

Research Australia

An alliance for discoveries in health

**BUILDING A HEALTHIER AND MORE PRODUCTIVE NATION  
THROUGH  
HEALTH AND MEDICAL RESEARCH**

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Rebecca James, CEO  
257 Collins Street, Melbourne VIC 3000  
Telephone • 61 3 9650 3131 Facsimile • 61 3 9639 4126  
Email • [Rebecca.james@researchaustralia.org](mailto:Rebecca.james@researchaustralia.org)

## BUILDING A HEALTHIER AND MORE PRODUCTIVE NATION

### THROUGH

### HEALTH AND MEDICAL RESEARCH

#### Executive Summary

Australians are living longer, more productive lives, and Australian health and medical research is delivering exceptional value at home and overseas. But the pace of international competition is building. Public opinion research<sup>1</sup> shows that Australians believe health and medical research here is well placed to build a stronger nation, in social and economic terms, but only with continued strong support from government.

Further growth for research funding will:

1. help Australia meet the challenges posed by population ageing, chronic diseases like cancer and lifestyle-related conditions
2. result in more cost-effective innovative health and medical technologies
3. give Australians access to better health care, faster creating a healthier, more productive community
4. strengthen Australia's international reputation as a research leader
5. encourage Australia's emerging biotechnology sector to flourish and achieve its economic potential and realise a much greater contribution to the national economy
6. attract the world's leading scientists, along with investment capital from international sources for Australian researchers, universities and research institutes.

Total health spending as a proportion of GDP is 9.8% and rising. The return on research investment is exceptional, with Access Economics<sup>2</sup> reporting a five-fold return on every dollar spent. Yet, only 1.5% of the \$42 billion annual budget of the Commonwealth Department of Health and Ageing is invested in health and medical research.

Public opinion research shows that Australians are acutely aware of the enormous community benefits offered by Australian health and medical research<sup>3</sup>. They are proud of Australian innovation and ingenuity, and see health and medical research as playing a pivotal role in maintaining and strengthening Australia's strong international presence in the field as well as being a key industry in Australia's economic future.

To address these issues, Research Australia is proposing major new initiatives to boost Australia's underlying health research capacity, and measures to promote the social and economic potential offered by Australian science.

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<sup>1</sup> Results of Research Australia Public Opinion Polls are available at <http://www.researchaustralia.org/aboutresearch.asp>

<sup>2</sup> Access Economics (2003), Exceptional Returns, The Value of Investing in Health R & D in Australia. The Australian Society for Medical Research

<sup>3</sup> Results of Research Australia Public Opinion Polls are available at <http://www.researchaustralia.org/aboutresearch.asp>

## Building a Healthier and More Productive Nation Through Health and Medical Research

Research Australia recognises the important significant financial commitments made by the Commonwealth Government to health and medical research and related infrastructure in recent Budget cycles. Given this commitment and the healthy state of the national economy, it is imperative that the benefits of this investment are locked in now and continued into the future.

A \$1.7 billion funding commitment over the next five years will contribute to protecting and supporting future generations, help develop the new industry powerhouses that will help drive our economic prosperity in the future and assure a healthy and productive community in the years ahead.

The Australian public overwhelmingly supports substantial and increased investment in health and medical research with almost three-quarters of Australian voters (71%) believing that the Commonwealth Government should be contributing more to health and medical research<sup>4</sup>.

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<sup>4</sup> Results of Research Australia Public Opinion Polls are available at <http://www.researchaustralia.org/aboutresearch.asp>

## RECOMMENDATIONS

### **Recommendation 1: A stronger National Health and Medical Research Council (NHMRC)**

Research shows that four out of five Australian voters (80%) approve of the significant Federal Government funding for the NHMRC made in the 2006 and 2007 Federal Budgets<sup>5</sup>.

Research Australia supports the NHMRC as an independent agency within the Health portfolio. A stronger NHMRC will generate an expanded research base and strengthen the focus on all aspects of the “virtuous cycle” of health and medical research, through both industry development and the linking of research evidence to policy and practice. Research Australia supports a stronger NHMRC through:

#### **1.1 Double NHMRC funding (\$700 million)**

A further doubling of funding for the NHMRC, from 2010-11 to provide an additional \$700 million to reach a new base of \$1.4 billion, by 2014-2015.

#### **1.2 A responsive funding mechanism to target emerging opportunities (\$750,000)**

A funding process that would provide a known, minimum level of growth and support for health and medical research can be supplemented with top-up funds for targeted priority projects. This could include the development of a formula that would combine base funding with a variable funding component calculated according to an index of performance measures and contