrease in the funds invested by the State Government into medical research.

➪ FINDING

The Committee finds that any added economic benefit to the State by increasing a direct investment in pure biomedical research would be marginal and therefore is not justified on an economic basis.

As previously mentioned, the Committee believes the Commonwealth Government has the key responsibility of investing in scientific based pure biomedical research.

Accordingly, any additional investment in medical research by the State Government must be targeted to attract new direct revenue to the State. (See recommendation in part 4.2.1)

(ii) Public Health Research

The Committee finds that public health research, which focuses on disease prevention and improved health delivery, will have a more immediate and direct benefit to the health status of Victorians which will lead to real economic benefits in terms of savings to the State's health system.

➪ FINDING

The Committee finds that as the State Government is responsible for the running of an efficient and cost effective health system, the State should also be responsible for increasing its support for public health research, disease prevention and health delivery research which would have the greatest impact on maximising economic benefits to Victoria.

Section 4.3 of this report contains recommendations aimed at promoting the level of public health research undertaken in the State.

4. KEY AREAS TO BE ADDRESSED

4.1 STRUCTURE OF MEDICAL RESEARCH SECTOR

4.1.1 Critical Mass

Evidence put to the Committee emphasised the importance of an environment which allowed for and encouraged a free exchange of ideas and experiences between researchers, both within and across disciplines. The importance of informal exchanges between colleagues was often emphasised as a means of stimulating new ideas or direction in research.

For an institute to be most effective, this 'critical mass of intellect' is seen as essential. The best science comes from the best researchers and the best researchers are attracted to work within centres of intellectual excellence. The Committee noted many examples from around the world of the most prestigious Institutes that had this critical mass of intellect.

Such critical mass also has other benefits including:-

- the ability to acquire and use the best, most up to date and widest range of scientific equipment and facilities;

- the ability to have better administration support and facilities, including libraries, statistical analysis support and sharing animal houses;

- easing the significant administrative workload of researchers in applying for grants; and

- enabling medical research institutes to reach international standards of excellence and to better compete for and gain limited funds on an ongoing basis.

A review of the independent medical and public health research institutes in Victoria indicates that several are below the necessary critical mass to be an effective and competitive research entity. Although difficult to assess, major medical research institutes would appear to need up to 80 researchers to obtain effective critical mass. Using the number of research staff as a guide for critical mass would suggest several of the Institutes are below the desired level (see Table opposite).

A lack of critical mass, as well as having potential disadvantages to the quality of research, also has an economic cost in the duplication of infrastructure support.

From a survey undertaken of Victorian medical research institutes (see page 123), it is apparent that some Institutes have significant infrastructure costs as a proportion of their total budgets. This then raises a question as to the level of research activity performed by these Institutes.

Evidence put to the Committee generally supported the concept of co-location. In putting forward concepts for co-location, submissions indicated consideration would need to be given to research synergies, the required capital investment by the Government to bring about re-location and the resultant impact on infrastructure costs.

The ability of an institute to achieve critical mass on their own or through co-location is dependent upon the research focus of an institute. Small, specialised institutes, with cutting edge technologies in niche fields of research, may be able to operate independently with a small research staff, but achieve critical mass through close collaborations with a university or hospital.

> ***"In a country with large distances and relatively few researchers and resources, sharing of resources can lead to better research ..... with limited resources, collaborative efforts are, and will increasingly be, essential for scientists if they wish to aspire to being at the cutting edge of science."*** Bienenstock[12]

[12] Dr John Bienenstock, *Report of an External Review of the National Health & Medical Research Council*, AGPS, Canberra, 1993, pp. 32-33

CO-LOCATION POTENTIAL OF MEDICAL RESEARCH INSTITUTES IN RECEIPT OF STATE GOVERNMENT INFRASTRUCTURE SUPPORT

Medical Research Institute	Total income $M	Number of employees	Location	Principal area of research	Potential for relocation
Walter and Eliza Hall	23.94	300+	Parkville (RMH)	cancer/ genetics/ immunology	no
Bernard O'Brien Institute	1.18	35	Fitzroy	microsurgery	yes
Ludwig Institute	9.11	150	Parkville (RMH)	cancer	no
National Vision	0.51	10	Carlton	eye	yes
Prince Henry's	4.48	105	Clayton (MMC)	Hormones / Reproduction	no
Mental Health	6.1	150	Parkville	mental illness	possible
Macfarlane Burnet Centre	12.69	120	Fairfield	HIV/ Virus/ Vaccines	possible
St Vincent's Research Institute	4.21	85	Fitzroy (St.V. H)	Cancer	no
Institute of Reproduction & Development	6.95	105	Clayton (MMC)	Hormones / Reproduction	no
National Ageing	1.96	25	Parkville (NWH)	ageing illness	yes
Howard Florey	7.99	100	Parkville (Melb.Uni.)	human physiology	no
Bionic Ear Institute	2.84	30	East Melb	ear / hearing	yes
Murdoch Institute	10.56	70	Parkville (RCH)	genetics / molecular biology	no
Centre for Molecular Biology	1.72	10	Epworth Hospital	molecular biology	yes
Austin Research Institute	5.91	90	Heidelberg (AH)	cancer	no
Heart Research Centre	0.49	30	Carlton	cardiac / vascular	yes
Baker Medical Research Institute	10.3	180	Prahran (Alfred)	Cardiac / vascular	no

The above list shows only those institutes that obtain State Government infrastructure support. There are, of course, other research bodies with potential for co-location that are not shown on the list.

Options for achieving critical mass

The Committee believes that in order to address the problems facing these smaller institutes, the Government should consider the following options for rationalisation and co-location.

(i) Provide financial incentives to co-locate

One of the criteria for receiving a State Government infrastructure grant (see page 57) should be that an Institute must have a total budget of not less than $5 million and/or is in receipt of competitive grants totalling no less than $1 million per financial year.

If this criteria were to be enforced by the Government, some institutes that are presently in receipt of a grant will no longer qualify. The Committee's infrastructure recommendation also indicates that these Institutes and other smaller institutes could qualify for infrastructure support if they chose to co-locate as a means of reaching the required threshold of combined income or competitive grants.

The Institutes which do not qualify would need to enter into an agreement with other Institutes to combine resources and consolidate accounts showing combined research grants, thereby enabling them to become eligible for infrastructure support.

The Committee believes this option must be pursued as a first step towards achieving co-location and critical mass of Victoria's medical research institutes to obtain better research outcomes and to concentrate funds on actual research, rather than infrastructure and other administrative overheads.

(ii) Creation of a new Research Institute

Another option for the Government to actively encourage co-location would be to promote the 'research hotel' model that has recently been so successfully developed at the Institute of Molecular Medicine in Oxford, U.K.

Under this model, physical and administrative infrastructure (buildings and administration functions) could be provided and made available to researchers who have NHMRC grant money or other competitive funds. In the case of the Oxford model, some 30 different research groups, all of different size and specialities, bring their grant money and take up residence in the 'research hotel'. If any group's grant runs out then they move out or make way for other researchers.

Such a model brings smaller, successful researchers together to achieve critical mass to share resources and administration functions.

Such a concept could also result in some modest infrastructure savings to Government. The provision of facilities and the creation of an asset would replace the allocation of an annual infrastructure grant to those Institutes who re-locate.

For this concept to achieve success, it would need to be headed by a pre-eminent Australian scientist in order to attract high calibre staff and competitive funding.

It is estimated that the creation of a new building, including the necessary equipment, would cost in the order of $15-40 million depending on the size of the building and operations.

The Garvan Institute in NSW is an example of a successful Institute which was created with matched State and Commonwealth funding.

An investment into a new centre in Melbourne would require matched funding from the State and Commonwealth Governments with a possible private sector contribution.

(iii) Develop a strategy for the formation of consortia

Some submissions highlighted the successful breast cancer research consortia as a form of shared research endeavour which could be further developed by the Government.

This model involves several research institutes and hospitals working together in a team approach to address an identified research priority. The State Department of Human Services oversees usage of funds, legal and accountability matters.

The concept is similar to the Cooperative Research Program and has the added attraction that researchers and clinicians are all State based and in many cases, co-located in the same site, thereby reducing costs further.

The Department of Human Services could enter into negotiations with the research community to determine any further collaborative efforts that may be developed.

➪ FINDING

The Committee finds that critical mass and co-location of medical research entities in Victoria must be actively pursued as a means of achieving efficiencies, rationalising administrative and infrastructure costs, ensuring high quality research and reducing duplications.

There are various ways in which the Government could pursue co-location including the creation of a new institute, providing incentives in the form of infrastructure grants and forming consortia of research endeavours.

RECOMMENDATION **R1**

The Committee recommends that the infrastructure grant criteria and incentives forming part of its infrastructure recommendation should be endorsed as a means of bringing co-location onto the agenda of the Government and medical research institutes.

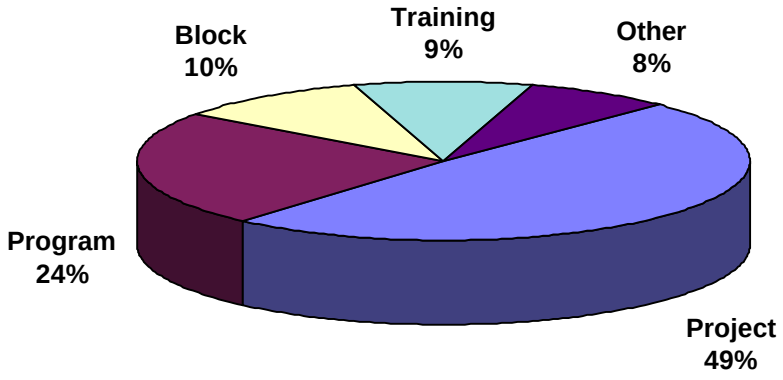
In achieving this, the Committee recommends that the State Department of Human Services continue to provide infrastructure support to those Institutes which do not meet the infrastructure funding criteria for a period of 3 years, on the undertaking that if these Institutes do not attempt to co-locate or combine resources in that time, the State Government's infrastructure support would be withdrawn.

The Committee further recommends that the Government should consider the possibility of creating a new institute to accommodate smaller institutes and other research interests as a means of attempting to address the problem of fragmentation and to ensure a more effective use of infrastructure funds provided by the State.

4.1.2 The National Health & Medical Research Council / Block Grants

As previously stated, the NHMRC allocates $135 million in medical and public health research grants. These grants are allocated through block, project, program and other forms of competitive grants.

National Health & Medical Research Council Grant Category Distributions - 1996



(**Source:** National Health & Medical Research Council, *Grants 1996*)

Project Grants are provided to support clearly defined research projects. The duration of support would not normally exceed 3 years. Project Grants are the Council's main source of funding. In 1996, $71 million was allocated in project grants which represents 57% of the total Medical Research Committee budget ($126m).

Program Grants are awarded to research teams for the purpose of achieving specified goals along a common theme which are capable of being accomplished within a 5 year period. The grants provide a more long term, flexible means of support for research activities. The 1996 allocation of program grants amounted to $14 million or 11% of the total budget.

Block Grants are awarded over a five year period to pre-eminent medical research centres and institutes in Australia. These grants are awarded to an institute, not an actual line of investigation or research project. As such, they allow an institute the flexibility and freedom to develop and follow their own lines of investigation. Accordingly, these grants are only awarded to bodies with outstanding records of achievement.

$18.5 million (12%) was awarded to five institutes in Australia, four of which are located in Victoria. The block grants duly recognise the continuing contributions in their given fields of research.

Other Grants are provided to a number of other specific categories including Equipment Grants, Priming Grants and Training Awards. The Training Awards are a significant component of the total grants budget with over $10 million being awarded in 1996. These awards include Australian and overseas training fellowships, medical postgraduate research scholarships and other specific fellowships and scholarships.

Effectiveness of Block Grants

The Committee considers block grants to be the most effective and efficient way of allocating grants to Research Institutes in Australia which have proved their pre-eminence and so would, as a matter of course, attract funding through project and program grants if block grants did not exist.

These grants are allocated for a five year period thereby reducing the time Institutes spend applying for project grants and allowing for greater flexibility in research directions. The receipt of block grants also carries significant kudos and therefore attracts top quality researchers and additional funds and commercialisation joint ventures from overseas.

The Committee is of the opinion that there is a case for block grants to be allocated to pre-eminent medical research scientists or teams in addition to Australia's pre-eminent Research Institutes as is currently the case.

The most effective way for Government to support the highest quality medical research is to support the best scientists. The NHMRC's peer-review process puts this theory into practice however it largely does so by requiring these top line researchers to apply for short-term project grants which places a significant strain on resources from both the researcher and the funding agency.

Evidence suggests that many of these individual researchers are successfully obtaining project grants over a series of years. Accordingly, there is a strong argument for the NHMRC to recognise this consistent research effort and to broaden the allocation of its block grants to individual researchers or teams where the research excellence is well established.

The NHMRC currently has a policy of supporting some five pre-eminent Medical Research Institutes through 5 year block grants. The philosophy behind these block grants is to support excellence in research and to give researchers the freedom to pursue any direction of investigation they have developed.

This philosophy should also apply to an individual researcher. A 5 year block grant for a research scientist would allow for greater flexibility and freedom over a longer time period and would be a clear recognition of the continued high quality of research being performed by specific medical researchers.

This proposal has the added benefit of an assessment being made on research outcomes as opposed to research proposals which are currently submitted when applying for a project grant. Evidence to the Committee has highlighted that such audits of research outcomes are in most cases much more rigorous than prospective research proposals.

At the conclusion of the five year block grant, the NHMRC would need to rigorously assess the research outcomes before continuing with a further block grant. The Council would need to therefore be prepared to withdraw block funds if warranted which they have yet to do with the Institute block grants.

➪ FINDING

The Committee finds that there are many benefits to medical research by funding through long term block grants, as opposed to short term project grants. These benefits include the ability to target the best researchers, greater flexibility in research directions, a reduction in the time

researchers spend applying for grants and a very rigorous audit of research outcomes.

RECOMMENDATION R2

The Committee recommends that the National Health and Medical Research Council (NHMRC) consider broadening its block grants policy to enable pre-eminent medical researchers and research groups to apply for 5 year block grants. In so doing, the NHMRC should only allocate such block grants to the best scientists performing the highest quality research.

An extension to the NHMRC's block grants policy should therefore be based strictly on scientific excellence and merit as opposed to any geographical distribution.

Effectiveness of the NHMRC Grant Committees

It is widely acknowledged that the NHMRC peer-review system of allocating medical research grants is the most effective in Australia as it supports and encourages research of the highest quality.

Initial investigations indicated that other non-NHMRC processes were less competitive and were perhaps funding research of less than the highest standard, using the NHMRC as a bench mark. Accordingly, the Committee's Interim Report suggested that other funding bodies could 'sub-contract' their research funding allocation to the NHMRC Grant Committees.

The Committee acknowledged in its Interim Report that it would only pursue this concept if the major parties were in support of the proposal. In other words, the NHMRC would need to be willing and able to accommodate the additional workload

and the other funding bodies would need to willingly pass on their research grant allocation processes to the NHMRC.

However, recent evidence indicates this proposal, whilst sound in theory, would be difficult to accommodate for the following reasons.

- The NHMRC administration is currently seriously under-funded. The proposal would place a further strain on the Council's limited resources. From a total NHMRC budget of $175 million in 1996, only $5 million, or 3%, was allocated to administration costs. Anecdotal evidence presented to the Committee suggests that the Regional Grants Interview Committees (RGIC) system is stretched with the possibility that the 25% 'non-interview' rate for 1996 may increase significantly in 1997 due to lack of resources.

- There would be a further impingement on the time of researchers on review committees both in preparing research grants and reviewing them. The RGIC require a full two weeks of a researchers time each year. An extension to this commitment is very unlikely.

- The present diversity of support for medical research would be reduced and the identities of smaller funding bodies may be lost if they were to sub-contact their grant allocation to the NHMRC. Other granting bodies were reluctant to agree to a proposal in which their research grants would be allocated through the NHMRC.

While acknowledging that there is a lack of enthusiasm for the Committee's initial proposal, the Committee believes a mechanism should be put in place to enable a better understanding of the quantum and direction of funds allocated to medical and public health research in Australia.

The Committee has previously noted the difficulties in obtaining an accurate assessment of the total investment in medical and public health research throughout Australia.

An important part of the NHMRC process is that a tally is kept of the quantum of funds allocated to different areas of research. This allows assessments to be made as to the

appropriateness of this quantum, when compared to national health priorities and success rates within funded areas.

Within the present diverse system involving all Commonwealth, State and non-government funding bodies, it is very difficult/impossible to assess the total level of medical and public health research effort (as measured by funding) going into the various areas of research throughout Australia. Such knowledge is necessary to make an analysis of the extent of research effort to gain an understanding of where emphasis needs to be modified to obtain better outputs.

➪ FINDING

The Committee finds that the concept of other medical research granting bodies utilising the NHMRC Grant Committee process to allocate their research grants has merit in terms of better knowledge of funds allocated and a mechanism for ensuring only the highest quality research is funded.

However, until such time as additional resources are directed towards the NHMRC administration and other funding bodies are willing to contract out their funding processes, the concept could not be effectively implemented.

In order to obtain a better knowledge of the total medical and public health research funds allocated in Australia, the Committee believes it is essential that a data base is co-ordinated by a central body containing information on the quantum and direction of funds allocated to medical and public health research in Australia. Such a function is seen to be within the national charter of the NHMRC.

RECOMMENDATION R3

The Committee recommends that the National Health and Medical Research Council be given the responsibility to develop a data base of the

quantum and direction of funds allocated to medical and public health research throughout Australia.

4.1.3 Support from Charitable Organisations

Victorian Medical Research Institutes received close to $30 million in 1995 from charitable/philanthropic organisations, private donations and bequests. There are numerous foundations and trusts established primarily to seek funds for research into specific diseases. The income generated by these foundations/trusts in many cases is substantial.

Charitable support, while extremely valuable in volume, is fragmented with literally thousands of trusts and benefactions contributing funds without a common set of guidelines or peer review processes.

All of these organisations have similar administrative functions as well as running promotional and fund raising activity. All of these functions have the potential to incur significant costs.

A perusal of the budgets of key disease orientated foundations who support medical and public health research in Victoria, indicates that substantial proportions of expenditure are directed to administrative costs, with some foundations having administrative costs as high as 70% of their total expenditure.

The Committee believes there is a need to release much of the funds absorbed by administration within these small organisations to research funding.

An opportunity therefore exists for many of the smaller foundations and trusts to reduce their administrative running costs through an appropriate mechanism such as a central secretariat which would act as a point of reference for those groups that wish to avail themselves of such a service.

A particular benefit of a central secretariat would be a reduction in the administrative workload of researchers having to submit several applications of a similar nature to numerous charitable organisations.

The Committee does not believe it would be appropriate that the various charitable organisations, each with their own focus and identities, be forced to establish a central secretariat to assist in fund raising activities and administrative tasks. The onus should be on the organisations themselves to establish a suitable mechanism to achieve greater co-ordination and better use of resources.

In considering this issue, the Committee believes the relevant bodies should be encouraged to collaborate with a view to forming an Association of Medical Charitable Organisations to deal with such areas of policy, government relations and fund raising activities.

Should the organisations be desirous of setting up an umbrella body, the Government could provide some funds for a central office/secretariat. A small investment by the Government may have long term benefits in that administrative resources are eased allowing further funds to be directed to research activities.

➪ FINDING

The Committee finds that there is a need for the numerous charitable organisations supporting medical and public health research in Victoria to co-ordinate their activities as a means of streamlining administration costs and fund raising activities and to enable further funds to be directed into research activities.

RECOMMENDATION **R4**

The Committee recommends that the various charitable organisations in Victoria which support medical and public health research, be encouraged to form an Association of Medical Charitable Organisations to serve the professional needs of the numerous organisations as a means of achieving greater co-ordination and better use of resources.

4.2 MAXIMISING ECONOMIC BENEFITS

4.2.1 State Government Infrastructure Support

(i) Research Infrastructure Funding

The general principle of medical research grants is that they only fund the actual research activity and are allocated on the basis that the research infrastructure, buildings, equipment, heat, lighting and other building services, along with administrative support are already in place.

This concept is historically based on the role of universities in providing laboratory facilities, libraries and other administrative support to researchers.

Recent reforms to the higher education system of grants, means that an Australian Research Council (ARC) research grant now carries an associated infrastructure grant, generally on a percentage basis. In addition, the ARC makes direct infrastructure grants to universities where research is performed.

This arrangement of separate research and separate infrastructure grants creates significant inequities in medical research funding as follows.

- When a research grant goes to a university, then that institution has access to infrastructure grant funds from the Commonwealth through the ARC.

- When a research grant goes to an independent institute, then that institute does not receive a corresponding Commonwealth infrastructure grant.

- When a research grant goes to a hospital, likewise no corresponding infrastructure grant is available.

Victoria is in a unique position compared to other States in Australia given its large number of medical research institutes who do not qualify for infrastructure support under a university or hospital system. The majority of medical research efforts in other States is concentrated within universities.

PROPORTION OF NHMRC GRANTS TO MEDICAL RESEARCH INSTITUTES, UNIVERSITIES AND HOSPITALS FOR VICTORIA, NEW SOUTH WALES AND QUEENSLAND - 1996

Error! Not a valid link.(**Source:** National Health & Medical Research Council, *Grants 1996,* op cit., pp. 3-5)

In many cases it is the State Governments who step in to bridge or partially bridge the infrastructure gap. In Victoria, $6.7 million is provided in infrastructure support to 17 leading medical research institutes.[13]

There has been a long running debate on the question of why the Commonwealth Government does not provide infrastructure support when research is carried out in medical research institutes and hospitals but do provide it when similar research is carried out in a university.

In the case of hospital based research, it is often the hospital that supplies the infrastructure support, not through a grant, but through the provision of facilities and common administration services.

Therefore, researchers obtain government funded infrastructure support in different and often difficult to quantify methods.

[13] Refer Table of Infrastructure Grants, p.121

To be fair and equitable, the Committee believes that any State infrastructure support must make due allowance for support researchers obtain from other government sources. The Committee has generally termed this 'host support', to indicate it is provided by host universities or hospitals.

➪ FINDING

The Committee finds that the present system of Government funded medical research infrastructure support is inequitable and that the Commonwealth Government, through the Department of Employment, Education, Training and Youth Affairs, should incorporate an infrastructure loading on all Commonwealth research grants, regardless of which Department the grants are allocated from.

In the meantime it is the State Government that will need to step in to help bridge the infrastructure gap. The rationale for the State providing infrastructure grants is to support medical research institutes who bring in significant income to the State.

There have been several attempts in the past to address the issue of State Government infrastructure funding including the 1991 Lovell Report and the 1995 AAMRI report on infrastructure funding. Both of these reports failed to address the problem of the existing inequity and instead, focussed on what should be the required future level of infrastructure funds. Part 2 of this Report provides some background to these reviews.

The Department of Human Services has allocated infrastructure funds on a historical basis to the same 17 institutes each year. Apart from recent indexation, there have been no significant increases to the grants since 1989.

In addition to the inequity issue, the Committee notes that the present system has further problems in that grants are not based on research outputs, there is no comprehensive schedule or uniform interpretation of what constitutes infrastructure and there is insufficient accounting dissection to evaluate different levels of 'host' support.

(ii) Mechanism for Funding of Infrastructure Costs

Following the release of its Interim Report, the Committee established a small working group of representatives from a variety of medical research institutes to consider the issue of a formula for allocating future medical research infrastructure support and to what extent there exists a level of 'host' infrastructure support from hospitals and universities.

In order to assess the infrastructure costs of all Institutes and any levels of 'host' support, a survey was sent to the 17 State funded Institutes. The results of the survey indicated that infrastructure costs appeared to amount to approximately 35% of total revenue for each Institute. The survey also proved that some Institutes were unsure of the extent of 'host' support they may be receiving (see results of survey on page 123).

Based on these common figures, it was concluded that an independent medical research institute would require approximately 35% of its total budget for infrastructure support. The Commonwealth should aim to meet the full cost of medical research infrastructure and the appropriate avenue should be through DEETYA and the Australian Research Council.

(iii) State Government Infrastructure Contribution

The Committee's Interim Report suggested that future infrastructure grants should be based on a percentage formula of competitive Commonwealth grants less any host support. Following further investigations, the Committee believes it would be more appropriate to base the formula on the total income of an Institute less any levels of host support.

At present, the State Government allocates $6.7 million to 17 Institutes. As it is highly unlikely that this amount would be substantially increased over the next few years, it would be reasonable to recommend that a percentage figure be applied to Institutes that meet the necessary criteria and that this figure be increased gradually in future budget allocations, perhaps even with help from DEETYA.

In considering the results of the survey of 17 Victorian Medical Research Institutes, it would appear that an infrastructure formula based on 10% of total income, less host support, would ensure that the total State Government allocation is maintained at approximately its present level. Future budget allocations could include a percentage increase each year depending on levels of host support, total income and the number of Institutes who meet the criteria.

The Committee believes that levels of host infrastructure support would need to be fully audited by the Department of Human Services on a case by case basis every 3-5 years with such support being deducted from the State Government infrastructure grant. The items of infrastructure shown in the survey (Appendix 10, p.180) should be used as a basis for the Department to calculate host contributions.

If an Institute was currently in receipt of host support in excess of the State Government grant, there would be no requirement for the State to make an infrastructure contribution. This would ensure that all Institutes are receiving a fair allocation of infrastructure support and would reduce the extent of 'double-dipping'.

For example, if an Institute was in receipt of host support to the value of 6% of its total income and was also receiving a State grant of 10%, such an Institute would, in effect, be supported to a level of 16%. Other Institutes not in receipt of host support would only be funded at the State's 10% level. To ensure equity, the Committee believes the host support should therefore be deducted from the State grant.

If a host sought to withdraw support and charge for a service then an appropriate adjustment would be made by the Government. The infrastructure formula would allocate extra infrastructure support to the Institute while the Government would make a corresponding debit to the host body.

To ensure equity of infrastructure support and to achieve critical mass objectives, criteria is needed to direct support to Institutes of an appropriate size, scope and status.

➪ FINDING

In recommending a change to the existing system of allocating State Government infrastructure support, the Committee finds as follows:-

Economic Benefits

- ***Given that only 1 in 5 research grant applications are able to be funded, increasing existing levels of support to Victorian Medical Research Institutes within the present Infrastructure Grants Program, is unlikely to significantly increase the research grants won by the State.***

- ***In order to maintain Victoria's pre-eminence, additional funds should be directed to specific new infrastructure. Such funds should be targeted as special grants to establish new skills and equipment that have the potential to bring in additional research grant funds to Victoria.***

Support of Pre-eminence of Research Institutes & Critical Mass

- ***A minimum level of total income and competitive grants received each year should be the determinant for eligibility of infrastructure grants.***

- ***Infrastructure grants should be awarded to groupings of smaller units who have a combined minimum level of competitive research grants as a means of achieving critical mass of research activity.***

Equity & Uniformity

- ***Allowances should be made for the infrastructure support provided to many institutes from universities, hospitals and other government funding bodies in order to remove the existing inequities.***

- ***Eligibility criteria should be established which would require greater accountability, wider dissemination of research results and the need to protect the intellectual property of research discoveries.***

RECOMMENDATION	**R5**

1. The Committee recommends that the State Department of Human Services' medical research infrastructure grants be allocated on a formula based on the following:-

Infrastructure Support = (R x I) - HS, where:

R = a uniform percentage

I = Institutes total income

HS = host hospital/university infrastructure support

2. The Committee recommends that the uniform percentage figure be 10% for the next financial year and that the Department of Human Services consider increasing this figure as appropriate in future budget allocations.

3. The Committee recommends that criteria for funding be based on the following:-

(i) the entity is established for the conduct of medical and/or public health research;

(ii) the entity is affiliated with a major teaching hospital and/or university;

(iii) the entity has its own Board on which no affiliated hospital or university has a majority representation;

(iv) the entity has a separate independent accounting body to ensure infrastructure money is used to support research activities and to allow ease of auditing; and

(v) the entity has a total budget of not less than $5 million and/or is in receipt of competitive grants totalling no less than $1 million per financial year using a rolling average over a 3 year period.

4. The Committee recommends that additional infrastructure funds be made available for those institutes which co-locate to achieve critical mass. Such smaller institutes and centres can enter into co-location agreement as a means of reaching the threshold in 2(v) above.

5. The Committee recommends that in applying the above formula and criteria, the Department of Human Services must make transitional arrangements to take into account any historical and other factors which may affect the on-going operations of an Institute. In particular, the Committee recommends that the Department give due consideration to the on-going targeted research support in previously identified health priority areas such as mental health.

6. The Committee recommends that as a second priority to the infrastructure funding above, the Department of Human Services consider creating an additional pool of funds to be allocated for new initiatives / incentives from a 'Medical Research Development Fund'. The allocation of these funds will be based on applications of merit taking into consideration:-

- **(i) new health research initiatives where there is high potential for attracting new research funds;**
- **(ii) new health initiatives where there are clear policy implications;**
- **(iii) the awarding of prizes, scholarships and incentives for " new and young" researchers to establish themselves within the research community and to remain in Victoria; and**
- **(iv) supporting innovation and innovative approaches to research involving the health system.**

7. The Committee recommends that all medical research infrastructure grants will be subject to:-

- **(i) accountability mechanisms being established between the Department of Human Services and the medical research institutes;**
- **(ii) regular dissemination of research results to the Victorian community; and**

(iii) appropriate intellectual property patents being taken out on research discoveries.

Transitional Arrangements

The above criteria would result in some Institutes not qualifying for State Government infrastructure support.

These Institutes are therefore considered to be likely candidates for co-location. Should they manage to enter into an agreement with other Institutes to combine resources and consolidated accounts showing combined research grants, they will become eligible for infrastructure support.

In the meantime, the Committee believes the Government should consider freezing the current infrastructure grants to these smaller Institutes and encouraging the Institutes to co-locate and amalgamate so they meet the above criteria. Should they fail to negotiate co-location or amalgamation within the transition period, the Committee believes the infrastructure grants should be terminated.

The Department of Human Services should also consider how it intends to continue to provide targeted medical research support for the Mental Health Research Institute and the National Ageing Research Institute. Both of these Institutes are included in the 17 institutes receiving infrastructure funding from the Government, however both are unique in that they receive targeted support from the Department's Aged, Community and Mental Health Division. The other 15 Institutes receive infrastructure support through the Public Health Division's Medical Research Infrastructure Grants Program.

The Committee believes the Department should continue to provide targeted research support to these institutes as determined, but that such support include an infrastructure component calculated using the formula to be applied to the other research institutes.

4.2.2 Commercialisation of Medical Research Discoveries

Part 3.3.2 of this Report highlighted the potential economic activity arising out of the commercialisation of medical research discoveries. It was emphasised that the key to maximising economic benefits from commercialisation is to ensure intellectual property protection and commercialisation advice.

Evidence received in response to the Committee's Interim Report suggests the majority of Victoria's medical research commercialisation needs are presently covered.

Therefore, the Committee now believes it would be inappropriate to invest large sums of money into establishing a new commercialisation/intellectual property protection group as was initially proposed in its Interim Report. As only a relatively small balance of medical research activity in Victoria is not adequately covered by this service, it is doubtful how much additional business such a new body would generate.

Given the present role of AMRAD Corporation Limited and the State Government's initial investment in creating the company, the Committee believes AMRAD is the logical avenue in which to expand the State's commercialisation and intellectual property advice.

An option for the Government to consider is for it to enter into a joint venture arrangement with AMRAD to extend their existing intellectual property services to University medical research and other smaller research units. Such an arrangement would need to work in conjunction with existing University technology transfer organisations such as Montech and Unimelb.

The Committee has consulted with AMRAD over this proposal and AMRAD have advised that it would be willing to enter into a 2 year trial arrangement with the State Government with appropriate seed funding. AMRAD has suggested an amount in the

vicinity of $400,000 per year would be required to extend its existing service. Both parties would need to assess the success of the venture after this trial period before committing further funds.

➪ FINDING

The Committee finds that the majority of Victoria's high quality medical research activity is presently receiving adequate intellectual property protection and commercialisation advice from existing avenues. However consideration should be given to a mechanism to ensure all opportunities are capitalised upon.

The Committee believes AMRAD Corporation Limited is the logical avenue in which to expand the State's commercialisation and intellectual property advice.

RECOMMENDATION R6

The Committee recommends that the State Department of Human Services enter into negotiations with AMRAD Corporation Limited to assess the viability of expanding AMRAD's Intellectual Property/Commercialisation unit as a means of extending its services to university medical research, hospital research and smaller research institutes not presently affiliated with AMRAD.

4.2.3 Clinical Trials

The Committee noted in section 3.3.4 of this Report, that the conduct of clinical trials is a necessary part of hospital research activity and offers benefits in terms of enhancing skills and knowledge and providing patients with accelerated access to treatments. Other substantial net economic benefits are difficult to quantify.

Evidence put to the Committee indicated there are opportunities to increase the level of clinical trial activity in Victoria. In particular, existing impediments relating to the clinical trial approval process in Australia were referred to the Committee's attention.

The existing clinical trials approval in Australia involves the Therapeutic Goods Administration (TGA) and institutional ethics committees (IEC).

While the level of clinical trial activity in Australia has increased in recent years, there are still lengthy and costly delays in receiving approval from an institutional ethics committee because of a lack of expertise in an IEC and a lack of common documentation. At present, there are a number of small IECs and hospitals who do not have the expertise to meet the approval requirements.

The approval process could be streamlined if a central co-ordinating agency was established to work in conjunction with hospitals, research institutes and pharmaceutical companies to assist in clinical trial activity.

The Centre for Developmental Cancer Therapeutics (CDCT) is an example of such a co-ordinated approach which is succeeding in increasing clinical trials activity in cancer research. The CDCT is a successful collaborative effort between the Ludwig Cancer Institute, Walter and Eliza Hall Institute, the Royal Melbourne Hospital, Austin Hospital and Western Hospital, designed to undertake all activities associated with the establishment and operation of clinical trials of developmental cancer therapeutics.

The Centre is a successful model that needs to be duplicated to cover all clinical trial activity in the State.

Another suggestion for enhancing clinical trial activity is the establishment of a disease identification program that would categorise the population for use by overseas pharmaceutical companies. Such a data base, if resourced in Victoria, would enable overseas pharmaceutical companies to identify that Victoria is an attractive place to sponsor the conduct of clinical trials.

➪ FINDING

The Committee finds that there are some benefits from conducting clinical trials in Victoria in terms of health benefits and enhancing skills and expertise. However there does not appear to be a significant net economic benefit from conducting clinical trials.

Despite Victoria's level of medical research activity, there has been a lack of clinical trial activity in Australia due to problems associated with the approval process.

The Committee believes that if hospitals wish to increase their level of clinical trial activity, they should be encouraged to develop a common data base of disease identification for conducting clinical trials in Victoria, together with the establishment of a central, co-ordinated agency with appropriate expertise in clinical trial activity and approval processes.

4.2.4 Dissemination of Research Results

The dissemination of the results of medical and public health research is widespread and involves the scientific and the general community.

Medical research institutes are committed to dissemination of the results of their research, both in venues such as scientific meetings and specialist journals, as well as to Government and other scientists.

Public dissemination is achieved through an Institute's Annual Report, visits by the public to the Institutes, and public lectures. Newspaper articles are another source of dissemination.

Evidence put to the Committee suggests that the medical research industry disseminate their findings widely amongst the scientific community however there needed to be strategies in place aimed at disseminating results to the public at large, including Government, as policy makers, and the education system.

Strategies to Improve Dissemination

The Committee believes there are three key reasons why Victoria's medical research industry needs to improve the methods of disseminating their research results to the wider community.

(i) To promote medical research through the education system as a means of increasing the level of science graduates

To maintain its pre-eminence in medical research it is essential that the State increases its level of science and medical graduates. Accordingly, there needs to be a strategic approach by existing Research Institutes to provide information to schools and universities relating to recent research discoveries and their general research activities.

Methods of dissemination could include researchers attending science classes to report on findings, school and university excursions to Research Institutes and open seminars, and class assignments structured around research projects and discoveries.

Research Institutes should also be encouraged to develop a co-ordinated internet homepage listing all research publications and discoveries for use by the broader community. A 'Victorian Medical Research' homepage could be accessed by secondary and tertiary education institutions which would not only assist in medical and science projects but would increase the general interest in medical research by school and university students.

(ii) To improve the evaluation of cost effectiveness of health procedures and techniques arising out of medical research

Within this Report, the Committee has stressed the need for a proper evaluation of the effectiveness of medical research discoveries in terms of how new procedures and techniques are to be best utilised within the hospital system.

The Committee believes it is critical that the evaluation of research discoveries and the dissemination of research results to hospitals, medical practitioners, the medical community and community at large, takes place on a systematic and rational basis.

In part 4.3.1 of this Report, the Committee discusses the need for the creation of a Health R&D Group within the Department of Human Services. A major role of this Group would be promoting the health evaluation of medical procedures, dissemination of research results to hospitals and medical practitioners and prioritising research to meet the needs of the State's health system.

(iii) To improve the end result of medical research in terms of promoting a health message

Health promotion is seen as the final method of disseminating research results to the general community.

In part 4.3.2 of this Report the Committee discusses the effectiveness of health promotion campaigns in terms of obtaining desired health outcomes. In particular, the Committee believes a review is required of the methods of delivering a healthy message to the community by health promotion bodies.

Health promotion bodies need to commit further resources to support the dissemination process, including evaluation of new discoveries, and information technology, conferences, seminars and meetings.

➪ FINDING

The Committee finds that the medical research industry disseminates its findings widely amongst the scientific community however there needs to

be strategies in place aimed at disseminating results to the public at large, including Government, as policy makers, and the education system.

RECOMMENDATION **R7**

The Committee recommends that Victoria's medical research industry actively seek to improve the dissemination of research results to the wider community through initiatives including:-

- **information provided to schools and universities;**
- **greater use of information technology, in particular, the internet; and**
- **strategic health promotion activities.**

☛ *see recommendation dealing with Health R&D Group on page 71*

Impact of legal action preventing dissemination of results

At the time of tabling its Interim Report, the Committee became aware of a legal case involving the Tobacco Institute of Australia (TIA) and a National Health and Medical Research Council Working Party conducting research on passive smoking. The legal action taken by the TIA was seen by the Committee as having an adverse affect on the process of disseminating medical research results.

The details of the case are lengthy and complex. Briefly, the TIA legally challenged the public consultation process of the Working Party's investigations. A Federal Court injunction subsequently prevented three members of the Working Party from discussing the findings of the Working Party's Draft Report at a conference on passive smoking.

The TIA challenged the findings of the Draft Report alleging that 'the draft report failed to take into account all available relevant scientific material'. The Federal Court subsequently rejected attempts of the TIA to have the Draft Report of the health effects

of passive smoking discarded and stated that the Draft Report, its science and reasoning stood.

However the Court finally ordered that the NHMRC acted improperly in preparing the Draft Report and restrained the NHMRC from further acting on the draft regulatory recommendations and guidelines contained in the Draft Report and adopted by the NHMRC in 1995. The Court found that the NHMRC did not properly have regard to all submissions it had received, and thus failed in discharging its statutory duty of public consultation.

The Draft Report, which was released in November 1995, is a public document and is not restrained from being released to members of the public. However, the Federal Court ruling has cast doubt over how the Draft Report can be proceeded with in terms of being made a final report. The NHMRC have presented the Federal Minister for Health with options on how to proceed with this matter and at the time of finalising the Committee's Report, no decision had been made.

In recent times legal argument and challenges have been common place between organisations such as the medical profession and peak health authorities and tobacco industry lobbyists. In the United States, like Australia, the Tobacco industry has significant strength when it comes to defending the interests of its industry when under attack by the health profession and authorities and other pro-health advocates.

Certainly the above case, and other similar cases in the USA, have implications for the dissemination of medical research as such action leads to debate being diluted which creates confusion over research results which serves to undermine public confidence in scientific research.

With regard to the Australian case it can be expected that the current injunction will be only short lived as the scientific findings were prevented from being implemented due to technicalities relating to the public consultation process.

However, the issue of stifling debate and the dissemination of research findings and the extent to which such challenges may undermine the credibility of research findings is a real concern.

➪ FINDING

The Committee finds that dissemination of medical research results can be hampered temporarily and possibly indefinitely, due to legal challenges preventing the release of findings. Such challenges stifle debate and research, cause confusion which works to undermine public confidence in scientific research and may have negative public health implications.

The Committee believes that dissemination of medical research must be independent of political interference and legal challenges by lobbyists. Any challenge to medical research findings should come from the scientists themselves.

RECOMMENDATION R8

The Committee recommends that the Commonwealth Government rigorously defend the ethical traditions of medical research in Australia to ensure that the dissemination of research results is not impeded by political interference and challenges by the legal community.

4.3 FOCUS ON PUBLIC HEALTH RESEARCH

4.3.1 Health R&D Group and Hospital Research

Part of the Terms of Reference requires the Committee to make recommendations on whether State Government funding would benefit from greater co-ordination and strategic direction and appropriate structures to achieve this.

Throughout this Report, the Committee has maintained the view that the Commonwealth Government has a major responsibility in supporting pure biomedical research and that the State Government's responsibility should be towards increasing its support for public health research, disease prevention and health delivery research where it is considered to have the greatest impact on maximising economic benefits to the State.

At present, the direction of funds from the State Government to medical and public health research activities lacks co-ordination and strategic direction which is required to maximise benefits to the State.

The following section of the Report recommends strategies for the State Government to increase the level of funds directed to public health research, the key strategy being a re-allocation and more strategic targeting of the existing hospital research grants based on State priorities.

Other sections of this Report have referred to the need for a co-ordinated approach to issues including critical mass and dissemination of results.

The Committee believes it is essential that the State Government develop a co-ordinated approach to its investment in health R&D.

The Department of Human Services' Public Health Division currently has the key role of supporting the State's medical and public health research. However, almost half of the R&D funds are distributed by different divisions and Government agencies.

It is noted that the Government has a medical/public health R&D budget of approximately $35 million. The Department of Human Services is clearly the agency

which can best judge the health benefits to the State and accordingly should be responsible for allocating the health R&D funds.

Consequently there is a need for a combined State medical/public health research budget managed by an R&D Group within the Public Health Division of the Department.

The Committee sees the role of the Health R&D Group as being broad in its focus with a key responsibility of determining the priorities of the State's health R&D budget. In particular, the Group would have a major role in health evaluation of medical procedures, dissemination of research results to hospitals and medical practitioners and prioritising research to meet the needs of the State's health system.

In addition to the existing research and infrastructure grants, the Committee believes there is an urgent need for funds to be directed into health program evaluation research. Part 3.2.1 of this Report highlighted the lack of proper evaluation that presently exists.

To this end, the Committee suggests the Health R&D Group be responsible for allocating an annual grant for appropriately trained research units to carry out strategically directed health program evaluation of the cost effectiveness and allocative efficiency of health procedures arising out of medical research.

➪ FINDING

The Committee finds that there is a need for a combined State medical/public health research budget to be managed by a Health R&D Group within the Department of Human Services. The functions of the Group would include:-

- ***allocating the State's medical and public health research funds;***
- ***allocating appropriate levels of infrastructure funds to support the State's research activities;***
- ***auditing infrastructure costs and determining levels of host support;***
- ***establishing health priorities to be targeted for research funding;***

- ***promoting the conduct of health program evaluation research;***
- ***ensuring greater accountability;***
- ***developing close contact with the medical research community;***
- ***assisting with co-location proposals; and***
- ***ensuring that medical research results are evaluated and disseminated to hospitals, general practitioners, the medical community and community at large, including the co-ordination of a medical research internet homepage and data base of the State's research activities.***

RECOMMENDATION **R9**

That the State Department of Human Services re-allocate resources to establish a Health R&D Group as a means of achieving a co-ordinated, strategic approach to allocating the State's health R&D budget and to further promote medical and public health research activity in the State.

Existing State Government Hospital Research Support

The Government's significant support to hospital based research, which has little strategic direction or allocative and review rigour, is the major part of the State's R&D funding and is a critical part of the Health R&D Group proposal.

(i) Background to existing hospital funding system

The Training and Development Grant Program (TDGP) of the Department of Human Services' Acute Care Program has a budget of approximately $163 million and is divided into programs over the medical, nursing, research, allied health professional and undergraduate teaching areas.

The research component was $14.2 million in 1996 and has been awarded to 17 major teaching hospitals since the introduction of case-mix funding in July 1993, as general support for medical research.

These funds have been arbitrarily awarded since the introduction of case-mix funding to allow hospitals some flexibility in dealing with issues of complexity of care as case-mix was introduced. Complexity of care is associated with higher levels of technical service provision and in turn with academic pursuits and research.

The six major teaching hospitals each receive $1,370,054 p.a, while others receive $456,684. [14]

One of the critical pieces of evidence to emerge from this Inquiry is the total lack of accountability of the $14.2 million allocated to hospital research.

Despite substantial comment being made on this issue in recent submissions, there is still no clear evidence as to how these grants are allocated within hospitals and whether in fact the grants are being used for research at all.

The hospitals themselves appear to be uncertain of the nature and purpose of these grants, as the responses to the Committee's questionnaire on their research support (extract below) indicates.

Hospital	**Department of Human Services Research Grant Allocated in 1996**	**Research Support Acknowledged by Hospitals**
Alfred	$1,370,054	nil
Peter MacCallum	$1,370,054	$1,370,054
Victorian Eye & Ear	$456,684	nil
Royal Melbourne	$1,370,054	$777
Royal Children's	$1,370,054	$130,864
St.Vincent's	$1,370,054	$105,630

[14] Refer to table of TDGP Hospital Component Research Grants, p.86

Hospitals have advised the Committee that the money was originally allocated to deal with complexity of care issues and was never intended to be used directly for research activities.

Evidence suggests there may be a tendency for hospitals to use the hospital research component grant to supplement the diminished total income of the hospital.

The Department of Human Services has not previously indicated the outcomes it wants from the $14.2 million hospital research support so not surprisingly the funds are used in an often diffuse way within Networks.

The Committee believes it is no longer acceptable to refer to this significant Government investment as 'research support' if the money is in no way aligned to research outcomes. It is the Committee's strong view that this money should be made more accountable and should be directed to research activities strategically beneficial to the health of Victorians.

The Committee considers it is necessary for the Government to withdraw the total $14.2 million hospital research component out of the Training and Development Grant Program and re-allocate the money to hospitals on a competitive basis for research projects in areas specifically relating to health delivery and public health disease prevention rather than pure biomedical research for which much greater funds are available from the Commonwealth through the NHMRC.

It should be noted that this would have no affect on high quality biomedical research being undertaken in hospitals because if such hospital research is of an appropriate quality, it would have little difficulty in winning NHMRC grants.

The mechanism for allocating these research grants should be through the proposed Health R&D Group within the Department of Human Services which would be responsible for determining how the funds were to be directed in terms of health priority areas in hospitals. A regular audit of the research produced would also need to be carried out to ensure that a high quality of research is maintained.

The emphasis of the grants would therefore be on the highest quality research in a specifically targeted area of a hospital's health and clinical activities with pure biomedical research being funded by the NHMRC.

This proposal is consistent with the U.K system of allocating research grants to hospitals which has often been referred to in evidence put to the Committee. As part of the Culyer Report, hospital research money was pulled out of the general mix of hospital activity and put into a specific hospital R&D fund. Part of the research money is distributed through health priority programs directed out of targeted areas through the Health Department.

➪ FINDING

The Committee finds that there is an urgent need for the State Government's hospital research funding to be made more accountable and to be closely aligned to health system and disease prevention priorities in Victoria.

RECOMMENDATION **R10**

The Committee recommends that the existing research component of the State Department of Human Services' Hospital Training and Development Grant Program be withdrawn from the present funding recipients and be re-allocated on a competitive basis for specifically directed health delivery and public health/disease prevention research.

The Committee further recommends that the appropriate mechanism for allocating these research grants is through a Health R&D Group within the Department of Human Services which would be responsible for determining how the funds were to be directed in terms of health priorities and hospitals.

4.3.3 Health Promotion

The Committee believes health promotion is an important area that should be investigated given that it is seen as the final dissemination of medical research results. Furthermore, funding bodies tend to trade-off their research funding activities to health promotion activities.

Investigations into research expenditure by bodies such as VicHealth, Anti-Cancer Council, and the National Heart Foundation reveal that the majority of funds are directed towards sponsorship and public education campaigns as a means of changing peoples lifestyles. Less funds are directed to public health research by these bodies.
A review of the appropriateness of health promotion and public health research funding balances can only be effectively carried out after an examination of whether the existing investment in health promotion is achieving the desired results, ie. how effective are health promotion campaigns in changing behaviour and improving health.

The effectiveness of health promotion comprises three levels of evaluation.

The first step is to evaluate the effectiveness of campaigns in terms of whether they are reaching the intended audience and increasing awareness of health issues. The second step is to determine whether or not an increased awareness will lead to a change in behaviour.

The final long-term step is related to health outcomes. In other words, has the change in behaviour lead to biological changes and improvements in health status in targeted high risk population areas?

Whilst there is a body of evidence which suggests health promotion activities are successful in increasing awareness of health issues, there has been little or no research into whether this awareness has resulted in behavioural changes which in turn lead to health outcomes.

Recent research into health promotion activities, including the NHMRC review of the effectiveness of health promotion activities in the sports, arts and racing settings, have concluded that there is ample evidence to suggest that health promotion campaigns are reaching their intended audiences and are having an impact on raising awareness of health issues.

However there is little outcome evaluation which assesses long-term consequences of a program on behavioural changes and health status.

In light of this lack of evaluation, it could be argued that the view that health promotion activities are having a direct impact on improving health status is based on assumptions that acceptance and awareness are seen as directly causing behavioural and biological changes.

Given that health promotion activities have been successfully implemented for well in excess of ten years, the Committee believes it is now appropriate that an intense and soundly based research effort be made to test the assumptions that awareness leads to behavioural changes and improved health in high risk populations.

➪ FINDING

The Committee finds that health promotion activities in Australia and Victoria have been effective in raising awareness of healthy messages however there has been little or no research into whether this awareness has resulted in behavioural changes which in turn lead to health outcomes.

RECOMMENDATION **R11**

The Committee recommends that it is now timely for research to be undertaken into evaluating the effectiveness of all health promotional activities on behavioural changes and health outcomes.

To facilitate such research, it is recommended that relevant health promotion bodies including VicHealth, the Anti-Cancer Council of Victoria and the National Heart Foundation, be required to set aside a proportion of their budgets to commission rigorous independent evaluation research and to disseminate the results of the research to the Government and the public at large.

4.3.4 Victorian Health Promotion Foundation

The Victorian Health Promotion Foundation (VicHealth) was established by the Tobacco Act in 1987 and is a major supporter of medical and public health research and health promotion in Victoria.

In 1995, VicHealth's annual budget of $22.6 million was distributed to the following areas:-

- 25% to be allocated to medical and public health research activities;
- 30% to sporting bodies for promotion activities;
- 33.5% for community public health promotion programs such as Quit and Sunsmart; and
- 7.5% to the Arts for sponsorship.

The Tobacco Act specifically requires that not less than 30% of total funds be allocated to sporting bodies and not less than 30% to health promotion programs.

The Committee notes that VicHealth is bound by the Tobacco Act in distributing its funds. The levels of support provided to sporting bodies and the arts, as determined by the Act, were initially seen as a replacement of tobacco based sponsorship support.

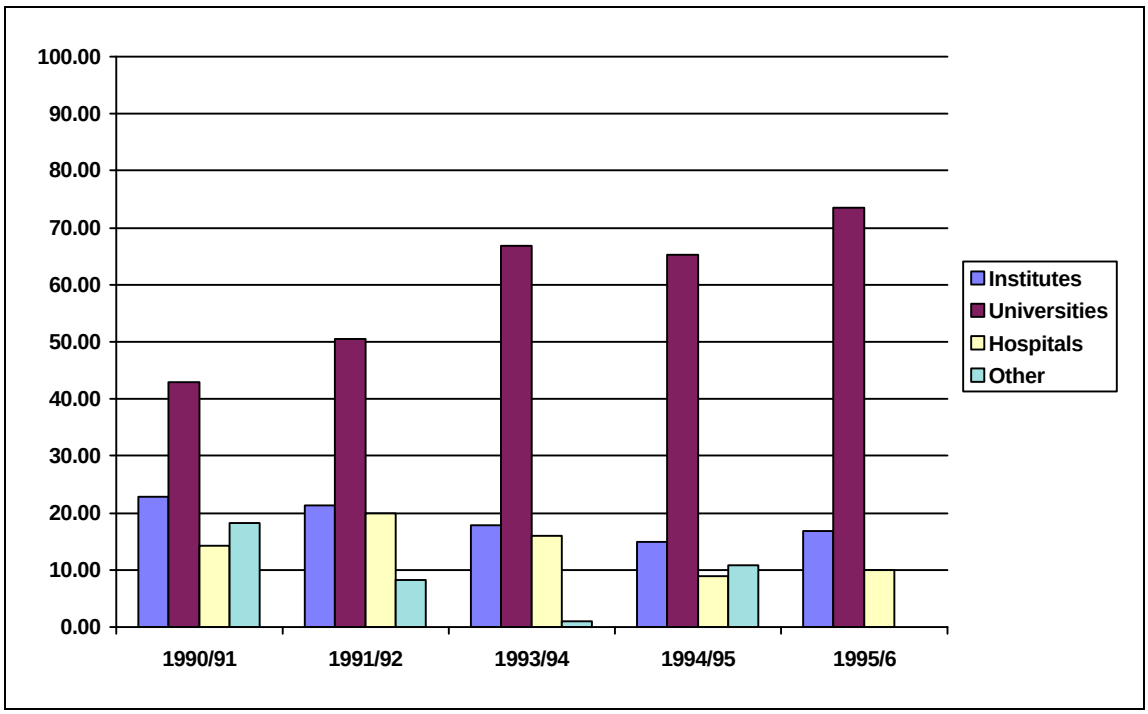
(i) VicHealth's Medical and Public Health Research Grants

Of particular relevance to the Committee's Terms of Reference is the medical and public health research component of VicHealth's budget. In 1996, VicHealth allocated $4,481,708 to medical and public health research in Victoria. Fourteen institutes/universities received competitive research grants totalling $3,178,772. The remaining funds were allocated to four Centres of Excellence established within universities or hospitals to conduct specialised research activity. ☛*See further details on VicHealth in Part 2 of this Report.*

Approximately two-thirds of VicHealth research grants are directed to public health research activities with pure biomedical research receiving one-third of total grants.

The Committee has received evidence which suggests that the source of VicHealth's competitive grants has diminished in recent years. This is partly as a result of VicHealth's reduced budget and partly due to a direction of funds into more targeted areas such as the Centres of Excellence. The chart below depicts the flow of research grants to medical research institutes, universities, hospitals and other areas over the last six years.

PERCENTAGE DISTRIBUTION OF VICHEALTH RESEARCH GRANTS - 1990-1996*



(**Source**: VicHealth, *Annual Reports*, 1990-1996)

*Figures unavailable for 1992-93 financial year.

Throughout this Report, the Committee has maintained the view that the State should be increasing its investment in public health research as this has the most direct benefit to Victoria. In addition, this area is under-funded compared to high quality biomedical research which is adequately funded by the Commonwealth Government.

The Committee considers it is not sensible for one-third of VicHealth's total research budget to be directed to the already well funded biomedical fields of research.

The Committee notes the initiative of VicHealth in funding the creation of the four Centres of Excellence in public health research and believes such support should continue.

(ii) VicHealth's Health Promotion Activities

The Committee has previously noted the need for health promotion bodies to carry out research into the effectiveness of health promotional activities on behavioural changes and health outcomes.

VicHealth, as a major provider of health promotion funds, is seen as requiring a critical assessment of how it allocates its promotion funds and the extent to which these promotional activities are achieving the desired results in terms of changing behaviour and impacting upon community health.

While such a thorough assessment is beyond the scope and time frame of the Committee's Inquiry, initial investigations undertaken by the Committee suggest a full evaluation should be carried out as a matter of priority.

Evidence indicates that sports and arts bodies receive significant funds from VicHealth for health promotion, many of the recipients having received this support as a replacement for tobacco sponsorship. However, with the advertising of tobacco products now prohibited by legislation, buy back sponsorship of sports and arts events is no longer necessary.

The Committee also questions the resultant delivery of the appropriate healthy message through this sponsorship. To this end, the Committee has concern over the methods in which VicHealth, in conjunction with other health promotion bodies, delivers its health promotion campaigns. The publicity of VicHealth as an organisation at sporting events is often seen to be more dominant than the actual publicity of a health message.
Much of VicHealth's promotion, particularly in advertising at sporting venues is, in many cases, more along the lines of corporate promotion of VicHealth rather than focusing on a healthy message. The Committee believes there is a very strong case, now that tobacco replacement sponsorship has achieved its objectives, for VicHealth to place a greater emphasis on funding public health research.

➪ FINDING

The Committee finds that it is now timely that a full external evaluation of the Victorian Health Promotion Foundation be carried out by the State Government having established the Foundation ten years ago through the Tobacco Act 1987.

A review of the Foundation would include an assessment of:-

- ***the appropriateness of its total budget allocation as determined by the Tobacco Act;***

- ***the need for VicHealth's research budget to be totally directed to public health research;***

- ***the effectiveness of various methods of health promotion such as sponsorship and advertising; and***

- ***an audit of health promotion money allocated to sports and arts bodies and the effectiveness of the delivery of healthy message.***

RECOMMENDATION **R12**

The Committee recommends that the State Government undertake an independent external evaluation of the activities and funding allocation of the Victorian Health Promotion Foundation.

Part Two

Supporting Documentation

1. DETAILS OF MEDICAL AND PUBLIC HEALTH RESEARCH ACTIVITY IN VICTORIA

1.1 BACKGROUND

In Victoria, medical and public health research is performed by a diverse group of organisations. Research funding and support occurs through direct funding by Governments, Non-Government Organisations, Foundations, charitable organisations, private donors, corporate sponsors and by the medical, pharmaceutical and bio-technology industries.

The following is a description of key medical and public health research participants in Victoria.

1.1.1 Medical and Public Health Research Institutes

There are 17 Medical and Public Health Research Institutes who receive medical research infrastructure funding from the State Department of Human Services.

Although most are stand alone independent bodies, they have close affiliations with universities and major teaching hospitals. Some of these institutes operate under Acts of Parliament, however the majority are incorporated companies or associations.

The table shown on the following page lists these Institutes and their existing affiliations.

A number of smaller institutes do not receive Department of Human Services infrastructure support but conduct valuable research.

DEPARTMENT OF HUMAN SERVICES FUNDED MEDICAL RESEARCH INSTITUTES IN VICTORIA AND RESPECTIVE UNIVERSITY/ HOSPITAL AFFILIATIONS

Institute / Centre	University	Hospital
Austin Research Institute	Melbourne	Austin & Repatriation Medical Centre
Baker Medical Research Institute	Monash	Alfred
Bernard O'Brien Institute of Microsurgery	Melbourne	St.Vincent's
Bionic Ear Research Institute	Melbourne	Royal Eye & Ear
Centre for Molecular Biology and Medicine	-	Austin and Repatriation Medical Centre
Heart Research Centre	Melbourne	Alfred
Howard Florey Institute of Experimental Physiology and Medicine	Melbourne	Royal Melbourne
Institute of Reproduction and Development	Monash	Monash Medical Centre
Ludwig Institute for Cancer Research	Melbourne	Royal Melbourne and Austin and Repatriation Medical Centre
Macfarlane Burnet Centre for Medical Research	Melbourne	Royal Melbourne & St.Vincent's
Murdoch Institute for Research into Birth Defects Ltd	Melbourne	Royal Children's
Mental Health Research Institute	Melbourne and Monash	Royal Melbourne
National Ageing Research Institute	Melbourne	North Western
National Vision Research Institute of Australia	Optometry College	Royal Melbourne
Prince Henry's Institute of Medical Research	Monash	Monash Medical Centre
St Vincent's Institute of Medical Research	Melbourne	St.Vincent's
Walter and Eliza Hall Institute of Medical Research	Melbourne	Royal Melbourne

1.1.2 Universities

Each of the State's eight universities perform key medical and public health research functions. The research is primarily undertaken within the medical faculties and health sciences faculties, but can also involve other departments. The eight universities in Victoria performing medical research are:-

- The University of Melbourne
- Monash University
- Latrobe University
- Deakin University
- Victoria University of Technology
- Royal Melbourne Institute of Technology
- Swinburne University of Technology
- Ballarat University

Universities receive a substantial volume of project grants from the NHMRC. Individual researchers awarded project funds remain under the auspices of the parent university and may also perform duties other than research. Where the researcher employs assistant staff, a Centre or specialised department may be established for accounting purposes. This may lead to an eventual formation of a medical research institute.

Some researchers within universities have secured funding to establish Centres of Excellence. Recipients of these grants are able to apply for infrastructure support under the higher education funding system. Examples of Centres include:-

- Monash University Accident Research Centre
- Centre for Adolescent Health
- Centre for the Study of Sexually Transmissible Diseases
- Centre for the Study of Mothers' and Children's Health
- Centre for Health Program Evaluation

1.1.3 Hospitals

As part of the research component of its Training and Development Grant Program, (introduced with the casemix funding formula), the Department of Human Services allocates approximately $14.2 million to be used as research support for hospital based teaching and training. These funds have been awarded to 17 major teaching hospitals.

TRAINING & DEVELOPMENT GRANT PROGRAM
HOSPITAL RESEARCH COMPONENT GRANT - 1995/96

HOSPITAL	RESEARCH ALLOWANCE
Major Teaching Hospitals	
Alfred	$1,370,054
Austin and Repatriation Medical Centre	$1,370,054
Monash Medical Centre	$1,370,054
Peter MacCallum Cancer Institute	$1,370,054
Royal Children's	$1,370,054
Royal Melbourne	$1,370,054
St Vincent's	$1,370,054
Total Allocation to Major Hospitals	**$8,220,324**
Other Teaching Hospitals	
Box Hill	$456,684
Fairfield	$456,684
Geelong	$456,684
Mercy Women's	$456,684
Mornington Peninsula	$456,684
PANCH	$456,684
Royal Victorian Eye & Ear	$456,684
Royal Women's	$456,684
Western	$456,684
Latrobe Regional	$456,684
Total Allocation to Other Hospitals	**$5,936,894**
TOTAL ALL GROUPS	**$14,157,218**

(**Source:** Victorian Department of Human Services, Submission No. 66 to EDC, p.19)

Some hospitals provide all or part of these funds to a Hospital Research Foundation to manage as part of their overall management of research funds. Other hospitals may distribute the funds on an individual needs basis.

Individual researchers from hospital centres, departments or laboratories within hospitals may compete for funding from the NHMRC, and if successful, could request a

contribution for infrastructure costs. These funds could be available through the 'host' hospital infrastructure program, or in some cases researchers apply externally to Foundations and Charitable Trusts. However, it is the hospital management who determine how the $14.2 million in research funds are distributed.

1.1.4 Non-Government Organisations

Non-Government Organisations including the Victorian Health Promotion Foundation, the National Heart Foundation and the Anti-Cancer Council of Victoria, play an important role in supporting medical and public health research in Victoria. The roles of these organisations are varied but primarily concern the direct funding of medical and public health research, the undertaking of research, sponsorship of research and in some cases contracting out of research. These organisations also have a major role in health promotion. Some organisations, such as Anti-Cancer Council and National Heart Foundation, obtain most of their budget through donations, bequests and fund raising campaigns.

1.1.5 Hospital Research Foundations

Hospital Research Foundations are specifically established on behalf of a hospital to seek funds more broadly and to manage those research funds.

The Foundations may be established as separate entities, under the control of a Board, and operate under specific Articles of Association. They often employ research officers to undertake research under the auspices of a professor or chief investigator, who is generally an employee of the university, hospital or a NHMRC fellow.

Examples of such Foundations include the Royal Children's Hospital Research Foundation and the Royal Melbourne Hospital Research Foundation.

1.1.6 Disease / Organ Specific Foundations

A second type of Foundation is one that is disease or organ specific. These Foundations are primarily established to seek funds from the wider community, industry and Government. This is achieved through fund raising activities, donations, bequests and lobbying.

Funds raised by these Foundations are generally used to fund specific research which may be conducted by medical research institutes, hospitals or universities, for health promotion activities to assist self help groups and for advertising.

Income generated by these Foundations is substantial, with some employing large administrative departments. Some Foundations have close links with hospitals, medical research institutes and universities. When awarding research funds to researchers, a form of peer review process exists but not to the same extent as major funding bodies such NHMRC.

Some examples of Foundations include:-

- Arthritis Foundation of Victoria
- Australian Brain Foundation
- Asthma Foundation of Victoria
- Australian Kidney Foundation
- Sudden Infant Death Research Foundation
- National MS Society of Australia
- National SIDS Council of Australia
- Cystic Fibrosis Association of Victoria
- Schizophrenia Fellowship of Victoria

It should be noted that the formation of a Foundation could subsequently lead to the establishment of an independent research institute.

1.1.7 Charitable Trusts and Endowments

There is a vast array of charitable trusts and endowments established to raise funds for research. These funds are not awarded through a formal peer review process. However managers of the funds have a choice as to what type of research is to be supported. Funds may also be allocated as a result of lobbying by individual groups. Examples of these Trusts include:-

- Elisabeth Murdoch Trust
- Walter and Eliza Hall Trust
- Windermere Foundation Ltd
- The Edward Wilson Charitable Fund
- William Buckland Foundation
- Jack Brockoff Foundation

1.1.8 Private Donations, Corporate Sponsors and Bequests

There are literally thousands of donations and bequests made to medical and public health research. It is worth noting that many of these donations and bequests specifically require that funds be used to support new research and not to fund research infrastructure.

1.1.9 The Pharmaceutical and Bio-technology Industries

The Australian pharmaceutical industry encompasses manufacture, formulation, packaging and distribution, and research and development. Companies in the pharmaceutical industry range from multi-nationals that participate in all these sectors, to small speciality firms. Victoria has a significant number of pharmaceutical manufacturers, although the majority are based in New South Wales.

Pharmaceutical companies are engaged mainly in product development and the conduct of clinical trials. Long clinical trials in particular are regarded as being significantly cheaper to undertake in Australia than overseas.

There is ample evidence of partnerships and collaborative research being undertaken by pharmaceutical companies, medical research institutes, hospitals and universities. Key Victorian pharmaceutical manufacturers include:-

- Glaxo Wellcome Australia Ltd
- CSL Limited
- AMRAD Corporation Ltd
- Amgen Australia Pty Ltd
- Bristol - Myers Squibb Pharmaceuticals Pty Ltd
- Ego Pharmaceuticals Pty Ltd
- David Bull Laboratories
- Hoechst Australia Ltd
- Institute of Drug Technology Pty Ltd
- Rhone-Poulenc Rorer Australia Pty Ltd
- Sigma Pharmaceuticals Pty Ltd
- SmithKline Beecham (Australia) Pty Ltd

A number of companies have been established to assist the medical research institutes and universities to commercialise products, protect intellectual property, register patents and to raise industry funds for promotion of research. These include:-

- AMRAD Corporation Ltd
- Montech Pty Ltd (Commercial arm of Monash University)
- Unimelb Pty Ltd (Commercial arm of University of Melbourne)
- Strategic Industry Research Foundation

1.1.10 Medical and Health Professional Colleges, Societies and Associations

These organisations undertake or fund research, usually in the areas of best clinical practice and in training and education. Funds are obtained from a range of Commonwealth and State Programs. Organisations include:-

- Victorian Medical Post Graduate Foundation
- Medical Colleges (eg. Surgeons, General Practice, Physicians etc)
- Pharmacy Board and Pharmaceutical Society
- Australian Society for Medical Research
- Clinical Oncological Society of Australia
- Gastroenterlogical Society of Australia
- East Melbourne Orthopaedic Clinic
- Australian Society for Infectious Diseases Inc.
- Australian Nutrition Foundation
- Nursing Colleges

2. NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL

2.1 THE STRUCTURE OF THE NHMRC

The NHMRC was established in 1936 and became a statutory authority within the Commonwealth Department of Health and Family Services in 1992. The Council comprises nominees of Commonwealth, State and Territory health authorities, professional and scientific colleges and associations, unions, universities, business, consumer groups, welfare organisations, conservation groups and the Aboriginal and Torres Strait Islander Commission. The Council meets twice a year to consider and make decisions on reports prepared by committees and working parties following wide consultation on issues under consideration.

Until recently, the NHMRC was comprised of five Principal Committees. Two of these, the Medical Research Committee (MRC) and the Public Health Research and Development Committee (PHRDC), advised on the allocation of funding for health and medical research. These two committees have now been amalgamated after internal review under the title of the Research Committee (Public Health & Medical).

2.2 THE ALLOCATION OF NHMRC GRANTS

Almost half of Australia's total expenditure on medical and public health research is allocated through the NHMRC. The major source of funds is via the Medical Research Committee which awarded $126 million in research grants in 1996. The MRC allocates funds to a wide range of biomedical fields with a particular focus on biochemistry, cardiovascular disease, endocrinology, immunology, microbiology, neurological disease and physiology.

The now defunct Public Health Research and Development Committee was established in 1985 in recognition of the need for specific support for public health and other applied health research. In 1996 the PHRDC allocated $9 million in grants. The combining of the two research committees has not reduced the NHMRC's focus on either research stream.

NHMRC grants are allocated on a competitive basis through a peer-review process. The peer-review process involves written applications being sent to a panel of assessors who are experts in a particular field of medical research. Applications are scored and assessed in terms of scientific merit, taking into account matters such as the track record of the researchers. After an interview process by research peers, final scores are made and the appropriate funding Committee then determines the final allocation of grants throughout Australia taking into account the NHMRC's overall budget.

2.3 VICTORIA'S SHARE OF MEDICAL RESEARCH COMMITTEE GRANTS

Victoria's pre-eminent position in the field of medical and public health research is reflected in NHMRC's Medical Research Committee (MRC) grant allocations. The total allocation of the MRC grants for 1996 is as follows:-

MEDICAL RESEARCH COMMITTEE GRANT DISTRIBUTION - 1996

State	1996 Allocation $	Percentage of Total
Victoria	51,936,483	41.21%
New South Wales	30,571,125	24.25%
Queensland	15,322,450	12.16%
South Australia	14,862,440	11.79%
Western Australia	9,702,488	7.70%
Australian Capital Territory	2,077,040	1.65%
Northern Territory	782,529	0.62%
Tasmania	776,245	0.61%
Total	**126,030,787**	

(**Source:** National Health & Medical Research Council, *Grants 1996*, op.cit., p.2)

Even more significant is the fact that four out of the five NHMRC block funded institutes are located in Victoria, namely: Walter & Eliza Hall, Howard Florey, Murdoch, and Baker Institutes.

The table on page 97 clearly demonstrates the medical research strength of Victoria's universities and teaching hospitals, particularly in view of the fact that project grants are allocated on a highly competitive basis. The vast majority of the total Project Grants (73.98%) are allocated to Victoria's two main universities, Melbourne and Monash.

These figures, of course, do not take into account the block grants given to the four leading independent medical research institutes in Victoria, nor do they include other forms of NHMRC grants. Nevertheless it is a useful illustration of the direction of funding and the particular strength of research emanating from within the university system.

The issue of infrastructure support should be mentioned at this stage when noting the strong flow of grants to universities. Victoria's independent institutes have argued that they are at a distinct disadvantage in terms of raising the required infrastructure support to enable them to competitively compete for NHMRC grants. These institutes rely heavily on the State Government for infrastructure support, whereas universities receive infrastructure support from the Department of Employment, Education, Training and Youth Affairs.

The NHMRC itself recognises that the provision of major Commonwealth funding for stand alone infrastructure programs for medical research institutes is unlikely. This would be inconsistent with the approaches for research institutes in other fields and would set precedents which would be difficult to contain. If funding was made available it would almost certainly be taken from the core of existing research funds diminishing the allocation of peer-reviewed research grants.

Despite the fact that Victoria receives the major share of NHMRC funds, many Victorian medical research institutes have expressed concern to the Committee that there has been a shift in funds away from Victoria to other States, particularly New

South Wales and Queensland. However, the following table, which indicates the share of Medical Research Committee grants over the past six years, does not strongly support this assumption.

ALLOCATION OF MEDICAL RESEARCH COMMITTEE GRANTS 1991-1996

STATE	1991 $	1992 $	1993 $	1994 $	1995 $	1996 $
VIC	36,359,836	43,670,960	44,744,465	45,803,695	47,977,669	51,936,483
NSW	20,790,382	26,260,194	26,040,599	26,092,739	28,707,706	30,571,125
QLD	8,801,809	11,617,402	11,364,988	11,711,006	13,455,858	15,322,450
SA	10,452,886	12,120,583	12,042,474	12,103,533	12,546,588	14,862,440
WA	6,053,253	6,683,199	7,530,411	8,156,992	8,977,185	9,702,488
TAS	999,751	470,274	570,509	536,882	735,677	776,245
ACT	1,351,543	2,061,733	1,923,809	1,848,712	2,038,002	2,077,040
NT	196,713	396,852	266,343	423,374	626,369	782,529
TOTAL	**85,006,173**	**103,281,200**	**104,483,605**	**106,676,936**	**115,065,054**	**126,030,787**

(**Source:** National Health & Medical Research Council, *Grants 1991-1996*)

By way of further illustration it is worth looking at the percentage breakdown for each State of the total MRC budget during this six year period.

DISTRIBUTION OF NHMRC GRANTS 1991-1996

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(**Source:** Ibid.)

TOTAL MEDICAL RESEARCH COMMITTEE GRANTS FOR 1996 (Excluding PHRDC Grants)

Recipient	Amount $
Medical Research Institutes	
Austin Research Institute	1,462,353
Baker Medical Research Institute	3,369,664
Howard Florey Institute	5,094,592
Ludwig Institute for Cancer Research	513,333
Macfarlane Burnet Centre for Medical Research	240,167
Mental Health Research Institute	965,608
Murdoch Institute	1,159,574
National Ageing Research Institute	125,705
National Ageing Research Institute, Incorporated	46,803
Prince Henry's Institute of Medical Research	1,858,758
St.Vincent's Institute of Medical Research	973,524

Walter & Eliza Hall Institute	6,913,787
Medical Research Institutes Sub-Total	22,769,441 (48.34%)
Universities	
Deakin University	208,857
La Trobe University	864,881
Monash University	7,736,704
Swinburne University	71,258
University of Melbourne	12,379,306
Victorian Institute of Animal Science	45,573
Victorian University of Technology	47,102
University Sub-Total	21,580,940 (45.82%)
Hospitals	
Austin & Repatriation Medical Centre	364,384
Austin Hospital Medical Research Foundation	138,656
Peter MacCallum Cancer Institute	747,863
Royal Children's Hospital Research Foundation	686,653
Royal Melbourne Hospital Research Foundation	417,217
Royal Melbourne Institute of Technology	272,832
Royal Women's Hospital	93,063
St.Vincent's Hospital	148,096
Hospitals Sub-Total	2,642,834 (5.61%)
Other	
Anti-Cancer Council of Victoria	108,710
Other Sub-Total	108,710 (0.23%)
plus misc. Training Awards, Scholarships etc.	4,834,862
TOTAL	**51,936,787**

(**Source:** National Health and Medical Research Council, *Grants 1996*, op.cit., p.4)

The graph on page 96 indicates that there has only been a very minimal decrease in Victoria's share of NHMRC grants in the past few years and that Queensland is the only State that has benefited from a real increase in its overall percentage of grants during the six year period. Part of Queensland's recent increase in funds is largely attributable to the success of the Queensland Institute of Medical Research which has received significant support from the Queensland State Government.

Based on these figures there would not appear to be statistical evidence to support the view that there has been a shift in funding away from Victoria to other States in recent years.

2.4 INFRASTRUCTURE FUNDING

One of the recurring questions raised during the Committee's initial discussions with various medical and public health research bodies was whether or not the NHMRC grants should contain an infrastructure component. The NHMRC does not currently provide infrastructure support to medical and public health research institutes and a condition placed on their research grants is that infrastructure support must be elsewhere provided.

The State Department of Human Services, in its written submission to the Committee made the following comment:-

"The Victorian Government has historically provided a level of infrastructure support to independent medical and public health research institutions and has proposed that the Commonwealth provide matched funding to allow a combined pool which more closely meets the needs of these bodies. ..... The former Minister of Health, the Hon. Marie Tehan, in August 1994 commenced a long process of negotiation with the Federal Minister of Health, to achieve a matched Commonwealth / State infrastructure funding program. Unfortunately, to date nothing has been resolved. The Department strongly believes that this is an area that needs urgent attention and one on which the Committee should particularly focus."[15]

The Association of Australian Medical Research Institutes (AAMRI), which represents the top 11 Victorian medical research institutes, also pushed for shared Commonwealth/State infrastructure funding. As part of its written submission to the Committee, AAMRI included its position paper on research infrastructure from May 1995. The paper addressed the issue of a lack of infrastructure support and the need for shared funding between the State and Commonwealth Governments.

"Because of Australia's dual funding mechanism for medical research, autonomous medical research institutes have not received Federal infrastructure support for any research activities supported by the Commonwealth. In effect, therefore, the institutes have been subsidising Commonwealth-funded research work. As a result, private donations and foundation grants to these institutes, funds which should be used to initiate new research programs, are being used to help pay for electricity and other laboratory services. This subsidy materially diminishes productivity of institute

[15] Victorian Department of Human Services, op.cit., p.11

scientists and, if it continues, it will ensure that Australia's medical research institutes no longer remain internationally competitive."[16]

The AAMRI paper further commented that:-

"...although we believe it is primarily the Commonwealth's responsibility to provide research infrastructure for nationally and internationally competitive grants, a shared arrangement with the states may be negotiated."[17]

The Bienenstock Report also addressed the issue of infrastructure funding and made the following recommendation:-

"The issue of medical research infrastructure funding should be raised as a matter of urgency between the Minister for Health and the Minister for Employment, Education and Training. The issues to be addressed are the need to increase infrastructure funding and the need to ensure that organisations in receipt of competitively awarded research grants are able to underpin such grants with a suitable level of infrastructure support."[18]

The NHMRC acknowledged the infrastructure problem in its 1995 Research Strategy:-

"In 1995 the NHMRC will examine the provision of infrastructure support for research in hospitals and medical research institutes and develop options for governments to improve the situation."[19]

The National Institutes of Health (NIH), the United States equivalent of the NHMRC, has a unitary funding mechanism for medical research in that both research and infrastructure costs are funded by the Federal Government. In awarding peer-reviewed research grants, the NIH includes an infrastructure grant as a percentage of the research grant.

16 Association of Australian Medical Research Institutes, Position Paper on Research Infrastructure, Submission No.14 to EDC., p. Executive Summary

17 Ibid p. Executive Summary

18 Dr John Bienenstock, op cit., p. 7

19 National Health and Medical Research Council - *Researching for Health,* op cit., 1995, p.21

The Committee's deliberations on infrastructure funding in part 4.2.1 of this Report, put forward a case for the Commonwealth Government, through DEETYA, to support all forms of medical research in Australia by providing an appropriate infrastructure loading on research grants.

2.5 THE 1993 BIENENSTOCK REVIEW OF THE NHMRC

In 1993, an external review of the NHMRC was carried out by Dr John Bienenstock, Dean of the Faculty of Health Services, McMaster University, Canada. The Report was commissioned partly as a result of the then Federal Government's promise to facilitate and allocate 2% of overall health expenditure on medical research so as to bring in line Australia's health expenditures with other developed nations .

During the course of the Committee's inquiry, the Bienenstock Report was constantly referred to when discussing the role and function of the NHMRC. The review would appear to be most significant review of the efficiency and effectiveness of the Council as Australia's major medical research granting body.

The Bienenstock Report carried three key messages:-

1. the NHMRC is an institution of fundamental importance to the nation;
2. the NHMRC is yet to develop a co-ordinated process which enables it to operate coherently; and

3. more resources are urgently needed for the NHMRC both for research and infrastructure.

One of the key recommendations emanating out of the Report was that the NHMRC should establish a Strategic Health and Research Planning (SHARP) Committee to recommend priorities, strategies and plans for the NHMRC and to monitor the implementations and evaluation of these strategies.

2.6 Research Infrastructure and Capital Works Report 1996

The issue of a lack of infrastructure support to research institutes was also addressed in the Research Infrastructure and Capital Works for Health and Medical Research Report, prepared for the NHMRC and released in September 1996. In response to the question of disparity in infrastructure support between the independent medical research institutes and universities, the report presented three options.

Option A: the NHMRC could lobby government seeking additional funds to allow infrastructure grants relative to the level of funding obtained from the NHMRC; funds could be provided as a direct supplementation to eligible institutions with the grant monies, or administered separately in an independent program.

Option B: if there is no specific supplementation to allow infrastructure grants, either from Commonwealth or Commonwealth/State programs, the NHMRC would need to consider how it uses its available resources and whether infrastructure grants could be included under existing funding levels without creating unacceptable outcomes.

Option C: the NHMRC should consider changing its eligibility requirements for direct research funding to ensure that researchers in independent research institutes seek collaborations or develop arrangements with affiliated universities, and for the funds to be allocated to the university and not directly to the institute. This would bring the NHMRC and the health and medical research institutes into line with the requirements and management practices of the ARC in dealing with independent (non-biomedical) research institutes.

In conclusion the report recommended:-

"The options for infrastructure support should not impact adversely on support from existing sources. Some States provide strong support for the research base in institutes. This should be encouraged. The most equitable option to ensure that existing sources of funding are maintained would be for any move for a specific NHMRC infrastructure program to follow agreement with the States on their contributions in support of

research within the broader context of a proposed National Health Research and Development Strategy or similar agreement."[20]

[20] National Health and Medical Research Council, Submissions No. 91 - Attachment 3 to EDC, p.32

3. OTHER COMMONWEALTH GOVERNMENT SUPPORT

3.1 DEPARTMENT OF HEALTH AND FAMILY SERVICES

In addition to the Department of Health and Family Services' commitment of $135 million to the NHMRC in 1996, the Department provides funding for medical and public health research through a series of directed health advancement programs.

Funding for these Programs amounted to $36 million in 1996, of which Victoria received approximately $8 million. The funds are allocated generally on a population basis and are targeted to:-

- Alcohol and Drug Abuse
- AIDS
- Health Care Evaluation
- Aged Care

Funding for these programs are to pre-determined national health priorities. These are cancer, heart disease, mental health, injury prevention and diabetes.

Research funding for these areas is facilitated by a number of Committees including:-

- **Research and Development Grants Advisory Committee (RADGAC)**

Administered through the Office of the NHMRC, RADGAC provides funds on a peer review basis into a number of research areas relating to the improvement of health services delivery.

- **Commonwealth AIDS Research Grants Committee (CARG)**

Commonwealth AIDS Research Grants are also allocated through the NHMRC on a peer-review basis over a period of five years through either block, project or program grants. CARG provides funds predominantly for research into HIV/AIDS. The National Centre for HIV Virology Research located at the Macfarlane Burnet Centre for Medical

Research attracts a block grant of approximately $2 million. In addition, CARG allocated over $1 million in project grants to Victoria in 1996 as shown below.

PROJECT GRANTS FUNDED AWARDED TO VICTORIA THROUGH CARG IN 1996

Institution	Amount $
CSIRO Geelong	49,500
Deakin University	22,200
La Trobe University	139,700
Macfarlane Burnet Centre for Medical Research	100,300
Mental Health Research Institute of Victoria	93,200
Monash University	49,700
Royal Women's Hospital, Melbourne	114,600
St Vincent's Institute of Medical Research	143,600
University of Melbourne	74,500
Victoria University of Technology	17,200
Victorian Aboriginal Health Service	87,800
Walter and Eliza Hall Institute of Medical Research	159,700
Total	**1,052,000**

(**Source:** National Health & Medical Research Council, *Grants 1996*, op cit., pp.209-211)

3.2 DEPARTMENT OF EMPLOYMENT, EDUCATION, TRAINING AND YOUTH AFFAIRS

3.2.1 Australian Research Council

The Department of Employment, Education, Training and Youth Affairs, through the Australian Research Council, allocates significant infrastructure support to universities together with a small level of direct medical research grants.

The ARC was established in 1988 and is one of six Councils to provide independent expert advice to the Commonwealth Government across a whole range of education and training portfolio matters through the National Board of Employment, Education and Training (NBEET). The Council's main function is to provide advice on research funding and policy, and to promote the conduct of research and training at the highest

level. Additionally, the Council is charged with special responsibility for basic research and research training undertaken in the higher education sector.

Grants provided by the ARC are not specific to medical and public health research and predominantly cover a wide range of research classifications carried out within the higher education sector. Fund allocations for research programs are provided by DEETYA on a triennial roll-over basis on the advice of the ARC.

In 1996, the ARC contributed over $370 million in research grants and infrastructure support for all forms of university based research. New South Wales receives the largest volume of ARC grants due to its higher number of tertiary institutions. Victoria receives the second highest number of grants.

The key grants allocated from the total budget are: Large Research Grants ($94.2 million), Australian Postgraduate Awards ($68.6 million) and Research Infrastructure (Block) Grants ($75 million).

In 1997 it estimated that $94 million (23%) of ARC targeted research funding will be directed to Victoria covering all research programs. Overall funding in 1995 for medical and health sciences as a field of research Australia wide amounted to just over $10 million. Exact figures on direct ARC support to medical research in Victoria are unavailable, however it is estimated that up to $4 million was provided in 1995.

Research grants are provided to support high quality research in all research areas and are allocated on a peer review basis. The ARC allocates funds on the advice of five advisory Committees.

DISBURSEMENT OF AUSTRALIAN RESEARCH COUNCIL LARGE RESEARCH GRANTS BY STATE, 1996

State	Allocation $
New South Wales	34,243,901
Victoria	**23,091,569**
Queensland	14,098,389
Western Australia	7,315,999
South Australia	8,825,767
Tasmania	2,415,829
Northern Territory	90,991
Australian Capital Territory	4,170,980
Total	**94,253,425**

(**Source**: Australian Research Council, *Report on Research Funding Programs 1996: Volume 1 - Introduction and Summary Tables*, AGPS, Canberra, 1996, pp.20-21)

Despite New South Wales having more universities than Victoria and receiving more ARC grants in total, it should be noted that Victorian universities received the largest number of postgraduate awards for medical and health sciences. The following table shows that Victorian medical graduates obtained 31% of the total awards.

This can be seen as a direct influence of Victoria's pre-eminence in medical research. It has been noted that significant benefits accrue from the affiliations between medical research institutes, hospitals and universities. Many research institutes have medical graduates, within either Melbourne or Monash Universities, as part of their research staff. These close relationships have had an extremely positive effect on the quality of medical graduates in Victoria.

NUMBER OF AUSTRALIAN RESEARCH COUNCIL

AUSTRALIAN POSTGRADUATE AWARDS WITH STIPEND FOR

MEDICAL AND HEALTH SCIENCES BY STATE - 1996

State	Number of Awards	Allocation $	% of Total
New South Wales	46	690,000	29.1
Victoria	**49**	**735,000**	**31.3**
Queensland	30	450,000	18.9
Western Australia	10	150,000	6.3
South Australia	16	240,000	10.1
Tasmania	2	30,000	1.2
Northern Territory	0	0	0
Australian Capital Territory	5	75,000	3.1
Total	**158**	**2,370,000**	

(**Source:** Ibid., p.30)

** Allocation based on standard rate of payment of $15,000 to students.*

RECIPIENTS OF AUSTRALIAN RESEARCH COUNCIL

AUSTRALIAN POSTGRADUATE AWARDS WITH STIPEND FOR

MEDICAL AND HEALTH SCIENCES BY INSTITUTION - 1996

Institution	Number of Awards
La Trobe University	8
Monash University	20
Royal Melbourne Institute of Technology	4
University of Melbourne	16
Swinburne University of Technology	1
Total	**49**

(**Source:** Ibid., p.30)

It is through the allocation of infrastructure grants that the ARC makes a significant contribution to medical research activity in universities.

3.2.2 Australian Research Council Infrastructure Grants

In 1996, the ARC disbursed a total of $94 million to the provision of infrastructure support for research within universities throughout Australia. Infrastructure grants are disbursed through block grants and equipment/facilities grants.

The Infrastructure Block Grant makes up the bulk of the total allocation of research infrastructure of the ARC, which in 1996 totalled in excess of $75 million. This category of infrastructure support is disbursed on the basis of competitively acquired research funding.

Of the total allocation of Infrastructure Block Grants, Victorian higher education institutions received the second highest allocation, approximately **$**19.6 million dollars, behind NSW which received $25.4 million.

This infrastructure support is for all research carried out within a university, of which medical research benefits. It is difficult to estimate the proportion of ARC infrastructure support that relates directly to medical research activity.

The Infrastructure (Equipment and Facilities) is the smaller component of the research infrastructure program accounting for close to $18.5 million. The ARC's 1996 report on research funding does not allow for an accurate assessment of the total amount of equipment/facilities grants allocated on a state by state basis.

AUSTRALIAN RESEARCH COUNCIL
RESEARCH INFRASTRUCTURE BLOCK GRANTS, 1996

State	Allocation $	% of Total
Victoria	**19,600,000**	**26**
New South Wales	25,500,000	34
Queensland	10,000,000	13
Western Australia	7,500,000	10
South Australia	8,500,000	11
Tasmania	1,500,000	2
Northern Territory	200,000	0.26
Australian Capital Territory	2,500,000	3.5
Total	**75,300,000**	

(**Source:** Ibid., p.37)

ALLOCATION OF AUSTRALIAN RESEARCH COUNCIL RESEARCH INFRASTRUCTURE BLOCK GRANT TO VICTORIAN UNIVERSITIES - 1996

Institution	Amount of Funding $
Deakin University	421,000
La Trobe University	2,134,000
Monash University	5,127,000
Royal Melbourne Institute of Technology	1,193,000
Swinburne Institute of Technology	347,000
University of Melbourne	9,674,000
University of Ballarat	210,000
Victoria University of Technology	495,000
Total	**19,601,000**

(**Source:** Ibid., p.37)

3.3 DEPARTMENT OF INDUSTRY, SCIENCE AND TOURISM

3.3.1 Co-operative Research Centres

The Co-operative Research Centres (CRCs) Program was launched by the Commonwealth Government in 1990 as a means of providing a medium for collaboration between public and private researchers, including universities, Commonwealth and State funded research organisations and private sector enterprises.

Currently, the CRC program encompasses 62 Centres Australia-wide. Responsibility for the administration of the CRC program comes under the Commonwealth Department of Industry, Science and Tourism.

The aim of CRCs is to link researchers with various industry sectors to co-ordinate efforts with a view to maximising potential R&D outcomes through the development of internationally competitive industry sectors.

Comprehensive reviews of the first CRCs to receive Government funding have confirmed they are performing well and achieving their aim of increasing collaborations between scientists and industry.

There currently exists 8 CRCs within the Medical Science and Technology field. These are:-

1. CRC for Tissue Growth Repair - *Adelaide*
2. CRC for Cellular Growth Factors - ***Melbourne***
3. CRC for Eye Research and Technology - ***Melbourne***, *Brisbane & Sydney*
4. CRC for Biopharmaceutical Research - *Sydney*
5. CRC for Cochlear Implant, Speech and Hearing - *Sydney* & ***Melbourne***
6. CRC for Cardiac Technology - *Sydney*
7. CRC for Vaccine Technology - *Brisbane*, *Sydney*, ***Melbourne***
8. CRC for Diagnostic Technologies - *Brisbane*

Key Victorian participants cover a wide area of expertise and include the Walter and Eliza Hall Institute of Medical Research, Ludwig Research Institute, AMRAD Corporation Ltd, The Bionic Ear Institute, University of Melbourne, National Vision Research Institute, and CSL Ltd.

Funding arrangements for the CRC program are met primarily by two sources:-

1. CRC program funds (Commonwealth), and
2. matching funds or in-kind support provided by the core partner(s).

Each source contributes at least 50% of funds per annum which are used to cover setting-up and operational costs.

It is estimated that Victoria accounted for $121 million or 32% of the total resources, from all partners committed to medical science and technology CRCs since 1990. With respect to CRC program funds from the Commonwealth, it has been estimated that Victoria attracts $5 million per annum for medical research.

Key CRCs that the Committee made contact with were the CRC for Cellular Growth Factors based at the Walter & Eliza Hall Institute and the CRC for Cochlear Implant, Speech and Hearing Research based at the Bionic Ear Institute. Both are salient examples of successful Victorian collaborations in the CRC program.

The CRC for Cellular Growth Factors (CGF) is unique in that all partners are based in Melbourne rather than spread across several States as is the case for most other CRCs. Key partners include WEHI, Ludwig Institute for Cancer Research, the Biomolecular Research Institute, Melbourne Tumour Biology Branch, CSIRO and AMRAD Corporation Ltd.

To date the CRC for CGF has surpassed its objective of establishing a trans-institutional co-operative link between first class researchers/groups to enhance the scope and impact of research in order to maximise the return of intellectual property. This was validated in a CRC Secretariat review which outlined that the CRC's research was of 'exceptionally high quality' developing exemplary synergies with industry partners such as AMRAD Corporation, Chugai and Merck Sharp which has enhanced significantly the capacity to commercialise.

Total resource committed to the CRC for CGF annually amounts to $9.7 million of which $2.3 million is provided through the CRC program. Since 1990, a total of $59 million has been committed to the CRC for CGF.

The CRC for Cochlear Implant, Speech and Hearing Research is well known for its work with the Bionic Ear Institute on the development of speech processing prostheses

to assist communication for the hearing impaired. The Cochlear Implant device is presently marketed world wide and maintains 80% of the world market in such devices. Core partners of the CRC include the Australian Bionic Ear Institute, Australian Hearing Services, Cochlear Pty Ltd and the University of Melbourne. A significant strength of the CRC is the partners proven expertise in biomedical and speech processing research with experience in medical manufacturing and marketing.

In discussions with the Committee the CRC for Cochlear Implant, Speech and Hearing Research stated that it is has generated significant benefits for Victoria/Australia and is one of few examples that has captured a significant amount of research funds from the protection of intellectual property and commercialisation.

Since its establishment in 1992, total CRC program funding for this Centre has amounted to $13.3 million. Total resources have amounted to $42 million. Total funding to the CRC annually amounts to $6.5 million of which $2.2 million is provided through the CRC program.

3.3.2 125% R&D Tax Concession Scheme

Indirect support for medical and public health research is provided through the Commonwealth Government's 125% R&D Tax Concession Scheme. If medical and public health research satisfies the eligibility criteria stipulated by the Income Tax Assessment Act and the Industry Research Development Act then it can qualify for the 125% tax concession. The R&D tax concession is a major form of assistance in the promotion of R&D other than direct government outlays. The Scheme is administered by Department of Industry, Science and Tourism through AusIndustry.

Since the release of the Committee's Interim Report, the Federal Government announced that the premium for deductions for R&D expenditure be reduced from 150% to a maximum of 125%. This applies to R&D expenditure incurred after 20

August 1996. The decision follows a 'detailed review of support provided by the concession and international comparisons with similar schemes' [21].

The tax concession was initially introduced in 1985 and became a permanent feature of industry innovation policy in 1992-93. Its main objective has been to 'make Australian companies more internationally competitive through improving innovative skills in Australian industry by:-

- increasing investment in R&D;
- encouraging better use of Australia's existing research infrastructure;
- improving conditions for the commercialisation of new process and product technologies developed by Australian companies; and
- developing a greater capacity for the adoption of foreign technology'.[22]

The tax concession enables companies which conduct R&D and satisfy eligibility criteria to deduct 125% of expenditure (i.e. expenditure which demonstrated either innovation or technical risk) against their taxable income.

21 Commonwealth Dept. of Treasury, *Budget Statements 1996-97, Budget Paper No.1*, AGPS, Canberra, pp.4/66-4/68

22 Industry Research and Development Board, *150% Tax Concession - Guide to Benefits* Revised Edition, AGPS, Canberra, 1994, p.12

COMPANIES USING THE 150% R&D TAX CONCESSION UNDERTAKING MEDICAL RESEARCH IN VICTORIA IN 1994/95

Field of Research	Expenditure $	Companies	Cost to Revenue $
Immunology	420,000	1	66,000
Medical Biochemistry and Clinical Chemistry	139,000,000	3	23,000,000
Pharmacology	740,000	2	120,000
Clinical Sciences	22,000	1	3,000
Other Medical and Health Sciences	5,600,000	12	900,000
Total	**145, 782,000**	**19**	**24,089,000**

(**Source:** AusIndustry, *Tax Concession Data Base*, 10/10/96)

The Committee is not able to obtain reliable data on the impact of the R&D tax concession on medical and public health research. Anecdotal evidence suggests however, that of the overall tax revenue forgone as a result of the tax concession in 1993/94, 10% was related to medical research.

3.3.4 Factor f Scheme

The Federal Government's Factor f Scheme was developed to compensate pharmaceutical companies for low prices under the Pharmaceutical Benefits Scheme (PBS). The Scheme was aimed at encouraging companies to continue to undertake further investment in Australia by both domestic and multinational companies and develop Australia as an export centre for the region.

The key element of the Factor f Scheme is to provide notional price increases for a number of products listed on the PBS in return for specific commitments to increase R&D activity, value added production and exports.

The Scheme came into operation in 1988 (phase I) with Factor f commitments worth $157 million (total to November 1995). In 1992, the government extended the Factor f Scheme until 1999 (phase II) committing a further $820 million, making the total Government commitment over the ten year life of the scheme over $1 billion.

FACTOR F PARTICIPANTS - PHASE I & II

Phase I Participants 1988-92	State	Phase II Participants 1992-99	State
Merck Sharp and Dohme (Australia)	NSW	3M Pharmaceuticals	NSW
Sigma Company	VIC	Amrad Corporation Ltd	VIC
Cyanamid Australia	NSW	Astra Pharmaceuticals	NSW
Bristol-Myers Squibb Pharmaceuticals	VIC	CSL Ltd	VIC
Glaxo Wellcome Ltd	VIC	FH Faulding and Co Ltd	SA
FH Faulding and Co Ltd	SA	Glaxo Wellcome Ltd	VIC
SmithKline Beecham	VIC	Fisons	NSW
Commonwealth Serum Laboratories	VIC	Merck Sharp & Dohme (Aust)	NSW
Schering Plough	NSW	Pfizer	NSW
		Upjohn	NSW
Outlays by Government	**$157M**	**Outlays by Government**	**$820M**

(**Source:** Industry Commission, *The Pharmaceutical Industry Draft Report,* Industry Commission, 1995, pp.91, 103)

Since the inception of Phase I of Factor f, new investment has been forthcoming into Australia including significant increases in R&D and production with export value added, domestic value added and R&D, with actual activity increases exceeding forecasted activity resulting in numerous achievements and linkages by participants with companies and Australian medical research bodies.

The Scheme is due to expire in 1999 at the completion of phase II and at this stage its continuation beyond this time is doubtful following a comprehensive report into the Pharmaceutical Industry in 1996 by the Productivity Commission (formerly Industry Commission). Concerns are mounting about the Commonwealth Government's likely response to the Commission's Report. The pharmaceutical and medical research industries have expressed concern over future implications any adverse recommendation on Factor f has for the future growth of the Australian Pharmaceutical Industry and established linkages with R&D.

4. STATE GOVERNMENT SUPPORT

4.1 OVERVIEW

The State Department of Human Services has the major role in the direct allocation of funds for medical and public health research in Victoria. Other minor support is provided through the Departments of Infrastructure, State Development and Justice.

It is estimated that the overall level of support provided by the State Government amounts to approximately $35 million per annum. This does not include amounts from the Victorian Health Promotion Foundation, Anti-Cancer Council and National Heart Foundation which are dealt with later in this Report.

The funds in many cases compliment and support those research funds provided by the National Health and Medical Research Council (NHMRC) and other key Commonwealth research funding programs.

State funding programs provide funds for:-

- medical research infrastructure
- hospital research
- targeted health services including screening services
- clinical best practice type research
- training and development of health professionals
- applied research including support for clinical trials
- health promotion based research
- major research capital works requirements
- Non Government Organisations (NGOs) support

The table shown on the following page provides an approximation of the allocation of the State's health R&D budget.

STATE GOVERNMENT EXPENDITURE IN MEDICAL AND PUBLIC HEALTH RESEARCH - 1996

Source	Amount $
Department of Human Services	
• Infrastructure Grants Program	6,682,320
• Teaching Hospital Research Support	14,157,218
• Breast Cancer Research	3,000,000
• Other Public Health Research	3,000,000
• Aged, Community & Mental Health Targeted Research	2,600,000
• Disability Services, Primary Care	800,000
• Capital Contributions	500,000
Other Government Departments including:	
• Department of Justice (forensic)	
• Department of Infrastructure (Transport)	
• Department of State Development	4,500,000
Total	**35,239,538**

The Department of Human Services provides most services through separate Agencies under Funding and Service Agreements. These include Government-related agencies such as hospitals, health care networks, public nursing homes and a range of community and non government organisations providing health and welfare services. All Department Programs view medical and public health research and the provision of medical research funding as being important to overall health services provision.

The Department of Human Services provides funding for medical and public health research by three distinct mechanisms:-

- Medical Research Infrastructure
- Hospital and Clinical based research
- Targeted Medical Research support

The main focus of this section of the Report relates to the Department of Human Services' $6.7 million infrastructure support provided to medical research institutes and the $14.2 million provided to teaching hospitals as part of the Training and Development Grant Program.

4.2 MEDICAL RESEARCH INFRASTRUCTURE PROGRAM

4.2.1 Overview

The Medical Research Infrastructure Program is administered by the Public Health Program and has been operating since 1970. The Public Health budget for the Program is $5.2 million, and these funds are used to provide infrastructure support for the State's fifteen (15) Medical Research Institutes. There are two other medical research institutes funded under the Aged, Community and Mental Health Program with a budget outlay of $1.5 million.

The total Department outlay for medical research infrastructure is $6.7 million, used to support seventeen (17) medical research institutes.

4.2.2 Definition of Infrastructure Costs

During the course of its investigations, the Committee has attempted to obtain a clear definition of infrastructure costs of medical research bodies. One of the complexities in funding infrastructure is that there appears to be a wide interpretation of research infrastructure costs.

There have been many attempts to define infrastructure by funding bodies. The 1993 Report of the National Board of Employment, Education and Training on higher education infrastructure provides a useful definition:

"Research infrastructure is defined as comprising the institutional resources essential for supporting high quality research projects and research training within or across higher education institutions. This includes indirect costs associated with supporting particular research projects and programs and certain discretionary direct costs funded

by the institutions in the form of fellowships, scholarships and internal grants. It specifically excludes direct costs which should be covered by research grants"[23]

The 1991 Lovell Report (see page 124) recommended that infrastructure costs should include the following items:-

- administrative salaries
- lighting and power
- administrative services including computer, telephone, stationery, printing, postage
- library
- cleaning and maintenance
- rates, charges
- minor capital works
- vehicle running costs

There have been many interpretations on each infrastructure item, particularly in relation to the level of administrative salaries and what percentage of a chief researcher or director's salary is included in infrastructure. In addition, many institutes legitimately claim that the support of animal houses and laboratories should be included in the definition. The survey shown in Appendix 10, provides an indication of typical infrastructure items.

The Department of Human Services' Director of Public Health, Dr Chris Brook, appeared before the Committee in a public hearing on 30th January 1996 and made the following remarks with respect to the varying interpretation of infrastructure costs.

"I am well aware that there are different approaches to the definition of infrastructure, that go from the austere to the extraordinarily enthusiastic but it is not our view that funds provided for the purposes of research or salaries for those undertaking research are a component of infrastructure as we understand what we should be funding. I think the best I can offer is the list which really relates to things which, in our perspective are genuine administrative and overhead costs. That means administrative functions, which could include salary but only for administrative purposes, and heating, lighting and so on for the purposes of maintaining the infrastructure of an institution".[24]

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23 Boston Consulting Group, *Higher Education Research Infrastructure: Report of the National Board of Employment, Education and Training,* AGPS, Canberra, 1993, pp.26-27

24 Minutes of Evidence, 30/1/96, p.202

4.2.3 The Present Infrastructure Funding Program

Under the present Program, infrastructure funds are distributed to medical research institutes upon application to the Department. However, medical research institutes indicate that the mechanisms for determining the amount allocated to each institute has never been fully clarified.

The Department's current infrastructure support is as follows:-

STATE DEPARTMENT OF HUMAN SERVICES INFRASTRUCTURE FUNDING TO VICTORIAN MEDICAL RESEARCH INSTITUTES - 1996

Medical Research Institute	1995/96	% of Total
1. Walter & Eliza Hall Institute of Medical Research	1,737,000	26.00
2. Mental Health Research Institute	1,100,000	16.46
3. Baker Medical Research Institute	694,890	10.40
4. Howard Florey Institute	694,890	10.40
5. National Ageing Research Institute	403,000	6.03
6. Prince Henry's Institute of Medical Research	385,110	5.76
7. Macfarlane Burnet Centre for Medical Research	227,790	3.41
8. The Bionic Ear Institute	231,280	3.46
9. The Austin Research Institute	216,420	3.24
10. Ludwig Institute for Cancer Research	190,960	2.86
11. The Murdoch Institute	173,990	2.60
12. St.Vincent's Institute of Medical Research	171,870	2.57
13. Bernard O'Brien Institute of Microsurgery	146,400	2.19
14. Monash Centre for Molecular Biology & Medicine	106,090	1.59
15. Monash Institute of Reproduction & Development	100,790	1.51
16. National Vision Research Institute	70,020	1.05
17. Heart Research Centre	36,070	0.54
Total	**6,686,570**	

The basis for State Government infrastructure funding would appear to be historical with increases indexed annually. These increases are not related to any changes in the level of an institute's research funding.

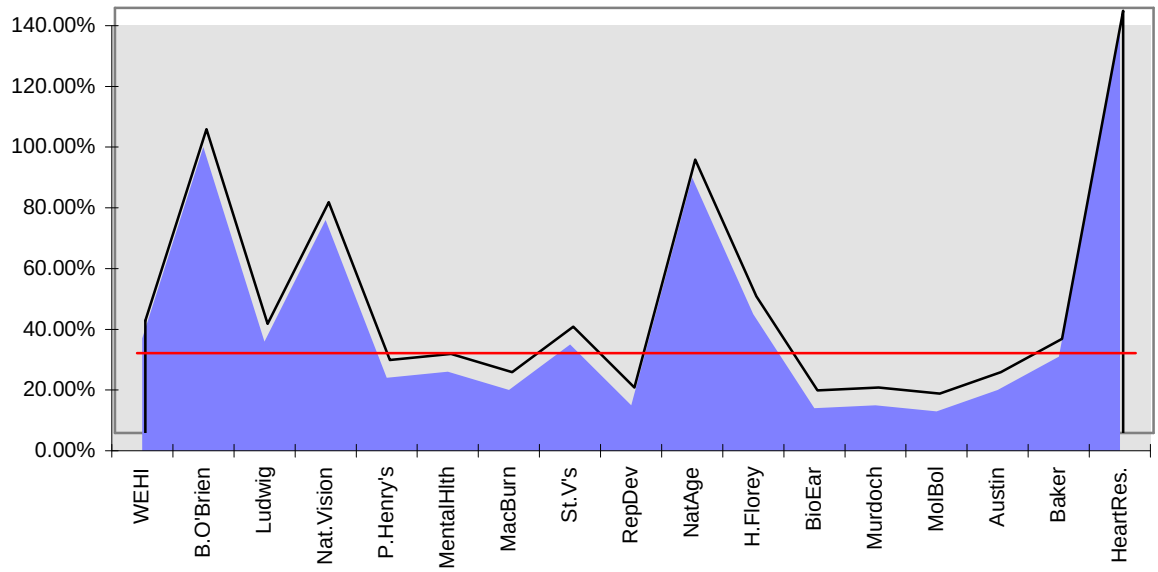
The major research institutes, such as Walter & Eliza Hall, benefit greatly from this historical based formula, however new emerging institutes receive very little support during the critical stage of their development as fully fledged institutes.

4.2.4 Medical Research Institute Infrastructure Survey

In an attempt to obtain current information on research infrastructure costs, the Committee distributed a survey to the seventeen Institutes in receipt of State Government infrastructure funding in February 1996. The results are recorded in the table on the following page.

The survey confirmed that infrastructure costs generally amounted to 35% of an Institute's total expenditure, with 3 or 4 notable exceptions. The survey shown in Appendix 10, lists common infrastructure items which would form the basis of determining levels of 'host' support and future allocations of infrastructure grants.

Major Research Institutes Infrastructure Costs as % of Total Costs



MEDICAL INCOME AND INFRASTRUCTURE COST SURVEY-FEBRUARY 1997

Research Institute Name	Total Income $M	Total Compet. Grants $M	Total Expens $M	Direct Host funding $M	Total Infra. Costs $M	State Infra. Grant $M	Total Infrastructure Cost as a % of	
							Total ncome	Competitive Grants
Austin Medical Research Institute	5.91	2.35	5.00	0.25	1.19	0.216	20	51
Baker Medical Research Institute	10.83	4.69	10.47	0.00	3.33	0.695	31	71
Bernard O'Brien Research Institute	1.18	0.69	1.19	0.00	1.19	0.146	100	172
The Bionic Ear Institute	2.87	1.08	1.57	0.00	0.39	0.231	14	36
Centre for Molecular Biology	1.72	0.67	1.46	0.30	0.23	0.106	13	34
Heart Research Centre	0.49	0.22	0.68	0.00	0.68	0.003	139	307
Howard Florey Institute	7.99	5.20	8.04	0.00	3.59	0.695	45	68
Institute of Reprod'n and Development	6.95	2.59	6.89	1.55	1.07	0.101	15	41
Ludwig Institute of Medical Research	9.11	1.72	9.12	0.00	3.25	0.191	36	189
Macfarlane Burnet Research Institute	12.69	3.64	11.55	0.00	2.49	0.228	20	68
Mental Health Research Institute	6.11	1.42	5.65	0.00	1.59	1.100	26	112
Murdoch Institute of Medical Research	10.56	2.08	5.91	0.00	1.59	0.174	15	76
National Ageing Research Institute	1.96	0.56	1.76	0.20	1.76	0.403	90	312
National Vision Research Institute	0.51	0.26	0.51	0.00	0.39	0.070	76	151
Prince Henry's Research Institute	4.48	2.90	4.40	0.00	1.07	0.385	24	37
St. Vincent's Research Institute	4.21	2.18	4.91	?	1.48	0.172	35	68
Walter & Eliza Hall Research Institute	23.94	14.02	23.42	0.00	8.78	1.737	37	63

4.2.5 Previous Models for Infrastructure Funding

Two previous studies on the State Government's infrastructure funding have been brought to the Committee's attention: the 1991 Lovell Report and the AAMRI paper on Research Infrastructure from May 1995. In addition, New South Wales and Western Australia have also recently reviewed medical infrastructure funding within their States.

(i) The Lovell Report

In 1989, the then State Treasurer announced increases to medical research infrastructure funding and introduced a review of procedures by which funds are allocated. A review Committee, chaired by Professor Richard Lovell, subsequently released its 'Review of Guidelines & Administrative Procedures for Medical Research Funding in Victoria' in February 1991.

The Report recommended the formalisation of the medical research grants and identified that in some cases previous allocations had been made for purposes other than meeting infrastructure costs, for example non independent or autonomous centres attached to a hospital or university.

The Report also suggested that the size of the grant should be related to the total revenue of the Institute approved for funding. This concept would necessarily ensure that all sources of revenue would be tapped. One recommendation of the Report was that 17% of the total income of an institute was a reasonable allowance for infrastructure costs. This amount was deduced following a survey of most Research Institutes operating at that time and from the expert advice from leaders of key Institutes, including the Walter and Eliza Hall Institute and the Baker Medical Research Institute.

(ii) AAMRI Infrastructure Position Paper

The Association of Australian Medical Research Institutes, representing the leading Institutes in Australia, released a position paper on research infrastructure in May 1995.

The paper summarised its recommendations as follows:-

'Support for research infrastructure at medical research institutes must be provided urgently if Australia's international renown as a site for medical research is to be maintained. Although we believe it is primarily the Commonwealth's responsibility to provide research infrastructure for nationally and internationally competitive grants, a shared arrangement with the states may be negotiated. Some support for research infrastructure should begin immediately, and the level of support should be increased as rapidly as possible to the fully justified minimum figure of 70? per dollar of direct research support'.[25]

In arriving at a figure of 70%, AAMRI estimated the sum of infrastructure costs and the direct costs of research and concluded that infrastructure costs add 70% to direct research costs. This conclusion was consistent with the National Board of Employment, Education and Training review on higher education infrastructure which found that 'research infrastructure funding requires approximately 70? for every direct grant dollar'.

AAMRI's view, therefore, is that the State Government's infrastructure support should be 35% of total medical research income (compared to Lovell's recommended 17%) and that the Commonwealth should fund the other 35%.

(iii) Western Australia Review

In April 1995, the Western Australian Government released a Report following a review of medical research infrastructure funding in the State.

A three tier approach to infrastructure funding was proposed. For independent medical research institutes, which are not eligible for DEETYA infrastructure funding, the Report recommended that 20% of total funds raised by the institute, whether competitive or non competitive, should be provided by the State Government.

Further, the Report recommended that scientists working in those institutes who are recipients of NHMRC grants, or CRC Grants, be eligible for Incentives Grants, to

[25] Association of Australian Medical Research Institutes, op cit,. p. Executive Summary

encourage interdisciplinary research and attract senior researchers and support staff to join the groups.

Tier 2 recommendations related to recipients of NHMRC Program or Institute / Centre Grants working in university departments and associated centres who already receive DEETYA and university infrastructure support, equivalent to 12% of the total funds raised by recipients, paid to the recipient's administering institution. There was no eligibility for Incentives Grants recommendation for this Tier.

Tier 3, for non program or Institute/Centre grant holders, provide State support equivalent to 10% of total funds raised by participants and that the grants be administered by the university.

(iv) New South Wales Review

In August 1995, the New South Wales Health Department released a Discussion Paper on Research and Development in the NSW Health System. This resulted in the development of the NSW R&D Infrastructure Grants Program.

Under this program, grants will be awarded on a competitive basis to research organisations of state-wide significance with a track record of innovation and excellence in R&D. The Infrastructure Grants Program is part of an overall health system R&D strategy in NSW which aims to promote R&D as an integral component of health care and align the Department's R&D investment with health system priorities.

Grants are awarded to three types of medical R&D organisations.

1. Independent institutes accredited by the NHMRC which have attracted peer-reviewed grants totalling an average of at least $1 million p.a. since 1992.

2. Established research organisations primarily concerned with clinical and/or biomedical research, which have attracted peer-reviewed grants totalling an

average of at least $350,000 p.a. in 1994-96, and/or employ at least 20 research staff.

3. Research organisations or consortia primarily concerned with R&D in population health, the organisation and delivery of health services (including rural health), health economics, and related fields.

While the NSW Health Department has been clear on eligibility criteria and method of application, no method for the allocation of funds is stated. A submission based approach of this type, in the absence of clear assessment and allocation criteria, may be fairly criticised as having the potential for highly subjective outcomes.

4.3 Hospital Based Research

The Acute Care Program within the Department of Human Services had a total program outlay of $2,271.1 million in 1995/96. Objectives of Acute Care include the provision of quality hospital and related health services for all Victorians. The Training and Development Grant Program (TDGP) of the Acute Care Program has a budget of about $163 million.

The research component of TDGP, presently $14.2 million per annum, has been awarded to the major teaching metropolitan hospitals since the introduction of case-mix funding in July 1993, as general support for medical research.

The allocation of these funds has been relatively arbitrary and intended not only to ensure that there was visible continuing support for medical research, but to allow hospitals some flexibility in dealing with issues of ‘complexity of care’ as case-mix was introduced.

Complexity of care could be associated with higher levels of technical service provision and in turn with academic and research pursuits.

The funds have been allocated at the rate of $1.5 million to major hospitals such as the Royal Melbourne Hospital and $0.5 million to smaller hospitals. 17 hospitals including one country hospital are funded under this program.

Submissions received by the Committee on the allocation of these grants basically fall into two distinct categories. The hospital networks agree that the funds should be more accountable but do not believe they should be linked tightly to tangible research outcomes. The medical research institutes, on the other hand are very concerned over this issue and believe if the money isn't used for research it should be taken away from hospitals and re-allocated for direct research projects.

Evidence suggests there is a tendency for hospitals to use the hospital research component grant to supplement the diminished total income of the hospital. Therefore, there is no assurance that support will be provided for research activities in the hospital.

The Department has not previously indicated the outcomes it wants from the $14.2 million hospital research support, so not surprisingly the funds are used in an often diffuse way within Hospital Networks.

The Committee's recommendation in Part One of this Report suggests the grants should be withdrawn from the present funding recipients and be re-allocated on a competitive basis for specifically directed health delivery and public health/disease prevention research.

This proposal is consistent with the U.K system of allocating research grants to hospitals which was often referred to in evidence put to the Committee.

Under the U.K system, arising out of the Culyer Report, hospital research money was pulled out of the general mix of hospital activity and put into a specific hospital R&D fund. Part of the research money is distributed through health priority programs directed out of targeted areas through the Health Department.

5. SUPPORT FROM NON-GOVERNMENT ORGANISATIONS

5.1 VICTORIAN HEALTH PROMOTION FOUNDATION

5.1.1 Background

The Victorian Health Promotion Foundation (VicHealth) is a separate entity to the Department of Human Services but reports to the Minister for Health. It has its own Board of Management.

Although conceived as a replacement for tobacco based sponsorship of sport, VicHealth received further responsibilities of general health promotion and funding of medical research through the Tobacco Act 1987.

The objectives of the Foundation are defined in Part 3, Section 17 of the Act and include:-

- to fund activity related to the promotion of good health, safety or the prevention and early detection of disease;

- to increase awareness of programs for promoting good health in the community through the sponsorship of sports, the arts and popular culture;

- to encourage healthy lifestyles in the community and to support activities involving participation in healthy pursuits; and

- to fund research and development activities in support of these objectives.

The Foundation's funding is dependent on the Minister of Health approval of an Annual Performance Agreement, negotiated through the Director of Public Health, Department of Human Services. Expenditure of the fund is rationed by Section 32 (4) of the Act

which stipulates that not less than 30 per cent of the Levy be for payment to sporting bodies, with the same percentage to be used for general health promotion.

An examination of VicHealth's annual reports for the period 1990-95 shows adherence to this ratio (refer table on p.139). In 1995, its annual budget of $22.6 million was allocated as follows:-

- 26% to medical and public health research activities;
- 30% to sporting bodies for promotion activities;
- 33.5% for community public health promotion programs such as Quit/Sunsmart; and
- 7.5% to Arts for sponsorship.

5.1.2 Medical and Public Health Research

The Foundation divides its funding into twelve medical/ health categories:-

- prevention of cardiovascular disease and stroke
- cancer prevention
- promotion of mental health
- safety promotion
- prevention of substance abuse
- prevention of chronic conditions
- prevention of disability and congenital condition
- promotion of oral health
- promotion of reproductive and sexual health
- health economics and evaluation
- prevention of communicable diseases
- health in promotion general

Allocation of funding within these categories, as well as the approval or rejection of grant submissions, are undertaken by VicHealth's Research Committee.

An important role played by the Research Committee members is their representation on other funding agency committees, such as the NHMRC, particularly the former PHRDC, and on a number of the larger Philanthropic Trusts such as the Myer and the Buckland.

VicHealth's Research Committee takes into account the areas of priority of external granting rounds conducted by other agencies such as the NHMRC. The VicHealth funding round is run concurrently with the NHMRC in order to ensure that VicHealth funding in no way duplicates national funding. In the period 1987-1996 the Research Committee allocated $49.5 million in grants with an approval rate of 20%. The Research Program aims to draw on biomedicine, clinical work and public health with the emphasis increasingly on the latter.

5.1.3 Categories of Research Funding

The VicHealth Research Program funds in four different sub-program categories.

1. Program Grants provide significant funding for up to three years, with possible extension, given for innovative, large scale research especially in public health.
2. Project Grants have also been made available for smaller scale projects (less than $100,000 per annum for up to three years) in the areas of public health and promotion.
3. Scholarships and Fellowships schemes (post graduate study in public health-overseas and within Australia) have not been funded for the past several years and these schemes are currently in abeyance.
4. Surveillance grants are currently under review with the VicHealth Board keen to transfer funding for these programs (mainly in the areas of sexually transmitted diseases) back to the Department of Human Services.

DISTRIBUTION OF VICHEALTH RESEARCH FUNDING BY GRANT TYPE 1995/6

Type of Grant	Amount $
Centre for Adolescent Health	500,000
Centre for Health Program Evaluation	330,000
Centre for the Study of Mothers' and Children's Health	413,000
Centre for the Study of Sexually Transmissible Diseases	500,000
Public Health Project Grants	1,560,168
Fellowships and Scholarships	84,978
Program Support and Development	128,016
Surveillance Activities	857,941
Other Program Grants	965,446
Total	**5,339,549**

(**Source:** VicHealth, Annual Report 1995/6)

The above table shows the present allocation of VicHealth's research budget by grant type. The four Centre's of Excellence, which began to evolve during 1991/2, comprise a significant proportion of the research budget which was previously allocated to public health project grants, whilst the percentage of Program grants awarded to medical research seem to have remained static.

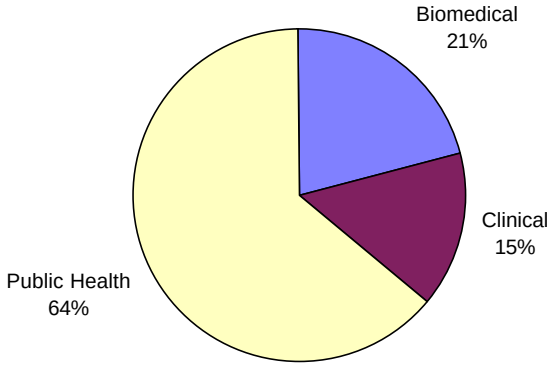
VICHEALTH RESEARCH GRANTS DISTRIBUTION BY TYPE OF INSTITUTION -1995/96

Institution	Amount	Percentage
Universities	**$1,551,645**	**35%**
Hospitals	**$205,000**	**5%**
Institutes	**$982,047**	**21.5%**
Centres of Excellence	**$1,742,936**	**38.5%**

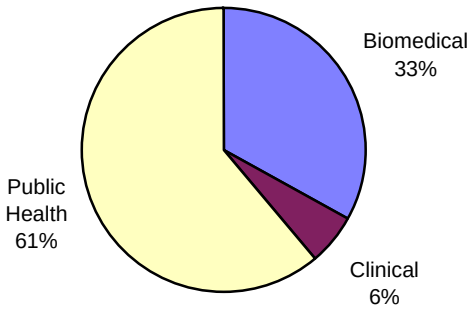
(**Source:** VicHealth, Submission No. 65 to EDC, p.13)

The pie charts below indicate VicHealth's emphasis on funding public health research. Biomedical research, which is predominantly funded through the NHMRC, received 34% of VicHealth's research grants in 1995/96. The Committee's findings in Part One of this Report suggest even further VicHealth funds should be allocated to public health research.

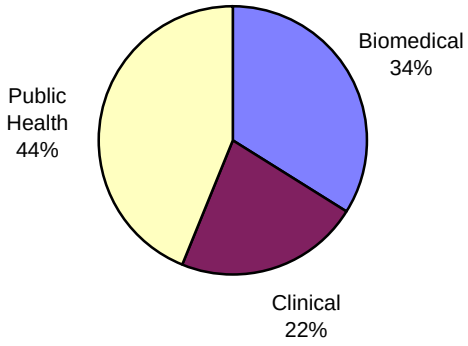
Approved Amount By Primary Research Category 1987-1996



VicHealth Research Funding 1990/1



VicHealth Research Funding 1995/6



(**Source:** Ibid)

The four Centre's of Excellence funded by VicHealth are an important public health research initiative. At the time each Centre was established, the health area or population group covered by the Centre was not widely researched or the research effort was fragmented. Hence, a strategic research approach to be undertaken by the Centres was regarded as a high priority. There was also an identified need for baseline data for evaluating the effectiveness of health promotion in each of the areas of Centre interest.

The role of each of the four Centres includes establishing the infrastructure for co-ordinating and initiating new research, developing strategies for interdisciplinary public health research and ensuring results are translated into policy and practice. Staff of the Centres also teach at tertiary institutions. All Centres are to work towards attracting

recurrent funding from sources other than VicHealth but would appear to be very dependent upon VicHealth grants.

FUNDING FOR VICHEALTH'S CENTRES OF EXCELLENCE 1991-1996

Centres of Excellence	1991	1992	1993	1994	1995	1996
Centre for Adolescent Health	340,000	500,000	500,000	500,000	500,000	500,000
Centre for Health Program Evaluation	-	290,000	308,000	338,100	345,372	330,000
Centre for the Study of Mothers' and Children's Health	310,000	305,278	280,000	179,192	403,120	413,000
Centre for Study of Sexually Transmitted Diseases	-	500,000	500,000	580,000	500,000	500,000
TOTAL	650,000	1,595,278	1,588,000	1,592,292	1,748,492	1,743,000

(**Source:** Ibid)

The table below provides an indication of the ability of these Centres to attract funds from sources other than VicHealth.

SOURCES OF INCOME FROM CENTRES OF EXCELLENCE -1996

Auspice	Centre for Sexually Transmissible Diseases	Centre for Mothers' and Children's Health	Centre for Adolescent Health	Centre for Health Program Evaluation
VicHealth Core Funding	$500,000	$412,936	$500,000	$275,000
VicHealth Other Funding	_	$192,010	_	_
Competitive Grants	$987,500	$259,756	$650,000	1,503,669
NonCompetitive	_	$47,043	_	_
Host Support	$262,500	$46,216	$500,000	$190,000
University Research Grants	_	$36,255	_	_
Consultancy	$500,000	$14,276	$350,000	$200,000
Total	**$2,250,000**	**$1,008,532**	**$2,000,000**	**$2,168,669**

(**Source:** Minutes of Evidence, 7/4/97)

The specific roles of the Centres of Excellence are as follows.

The Centre for the Study of Mothers' and Children's Health

The Centre undertakes research on the major health concerns in relation to pregnancy and birth and on major causes of death in early life. Established in 1991, it is multi-disciplinary research centre located in Carlton and auspiced by the Faculty of Health Sciences at La Trobe University.

The Centre for the Study of Sexually Transmissible Diseases

This Centre focuses on the social and behavioural factors relating to the prevention of sexually transmissible diseases. The Centre was established in 1992 and has established vital links between those working in policy areas and those at the community level, so that research can be both informed by practice and have practical outcomes. The Centre is located on the Carlton Campus of La Trobe University, within the Faculty of Health Sciences, and is affiliated with the University of Melbourne.

The Centre for Adolescent Health

Established in 1991, this Centre is committed to improving the health of young people through research, health promotion, training, advocacy and clinical services.The Centre is located adjacent to the Royal Children's Hospital, and was initiated by that hospital and the School of Medicine at the University of Melbourne. It also has associations with the Royal Melbourne Hospital and Royal Women's Hospital.

The Centre for Health Program Evaluation

This Centre was previously known as the National Centre for Health Program Evaluation, and was jointly funded by the Foundation and the Public Health Research and Development Committee (PHRDC) of the NHMRC and auspiced by Monash and Melbourne Universities. The Centre has been renamed the Centre for Health Program Evaluation, with two collaborating units operating under this title. VicHealth provided core funding for the University of Melbourne Program Evaluation Unit. It is understood that VicHealth support for this Centre is to be discontinued.

VICHEALTH RESEARCH GRANTS 1990/91 - 1995/96

Recipient	1990 - 1	1991 - 2	1993- 4	1994 - 5	1995-96	Sub Totals
Medical Research Institutes						
Howard Florey	160,500	171,735	0	0	0	332,235
Mental Health R.I	300,000	0	75,000	150,000	150,000	675,000
Walter & Eliza Hall	504,579	369,443	102,000	106,080	54,000	1,136,102
Macfarlane Burnet	290,790	428,622	643,022	504,172	227,000	2,093,606
Nat. R.I of Gerontology	50,000	50,000	0	0	0	100,000
Baker Medical R. I	0	321,760	100,000	0	30,000	451,760
Murdoch Institute	0	171,735	0	0	0	171,735
St.Vincent's Institute	0	61,049	0	0	282,179	343,228
International Diabetes Inst.	0	0	105,000	106,680	0	211,680
Addiction Research Inst.	0	0	0	21,336	0	21,336
Total MRIs	1,305,869	1,574,344	1,025,022	888,268	743,179	5,536,682
Universities						
Monash University	1,444,043	2,199,086	1,544,994	800,862	330,941	6,319,926
University of Melbourne*	601,806	1,090,476	1,315,735	1,308,469	1,846,561	6,163,047
La Trobe University*	188,015	222,560	873,465	1,693,212	1,092,299	4,069,551
Deakin University	170,495	117,980	58,350	62,375	0	409,200
Swinburne Institute	51,459	55,230	0	0	0	106,689
Victorian Uni. of Tech.	0	35,875	47,370	0	24,780	108,025
Total Universities	2,455,818	3,721,207	3,839,914	3,864,918	3,294,581	17,176,438
Hospitals						
Royal Children's Hospital	227,245	883,681	658,916	531,861	259,868	2,561,571
Austin and Repatriation M.C.	245,063	261,853	150,000	0	50,000	706,916
Mercy Maternity Hospital	140,344	145,406	0	0	0	285,750
Royal Park Hospital	46,352	0	0	0	0	46,352
St. Vincent's Hospital	39,123	22,271	69,050	0	0	130,444
Royal Vic. Eye & Ear	29,624	32,124	0	0	0	61,748
Mont Park Hospital	72,016	36,809	37,947	0	0	146,772
Peter MacCallum Cancer	15,000	0	0	0	0	15,000
Royal Melbourne Hospital	0	89,276	0	0	134,000	223,276
Total Hospitals	814,767	1,471,420	915,913	531,861	443,868	4,177,829
Other						
Anti-Cancer Council	670,893	351,369	0	506,656	0	1,528,918
National Heart Foundation	57,084	115,477	0	0	0	172,561
Vic. Cytology & Gynaecological	29,543	64,188	0	0	0	93,731
Nursing Mothers Association	51,141	0	0	0	0	51,141
City of Nunawading	106,851	34,164	0	0	0	141,015
Health Department Victoria	49,083	0	61,991	63,671	0	174,745
Vic. Aboriginal Health Service	75,407	0	0	0	0	75,407
Brotherhood of St. Lawrence	0	45,108	0	0	0	45,108
Vic. Mental Illness Aware. Council	0	0	0	70,095	0	70,095
Total Other	1,040,002	610,306	61,991	640,422	-	2,352,721
Totals	5,716,456	7,377,277	5,740,942	5,925,469	4,481,628	29,241,772

(**Source:** Ibid)

5.1.4 Health Promotion Activities

In accordance with its statutory requirements, VicHealth funds health promotion in two distinct areas.

Schools, Community and Health Settings

This program invests in projects to maintain health at all ages in a range of settings: schools, communities through primary health care organisations, consumer health agencies, and local government and hospitals. The program encourages communities to take responsibility for health promotion and sustaining health promotion outcomes from funds invested. The program initiates and develops programs in areas where needs are not being met through current activities. In 1995/6 VicHealth set up two new working parties:- Information Technology and Health Promotion in the Community, considering the ways in which new technologies can be harnessed to give greater impetus to health promotion planning and implementation, and; Health Promoting Schools to assist schools to become more effective advocates for health.

Sport and the Arts

In partnership with Victoria's sporting and artistic communities, the Foundation extends its capacity to promote health. These partnerships provide for the opportunities to both market health campaigns/messages to relevant target groups and to directly enable the creation of health promoting environments in sport and arts facilities and settings. Health promotion activity within sports and the arts focuses on the interconnection between marketing, policy and community development, and the immediate health promoting benefits of increased participation in sport and cultural activities.

In supporting programs in sport and the arts, the Foundation works with many health organisations to promote messages about health for Sunsmart, Quit and Hearthealth.

The system of health sponsorships and associated support grants is one of the most complex areas of VicHealth's activities. When VicHealth provides a health sponsorship to either a sports or an arts organisation, either in replacement of previous tobacco sponsorship or as a new health sponsorship, it simultaneously awards a health sponsorship support grant to an independent health agency to promote a health message at the sponsored event. During the period 1987 to 1996, over 15 different health agencies, including the National Heart Foundation, Quit, and Sunsmart have been involved in the promotion of a large number of health messages.

VICHEALTH SPONSORSHIP GRANTS TO SELECTED RECIPIENTS 1990-1996

Recipient	1991/92	1992/3	1993/4	1994/5	1995/6	Total
Victorian Basketball Association	310,000	134,000	50,000	105,000	105,000	704,000
Herald/Sun Suntour	185,000	400,526	381,172	428,301	370,000	1,764,999
Fitzroy Football Club	175,000	185,000	228,000	240,000	270,000	1,098,000
Victorian Golf Association	35,000	20,000	24,000	20,000	20,000	119,000
Victorian Football Association	95,000	30,000	57,000	55,000	25,000	262,000
North Melbourne Giants (Basketball)	307,000	210,000	238,000	223,000	305,000	1,283,000
Victorian Football Development Fnd.	278,000	280,000	387,500	390,000	550,000	1,885,500
Australian Surfriders Association	147,500	100,000	100,000	101,000	80,000	528,500
Victorian Squash Federation	130,000	145,000	129,000	122,000	200,000	726,000
Victoria Tennis Association	196,000	145,000	137,000	115,000	100,000	693,000
Total	**1,858,500**	**1,649,526**	**1,731,672**	**1,799,301**	**2,025,000**	**9,063,999**

(**Source:** Ibid)

VICHEALTH PROMOTION 1990/1 - 1994/5

Promotion Area	1990-1	1991-2	1992-3	1993-4	1994-5
SPORT	10,800,000 34%	9,777,000 32%	8,199,000 31%	6,364,000 30%	*6,569,000 30%
COMMUNITY, SCHOOLS AND HEALTH SETTINGS	12,090,000 38%	11,007,000 35%	8,528,000 33%	6,143,000 29%	7,134,000 32%
ARTS	2,923,000 9%	2,692,000 9%	2,489,000 9%	1,655,000 8%	1,650,000 8%
TOTAL	25,813,000	23,476000	19,216,000	14,162,000	15,353,000

(**Source:** VicHealth, Submission No.65 to EDC, p.13)

5.2 ANTI-CANCER COUNCIL OF VICTORIA

5.2.1 Background

The Anti-Cancer Council of Victoria (ACCV), established by the Cancer Act 1936, is a volunteer-based charitable body whose mission is to minimise the human cost of cancer.

The Council's objectives are to:-

- co-ordinate all activities relating to research into cancer and allied conditions in Victoria;
- undertake, promote, and subsidise such research;
- provide information and to develop, co-ordinate and participate in education programs relating to the prevention, detection, treatment and management of cancer and allied conditions; and
- promote and co-ordinate support services for people who have cancer or allied conditions .

ACCV's source of funds is shown in the extract from its 1995 Annual Report on the following page.

5.2.2 Allocation of Funds

ACCV funds biological and genetic research in hospitals, universities and medical research institutes across the State.

The Council funds research workers as fellows or for specific projects. Medical scientists compete in a system of rigorous peer review for grants to conduct laboratory and clinical research. The majority of grants are for clinical research and run for three years.

The budgetary break-down for the ACCV in 1995 was as follows:-

ANTI-CANCER COUNCIL OF VICTORIA - 1995

Source of Funding	Amount $
Charitable Support	
Regular Donors	2,345,900
Memorial Donations Bequests	3,456,870
Businesses Trusts	1,890.400
Community Based Funding	1,233,830
Total	**8,927,000**
Independent Grants for Specific Projects	
VicHealth	1,228,000
Department of Health	236,000
Department of Human Health	125,000
NRMA	50,000
ANZ Trustees	50,000
Australian Cancer Society	50,000
National Breast Cancer Centre	50,000
Outside Funding of QUIT Campaign	2,434,000
Total Funds	**14,399,000**

(**Source:** Anti-Cancer Council of Victoria, *Annual Report 1995*)

The allocation of ACCV research grants in 1995 is shown on the following table.

ANTI-CANCER COUNCIL OF VICTORIA RESEARCH GRANTS ALLOCATION - 1995

Major Research Beneficiaries	Amount $
Research Grants	
Peter MacCallum Cancer Institute	149,000
Walter and Eliza Hall Institute of Medical Research	881,156
St. Vincent's Hospital	51,000
University of Melbourne	156,540
Prince Henry's Institute of Medical Research	45,000
Ludwig Institute of Medical Research	162,488
Monash University	175,763
St. Vincent's Institute of Medical Research	167,203
Austin Research Institute	45,203
Royal Women's Hospital	50,000
Repatriation General Hospital	55,000
Royal Melbourne Bone Marrow Research Laboratory	20,023
La Trobe University	38,102
Total	**1,997,678**
Other Research Programs	
Epidemiology Research Centre	497,000
Victorian Cancer Registry	975,000
Behavioural Research Centre	1,000,000
Victorian Co-operative Oncology Group	453,000
Medical and Scientific Activities	56,296
Vacation Studentships	7,950
Total	**2,901,322**
Total Research Expenditure	**4,899,000**

(**Source:** Ibid.)

5.2.3 Health Promotion Activities

Research into the causes and patterns of cancer can identify some key factors which contribute to the development of particular cancers. Known as 'risk factors', their identification allows for action to be taken, at a personal level, to reduce an individual's risk of cancer. Where a direct causal link can be established, the Anti-Cancer Council develops strategies for promoting behaviour changes aimed at reducing the incidence of cancer throughout the community.

The Anti-Cancer Council targets its health promotion at two prevalent cancer types.

Skin Cancer

The ACCV's SunSmart campaign aims to reduce the incidence of skin cancer by changing the sun-related attitudes and behaviour of Victorians. Sunsmart targets groups in the community identified as either being at high risk of developing skin cancer or able to be educated about the risks before the damage is done. It is hoped that the interplay between the research provided by the Anti-Cancer Council's Centre for Behavioural Research in Cancer and the SunSmart program will produce desirable changes in deeply held Australian values about sun exposure. The SunSmart Schools program continued with an emphasis on the wearing of hats and the provision of shade. Local governments were encouraged to increase the amount of shade at outdoor venues such as pools and playgrounds and to promote sun awareness amongst outdoor workers.

In 1995, Sunsmart targeted community health centres, schools, youth orientated venues and concerts in an attempt to convey its message to adolescents who are recognised as an important target group. Other high-risk groups include sporting club participants and spectators, outdoor workers, beach goers, and people who care for young children.

ACCV funds promotion in the following four areas.

Prevention:- the Council funds Quit and Sunsmart programs in conjunction with the Department of Human Services and VicHealth.

Early Detection:- the Council funds BreastScreen/Mammacheck and Pap Test Victoria programs promoting the benefits of regular breast examination and pap smears, respectively.

Information:- the Cancer Information Service (CanHelp) provides information and support over the telephone.

Rehabilitation and Support:- the Council funds education programs for cancer sufferers and their families, self help support groups and palliative care advice via the Social Service Policy Unit.

5.3 NATIONAL HEART FOUNDATION OF AUSTRALIA

5.3.1 Background

The National Heart Foundation is an independent, Australia wide, non profit cardiovascular health organisation established in 1959. The Foundation fundraises approximately $17 million each year. The objects of the Foundation are:-

- to promote and conduct research to gain and apply knowledge about heart and blood vessel disease, its prevention and its treatment; and

- promoting and influencing behaviour which improves heart and blood vessel health by conducting education and other programs directed at health professionals, those with heart disease and the Australian community at large.

The National Heart Foundation's source of funds is shown below:-

NATIONAL HEART FOUNDATION - 1994

Source of Funding	Amount $
Bequests	9,100,000
Trusts/Foundations	250,000
Special Events	490,000
In Memoriam	510,000
Company Gifts	200,000
Individual Gifts	370,000
Door Knocks	300,000
Other	2,968,069
Jump Rope For Heart	2,600,000
Total	**16,788,069**

(**Source:** National Heart Foundation of Australia, *Annual Report 1994*, 1995)

5.3.2 Allocation of Funds

Through a national committee structure, the Foundation identifies public health priorities and opportunities to support research and health advancement strategies. The research funding is administered through its national office. Priorities for research are determined by a formal peer review process involving both assessors and a multi-disciplinary interview committee.

More than 40% of the Foundations annual budget is spent on research. In 1994, overall competitive research spending, including research grants, was more than $5 million.

In 1995, $1,461,000 was allocated for new grants in Victoria to run over the next two years. Victorian researchers receive the greatest number of grants, amounting to 38% of the 1996 allocation.

National Heart Foundation research is almost exclusively clinical, a consequence of which is the concentration of research funds in the universities and major research institutes (see table below).

Grants are offered both nationally and internationally, for a usual term of three years.

NATIONAL HEART FOUNDATION

ALLOCATION OF GRANTS TO VICTORIA- 1994

Major Research Beneficiaries	Amount $
Monash University	424,209
Baker Medical Research Institute	440,649
University of Melbourne	332,157
Howard Florey	93,290
Austin Hospital	94,114
Royal Melbourne Hospital	60,649
St. Vincent's Institute of Medical Research.	53,474
Walter and Eliza Hall Institute	52,345
Prince Henry's Institute	17832
Children's Research Fund	13,372
Total	**1,582,791**

(**Source:** Ibid)

5.3.3 Health Promotion Activities

In Victoria the Heart Foundation is one of the leading health promotion agencies. The National Heart Foundation is involved in awareness raising, education, environmental change advocacy, policy development and research. It aims to develop programs, resources and strategies that will encourage all Victorians to pursue a healthy lifestyle by enjoying healthy eating, exercising regularly and being smoke free.

The Victorian Division is keen to create a greater synergy between the two cardiovascular health aspects:- research and health promotion. This goal is being achieved by strengthening the division's relationship with the researchers funded and by enhancing the more medical and public health-orientated aspects.

The Heart Foundation funds promotion in the following three areas:-

Education:- programs for the community through school nutrition advice, heart health manuals, the Pick the Tick nutrition evaluation and education program and the medical and health professional through programs to provide information on current research and developments.

Community Health:- joining with Government to develop policy, legislation and guidelines to increase awareness of heart healthy activities. Presenting specialised rehabilitation support and education for heart attack and stroke victims.

Workplace Health:- promotion of smoke free work environments and presentation of workplace workshops on healthy working activity.

BIBLIOGRAPHY

Anti-Cancer Council of Victoria, *Annual Report 1995*, 1995

Australian Bureau of Statistics, *Research and Experimental Development - All-Sector Summary 1992-93*, Cat No. 8112.0, AGPS, Canberra, 1995

Australian Bureau of Statistics, *Research and Experimental Development - Higher Education Organisations 1994*, Cat No. 8111.0, AGPS, Canberra, 1996

Australian Bureau of Statistics, *Research and Experimental Development - General Government and Private Non-Profit Organisations 1994-95*, Cat No. 8109.0, AGPS, Canberra, 1996

Australian Research Council, *Report on Research Funding Programs 1995: Introduction and Summary Tables*, AGPS, Canberra, 1995

Bienenstock, Dr John, *Report of an External Review of the National Health and Medical Research Council*, AGPS, Canberra, 1993

Boston Consulting Group, *Higher Education Research Infrastructure: Report of the National Board of Employment, Education and Training*, AGPS, Canberra, 1993

Commonwealth Department of Treasury, *Budget Statements 1996/97 - Budget Paper No.1*, AGPS, Canberra, 1996

Culyer, Professor Anthony, *Supporting Research and Development in the National Health System*, London, HMSO, 1994

Gurvich, Victoria, *Australia leads the way in ulcer vaccine*, The Age, David Syme & Company Ltd, 10 September 1996

Industry Commission, *The Pharmaceutical Industry Draft Report*, Industry Commission, 1995

Industry Research and Development Board, *150% Tax Concession - Guide to Benefits* Revised Edition, AGPS, Canberra, 1994

National Health and Medical Research Council, *Grants 1996*, AGPS, Canberra, 1996

National Health and Medical Research Council, *Researching for Health - Leading Australian Health and Medical Research into the 21st Century*, AGPS, Canberra, 1995

National Heart Foundation of Australia, *Annual Report 1994*, 1995

Therapeutic Goods Administration, *Australian Manufacturers Licensed to Manufacture Therapeutic Goods*, Commonwealth Department of Human Services and Health, 1996

Tobacco Act 1987 (No.81) (Victoria)

Victorian Health Promotion Fund, *Annual Report 1990*, 1990

Victorian Health Promotion Fund, *Annual Report 1991*, 1991

Victorian Health Promotion Fund, *Annual Report 1992*, 1992

Victorian Health Promotion Fund, *Annual Report 1993*, 1993

Victorian Health Promotion Fund, *Annual Report 1994*, 1994

Victorian Health Promotion Fund, *Annual Report 1995*, 1995

Victorian Health Promotion Fund, *Annual Report 1996*, 1996

World Health Organisation, *Investing in Health Research and Development - Report of the Ad Hoc Committee on Health Research Relating to Future Intervention Options*, World Health Organisation, Geneva, 1996 (Document TDR/Gen/96.1)

Tables

TABLE 1

DISTRIBUTION OF NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL GRANTS 1996

State	Medical Research Committee $	Public Health and Research Development Committee $	Total $
Victoria	**51,936,483**	**3,176,803**	**55,113,286**
New South Wales	30,571,125	1,800,547	32,371,672
Queensland	15,322,450	1,317,986	16,640,436
South Australia	14,862,440	730,134	15,592,574
Western Australia	9,702,488	1,297,220	10,999,708
Tasmania	776,245	359,319	1,135,564
Australian Capital Territory	2,077,040	*	2,077,040
Northern Territory	782,529	325,492	1,108,021
Total	**126,030,800**	**9,007,501**	**135,038,301**

(**Source:** National Health & Medical Research Council , *Grants 1996,* op cit,. pp 2, 176)

** Total in Tasmania takes into account ACT*

TABLE 2

MEDICAL RESEARCH GRANTS ATTRACTED TO VICTORIA FROM EXTERNAL SOURCES 1996

Source	Amount $
National Health and Medical Research Council	55,000,000
Australian Research Council	4,000,000
Co-operative Research Centres	5,000,000
Commonwealth Department of Health & Family Services	8,000,000
International Peer-Review Bodies	4,000,000
International Non Peer-Review Bodies	8,000,000
Total	**84,000,000**

TABLE 3

LOCATION OF MEDICAL EQUIPMENT MANUFACTURERS AND INDUSTRY EMPLOYMENT IN AUSTRALIA, 1994

Location	Location of companies (%)	Location of employment (%)
New South Wales	36	42
Victoria	27	27
Queensland	13	14
Western Australia	11	8
South Australia	7	6
Tasmania	3	2
Australian Capital Territory	2	-
Northern Territory	1	-

(**Source:** Industry Commission, *The Pharmaceutical Industry Draft Report,* op.cit, p.25)

TABLE 4

DEVICE MANUFACTURERS IN AUSTRALIA AS AT 1 JULY 1995

State	No. of Manufacturers	% of Total
New South Wales	52	46.84
Victoria	34	30.64
Queensland	12	10.81
South Australia	6	5.41
Western Australia	5	4.50
Australian Capital Territory	1	0.90
Tasmania	1	0.90
Total	111	

(**Source:** Therapeutic Goods Administration, *Australian Manufacturers Licensed to Manufacture Therapeutic Goods*, Commonwealth Department of Human Services and Health, 1996)

TABLE 5

DRUG MANUFACTURERS IN AUSTRALIA AS AT 1 JULY 1995

State	No. of Manufacturers	% of Total
New South Wales	78	46.70
Victoria	53	31.73
Queensland	20	11.98
South Australia	13	7.79
Western Australia	3	1.80
Total	167	

(**Source:** Ibid.)

Appendices

APPENDIX 1

FUNCTIONS OF THE ECONOMIC DEVELOPMENT COMMITTEE

The Economic Development Committee is constituted under *the Parliamentary Committees Act 1968* as amended by *the Parliamentary Committees (Joint Investigatory Committees) Act 1982*, *Parliamentary Committees (Amendment) Act 1989 and the Parliamentary Committees (Amendment) Act 1992.*

The Committee consists of nine Members of Parliament, three drawn from the Legislative Council and six from the Legislative Assembly. It is chaired by the Hon. Chris Strong, M.L.C. The Committee carries out investigations and reports to Parliament on matters associated with economic development or industrial affairs. Its specific functions under the Act are:-

- to inquire into, consider and report to the Parliament on any proposal, matter or thing connected with economic development or industrial affairs, if the Committee is required or permitted so to do by or under the Act.

APPENDIX 2

EXTRACTS FROM THE RECORDS OF PARLIAMENT

MINUTES OF THE PROCEEDINGS OF THE LEGISLATIVE COUNCIL

Tuesday, 14th May 1996

17 ECONOMIC DEVELOPMENT COMMITTEE - The Honourable R.I. Knowles moved, by leave, That the Honourables R.H. Bowden, P. Power and C.A. Strong be members of the Economic Development Committee.

Question - put and resolved in the affirmative.

VOTES AND PROCEEDINGS OF THE LEGISLATIVE ASSEMBLY

Tuesday, 14th May 1996

19 APPOINTMENT OF COMMITTEES - Motion made, by leave, and question - That

(c) Mr Batchelor, Mr Jenkins, Mr Leighton, Mr Lim, Mrs McGill and Mr Treasure be members of the Economic Development Committee.

(Mr Gude) - put and agreed to.

APPENDIX 3

SUMMARY OF INQUIRY ATTENDANCE

Member	Total Meetings Conducted	Deliberative Meetings	Consultative Meetings*	Total Meetings Attended
Hon. C.A. Strong, MLC	34	22	12	**34**
Mr P. Batchelor, MP	34	14	10	**24**
Hon. R.H. Bowden, MLC	34	20	9	**29**
Mr G.P. Jenkins, MP	34	20	8	**28**
Mr M.A. Leighton, MP	34	20	12	**32**
Mr H. Lim, MP	34	17	12	**29**
Mrs D.F. McGill, MP	34	19	11	**30**
Hon P. Power, MLC	34	15	10	**25**
Mr D. T Treasure, MP	34	16	5	**21**

* *includes public hearings, formal meetings with relevant individuals and on-site visits.*

APPENDIX 4

LIST OF COMMONLY USED ACRONYMS

AAMRI	Association of Australian Medical Research Institutes
ABS	Australian Bureau of Statistics
ACCV	Anti-Cancer Council of Victoria
AIHW	Australian Institute of Health and Welfare
ARC	Australian Research Council
CDCT	Centre for Developmental Cancer Therapeutics
CRC	Co-operative Research Centre
DEETYA	Department of Employment, Education, Training and Youth Affairs *(Commonwealth)*
DHFS	Department of Health and Family Services *(Commonwealth)*
DHS	Department of Human Services *(State)*
DIST	Department of Industry, Science and Tourism *(Commonwealth)*
EME	Established Market Economies
IC	Industry Commission
IEC	Institutional Ethics Committee
IP	Intellectual Property
MRC	Medical Research Committee
NBEET	National Board of Employment, Education and Training
NHMRC	National Health and Medical Research Council
NIH	National Institutes of Health
PBS	Pharmaceutical Benefit Scheme
PHRDC	Public Health Research and Development Committee
R&D	Research and Development
RGIC	Regional Grants Interview Committee
TDGP	Training and Development Grant Program
TGA	Therapeutic Goods Administration
TIA	Tobacco Institute of Australia
VicHealth	Victorian Health Promotion Foundation

APPENDIX 5

LIST OF SUBMISSIONS RECEIVED PRIOR TO INTERIM REPORT

Submission Number	Name of Organisation	Date Received
1.	Mr Bruce R.T. Love Orthopaedic Surgeon **East Melbourne Orthopaedic Clinic**	13 November 1995
2.	Mr Darcy Howard Director **H.C.H. Consulting Service Pty Ltd**	23 November 1995
3.	Professor Robin Marks **Department of Medicine** **University of Melbourne**	30 November 1995
4.	Mr Edward Byrne **Director, Melbourne Neuromuscular Research Centre** Mr Boris Struk **Muscular Dystrophy Association**	8 December 1995
5.	Professor Richard Larkins **Department of Medicine** **University of Melbourne**	13 December 1995
6.	Ms Judith Elsworth Co-ordinator **Hawthorn Community Education Project**	13 December 1995
7.	Dr Michael Dalling Managing Director **Strategic Industry Research Foundation**	14 December 1995
8.	Dr John Masterton Head - Burns Unit **The Alfred Healthcare Group**	15 December 1995

9.	Dr Wendy Vanselow **Department of Public Health and Community Medicine** **University of Melbourne**	15 December 1995
10.	Mr Stephen Kent Honorary Secretary **Australian Society for Infectious Diseases Incorporated**	18 December 1995
11.	Professor Sir Gustav Nossal Director **The Walter & Eliza Hall Institute of Medical Research**	19 December 1995
12.	Dr A.J.F. d'Apice Director Department of Clinical Immunology **St Vincent's Hospital Melbourne**	20 December 1995
13.	Professor Robert Helme Director **National Ageing Research Institute**	22 November 1995
14.	Professor John Mills President **Association of Australian Medical Research Institutes (AAMRI)**	20 December 1995
15.	Dr Robert Burton Director **Anti-Cancer Council of Victoria**	21 December 1995
16.	Professor Hugh Taylor Department of Ophthalmology **University of Melbourne**	21 December 1995
17.	Mr John Grace Managing Director **AMRAD Corporation Ltd**	21 December 1995
18.	Dr. K A Bettelheim Honorary Research Fellow Dr. R.K.J. Luke Senior Lecturer **School of Agriculture** **La Trobe University**	22 December 1995

19.	Dr Ian McDonald Director **Centre for the Study of Clinical Practice** **St. Vincent's Hospital**	22 December 1995
20.	Professor Haydn Walters Director **Department of Respiratory Medicine** **The Alfred Healthcare Group and** **Monash University Medical School**	22 December 1995
21.	Professor Joseph Sambrook Director of Research **Peter MacCallum Cancer Institute**	22 December 1995
22.	Ms Kerry Fitzmaurice **The Orthoptic Association of Australia Incorporated**	22 December 1995
23.	Mrs Ruth Riddell **Victorian Division** **Australian Nutrition Foundation**	22 December 1995
24.	Dr Carl Parsons Associate Dean - Research **Faculty of Health Sciences** **La Trobe University**	22 December 1995
25.	Professor Jeff Richardson Director, Health Economics Unit **Centre for Health Program Evaluation**	22 December 1995
26.	Professor Ian McKenzie Director **The Austin Research Institute**	22 December 1995
27.	Professor Henry Burger Director **Prince Henry's Institute of Medical Research**	22 December 1995
28.	Professor Geoffrey Donnan Director of Research & Neurosciences **Australian Stroke & Neuroscience Institute**	22 December 1995

29.	Dr Geraldine Elliott Executive Director **Asthma Foundation of Victoria**	22 December 1995
30.	Professor R.M. Fox Director **Royal Melbourne Hospital Research Foundation**	22 December 1995
31.	Professor A.W. Burgess Director **Ludwig Institute for Cancer Research**	22 December 1995
32.	Professor John Mills Director **Macfarlane Burnet Centre for Medical Research**	2 January 1996
33.	Dr Gordon Whyte Director **Red Cross Blood Bank Victoria**	3 January 1996
34.	Mr C.F. Richards General Manager **Fairfield Hospital**	3 January 1996
35.	Professor David Copolov Director **Mental Health Research Institute**	3 January 1996
36.	Dr Chris Brook Director of Public Health **Department of Human Services**	8 January 1996
37.	Ms Monica A. Walters Executive Director **Cystic Fibrosis Association of Victoria Incorporated**	11 January 1996
38.	Mr John Keeffe Manager - Victoria **Australian Kidney Foundation**	15 January 1996

39.	Mr Roy Lilley Executive Director **Industrial Supplies Office (Victoria) Limited**	16 January 1996
40.	Dr A. Bobik Associate Director **Alfred Hospital and Baker Medical Research Institute**	18 January 1996
41.	Associate Professor Graeme Barnes Scientific Director **Royal Children's Hospital Research Foundation**	18 January 1996
42.	Mr Steven Shepherd Director - Policy and Research **Victorian Employers' Chamber of Commerce and Industry**	19 January 1996
43.	Professor Wayne Morrison Chief Executive Officer **Bernard O'Brien Institute of Microsurgery**	22 January 1996
44.	Professor Garry Jennings Chair - Medical Research Committee **The Alfred Healthcare Group**	22 January 1996
45.	Ms Robyn Charlwood Executive Director **National Heart Foundation of Australia - Victorian Division**	22 January 1996
46.	Dr Robert Burton Director **Anti-Cancer Council of Victoria** *(Supplementary to submission No.15)*	29 January 1996
47.	Professor David de Krester Director **Institute of Reproduction and Development**	31 January 1996

48.	Dr John McDougall Research & Resources Manager **Howard Florey Institute of Experimental Physiology and Medicine**	31 January 1996
49.	Professor John Funder Director **Baker Medical Research Institute**	31 January 1996
50.	Professor Stephen Holdsworth Associate Dean - Research **Faculty of Medicine** **Monash University**	31 January 1996
51.	Dr Arthur Shulkes Chairman - Research Institute Committee **Gastroenterological Society of Australia**	5 February 1996
52.	Dr Lesley Day President - Victorian Branch **Public Health Association of Australia Incorporated**	5 February 1996
53.	Dr. M. Gillespie Director Dr. J. Mercer Treasurer **The Australian Society for Medical Research - Victoria**	8 February 1996
54.	Dr Joan Ozanne-Smith Chair - Victorian Regional Committee **Australasian Faculty of Public Health Medicine**	9 February 1996
55.	Dr Marian Worcester Director **Heart Research Centre**	14 February 1996
56.	Professor Frank Larkins Deputy Vice-Chancellor - Research **The University of Melbourne**	19 February 1996

57.	Mr John Wilson Honorary Secretary Victorian State Committee **The Royal Australasian College of Physicians**	19 February 1996
58.	Mrs B.L. Miller	7 March 1996
59.	Professor A.P. Vulcan Director **Accident Research Centre** **Monash University**	11 July 1996
60.	Associate Professor R.C. Augusteyn Director **National Vision Research Institute**	30 July 1996
61.	Dr R.G.H. Cotton Head **Mutation Research Centre**	31 July 1996
62.	Mr Angels Gaetano	31 July 1996
63.	Dr Arthur Brandwood President **Australian Society for Biomaterials**	6 August 1996
64.	Professor John McNeil Head **Department of Epidemiology & Preventive Medicine** **Monash Medical School**	6 August 1996
65.	Ms Rhonda Galbally Chief Executive Officer **Victorian Health Promotion Foundation**	21 August 1996
66.	Dr Chris Brook Director - Public Health **Department of Human Services** (Supplementary to Submission No.36)	22 August 1996
67.	Professor Bruce E. Kemp Deputy Director **St. Vincent's Institute of Medical Research**	23 August 1996

APPENDIX 6

LIST OF SUBMISSIONS RECEIVED IN RESPONSE TO INTERIM REPORT

Submission Number	Name of Organisation	Date Received
68.	Mrs B.L. Miller	12 December 1996
69.	Professor Richard Larkins **Department of Medicine** **University of Melbourne**	18 December 1996
70.	Dr Michael Stanford **Chief Executive Officer** **North Eastern Health Care Network**	6 January 1997
71.	Professor Jus Stoelwinder **Chief Executive Officer** **Southern Health Care Network**	13 January 1997
72.	Mr Jon Hay **Centre for Developmental Cancer Therapeutics**	20 January 1997
73.	Professor Ian McKenzie **Director** **The Austin Research Institute**	20 January 1997
74.	Dr Chris Brook Director - Public Health **Department of Human Services**	21 January 1997
75.	Dr Rex Joyner Chief Executive Officer **Western Health Care Network**	24 January 1997
76.	Associate Professor Graeme Barnes Scientific Director **Royal Children's Hospital Research Foundation**	24 January 1997

77.	Mr Ivor Davies Chief Executive Officer **Women's and Children's Health Care Network**	24 January 1997
78.	Professor Henry Burger Director **Prince Henry's Institute of Medical Research**	28 January 1997
79.	Mr Angelo Gaetano	28 January 1997
80.	Mr Steven Porter General Manger **Melbourne Symphony**	29 January 1997
81.	Professor John Mills President **Association of Australian Medical Research Institutes**	30 January 1997
82.	Mr Paul Sladdin Executive Director **The Push Incorporated**	30 January 1997
83.	Professor Ian Gust Director - Research and Development **CSL Ltd (Research and Development)**	30 January 1997
84.	Professor John Funder Director **Baker Medical Research Institute**	30 January 1997
85.	Professor John Mills Director **Macfarlane Burnet Centre for Medical Research**	30 January 1997
86.	Dr Geraldine Elliott Executive Director **Asthma Foundation of Victoria**	30 January 1997
87.	Mr Bill Stronach Chief Executive **Australia Drug Foundation**	30 January 1997

88.	Professor David Copolov Director **Mental Health Research Institute**	30 January 1997
89.	Ms Kay Mahlook Executive Director **Victorian Gymnastics Association Incorporated**	31 January 1997
90.	Professor Jeff Richardson Director Health Economics Unit **Centre for Health Program Evaluation**	31 January 1997
91.	Ms Dallas Ariotti Secretary **National Health and Medical Research Council**	31 January 1997
92.	Dr Frank Pyke Executive Director **Victorian Institute of Sport**	31 January 1997
93.	Dr Tracey Batten Acting Director - Clinical Services **St. Vincent's Hospital Melbourne**	31 January 1997
94.	Professor David de Kretser Director **Institute of Reproduction and Development**	31 January 1997
95.	Ms Ann Tonks General Manager **Melbourne Theatre Company**	31 January 1997
96.	Associate Professor Struan Sutherland Foundation Director **Australian Venom Research Institute**	31 January 1997
97.	Ms Anne Marie Harrison Chief Executive Officer **VicSport - Sports Federation of Victoria**	31 January 1997

98.	Professor Hugh Taylor Head Department of Ophthalmology **University of Melbourne**	31 January 1997
99.	Dr Paul Woodhouse Director- Policy Development **Australian Medical Association (Victorian Branch Ltd)**	31 January 1997
100.	Professor Wayne Morrison Chief Executive Officer **Bernard O'Brien Institute of Microsurgery**	31 January 1997
101.	Dr Joan Ozanne-Smith Senior Research Fellow **Monash University Accident Research Centre & Victorian Injury Surveillance System**	31 January 1997
102.	Mr Peter Thompson Acting Chief Executive Officer **Victorian Health Promotion Foundation**	31 January 1997
103.	Mr Lindsay Gaze General Manger **Victorian Basketball Association**	31 January 1997
104.	Ms Linda Mickleborough General manager **Circus Oz**	31 January 1997
105.	Professor Bruce E. Kemp Deputy Director **St. Vincent's Institute of Medical Research**	31 January 1997
106.	Professor Robert Helme Director **National Ageing Research Institute**	3 February 1997
107.	Ms Jill Smith General Manager **Australian Contemporary Theatre - Playbox**	3 February 1997

108.	Ms Jennifer Williams Director - Aged Community and Mental Health Division **Department of Human Services**	3 February 1997
109.	Dr Robert Burton Director **Anti-Cancer Council of Victoria**	4 January 1997
110.	Mr Peter Carter Chief Executive Officer **Royal Australasian College of Surgeons**	5 February 1997
111.	Ms Elizabeth Percival Executive Director **Royal College of Nursing Australia**	5 February 1997
112.	Professor Suzanne Cory Director **The Walter and Eliza Hall Institute of Medical Research**	5 February 1997
113.	Mr John Grace Managing Director **AMRAD Corporation Ltd**	6 February 1997
114.	Ms Karen Passey Chief Executive Officer **Diabetes Australia - Victoria**	6 January 1997
115.	Professor John McNeil Head **Department of Epidemiology & Preventive Medicine** **Monash Medical School**	10 February 1997
116.	Mr Simon Blair Chief Executive Officer **Inner and Eastern Health Care Network**	10 February 1997
117.	Ms Franca Smarrelli Chief Executive Officer **National Stroke Foundation**	12 February 1997

118.	Professor Garry Jennings Chair - Medical Research Committee **The Alfred Healthcare Group**	17 February 1997
119.	Mr Geoff Benson State Manager **Life. Be In It**	17 February 1997
120.	Ms Robyn Charlwood Executive Director **National Heart Foundation of Australia - Victorian Division**	17 February 1997
121.	Ms Liz Furler Acting First Assistant Secretary Public Health Division **Commonwealth Department of Health and Family Services**	18 February 1997
122.	Dr Matthew Gillespie Director Dr Robert Ramsay Director **The Australian Society for Medical Research - Victoria**	18 February 1997
123.	Dr Sandy Thompson Executive Member - Victorian Branch **Public Health Association of Australia Incorporated**	20 February 1997
124.	Professor Frank Larkins Deputy Vice-Chancellor (Research) **The University of Melbourne**	6 March 1997
125.	Ms Rihanna Kola Discovery Research Manager **SmithKline Beecham International**	11 March 1997

APPENDIX 7

LIST OF PUBLIC HEARINGS

30TH JANUARY 1996

Department of Human Services:-

Dr Chris Brook - Director of Public Health

Anti-Cancer Council of Victoria:-

Dr Robert Burton - Director
Professor Richard Lovell - Consultant

4TH MARCH 1996

Centre for Health Program Evaluation:-

Professor Jeff Richardson - Director Health Economics Unit
Associate Professor David Dunt - Deputy Director Program Evaluation Unit

Glaxo Wellcome Australia Ltd:-

Mr Colin Armit - Managing Director

3RD SEPTEMBER 1996

AMRAD Corporation Ltd:-

Mr John Grace - Managing Director
Dr John Flack - Director of Research and Development
Dr Nick Gough - Research Director

4TH SEPTEMBER 1996

National Health and Medical Research Council:-

Professor Richard Smallwood - Chairperson

7TH APRIL 1997

Centre for Adolescent Health:-

Professor Glenn Bowes - Director

Centre for Sexually Transmissible Diseases:-

Professor Doreen Rosenthal - Director

Centre for the Study of Mothers' and Children's Health:-

Professor Judith Lumley - Director

Centre for Health Program Evaluation:-

Professor David Dunt - Co-Director
Professor Jeff Richardson - Co-Director

APPENDIX 8

LIST OF INTERSTATE MEETINGS

SYDNEY

11th December 1995

- Centre for Health Economics Research and Evaluation
- New South Wales Health Department
- Central Sydney Area Health Service
- Medical Research Committee - National Health and Medical Research Council

CANBERRA

12th December 1995

- Industry Commission
- Australian Research Council
- John Curtin School of Medical Research
- Commonwealth Department of Health and Family Services

13th December 1995

- National Health and Medical Research Council

BRISBANE

5th August 1996

- Queensland Institute of Medical Research
- Royal Children's Hospital
- Queensland Department of Health

6th August 1996

- Queensland Department of Tourism, Small Business and Industry
- Centre for Immunology and Cancer Research
- Queensland Pharmaceutical Research Institute

7th August 1996

- UniQuest - University of Queensland

APPENDIX 9

LIST OF MELBOURNE MEETINGS

29th February 1996

- Glaxo Wellcome Australia Ltd

28th June 1996

- Public Health Association of Australia
- Dr Chris Brook, Director of Public Health, Department of Human Services
- Victorian Health Promotion Foundation
- Macfarlane Burnet Centre for Medical Research

15th August 1996

- Professor Emeritus Sir Gustav Nossal
- Strategic Industry Research Foundation
- Industrial Supplies Office

16th August 1996

- Department of Epidemiology and Preventative Medicine, Monash University
- Walter and Eliza Hall Institute of Medical Research

21st August 1996

- Professor Ian Brand, North Eastern Health Care Network
- Heart Research Centre
- Mental Health Research Institute
- CSL Ltd

22nd August 1996

- Royal Children's Hospital Research Foundation
- Murdoch Institute for Research into Birth Defects
- Prince Henry's Institute of Medical Research
- The Bionic Ear Institute
- Howard Florey Institute of Experimental Physiology and Medicine

25th September 1996

- St Vincent's Institute of Medical Research

APPENDIX 10

MEDICAL RESEARCH INCOME AND INFRASTRUCTURE COST SURVEY

ECONOMIC DEVELOPMENT COMMITTEE

INQUIRY INTO MEDICAL AND PUBLIC HEALTH RESEARCH

MEDICAL RESEARCH INCOME AND INFRASTRUCTURE COST SURVEY
FEBRUARY 1997

1. NAME OF RESEARCH INSTITUTE _____

2. PLEASE PROVIDE THE FOLLOWING INFORMATION BASED ON MOST RECENT AUDITED ANNUAL ACCOUNTS:-

- **YEAR END DATE** _____
- **TOTAL VALUE OF COMPETITIVE GRANTS** $_____
- **TOTAL INCOME** $_____
- **TOTAL EXPENDITURE** $_____

3. DOES THE INSTITUTE RECEIVE DIRECT FUNDING FROM A HOST INSTITUTION? **YES/NO ***
*** strike out if not applicable**
IF YES, PLEASE DETAIL:-

_____
$_____

_____
$_____

4. BASED ON MOST RECENT AUDITED ANNUAL ACCOUNTS PLEASE PROVIDE THE COST OF THE FOLLOWING INFRASTRUCTURE COSTS, IF APPLICABLE :-
(if provided by host institution write "host" in $ column)

BUILDING OPERATION

SALARIES (staff No. ____)	$	
RENT	$	
CLEANING (building & laundry)		$
CO2 & NITROGEN	$	
ELECTRICITY (light & power)		$

INSURANCE (building & contents)	$
LAB. EQUIP. PARTS	$
SERVICE CONTRACTS	$
SCIENTIFIC EQUIP. REPAIRS	$
RENOVATIONS (minor)	$
REPAIRS	$
PROV. FOR PLANT REPLACEMENT	$
WASTE DISPOSAL	$
WATER/GAS/STEAM/OIL	$
OTHER (includes vehicle costs)	
$_____$_____	

ADMINISTRATION

SALARIES (staff No. ____)	$
AUDIT/LEGAL	$
EQUIPMENT	$
COMPUTER SOFTWARE	$
INSURANCE (pl. , dir's liab., etc.)	$
PUBLIC RELATIONS ANNUAL REVIEW	$
POSTAGE	$
TELEPHONE & FAX. (admin. only)	$
OTHER	
$_____$_____	

OTHER ESSENTIAL RESEARCH SUPPORT

ANIMALS	$	
TECHNICAL (safety, radiation, media, etc.)	$	
COMMUNICATION, PRINTING		$
LIBRARY	$	
INSTRUMENTATION/COMPUTING	$	
PROV. FOR EQUIP. REPLACEMENT	$	
OTHER-SPECIFY		
-	$	
-	$	
-	$	
-	$	
-	$_____	$_____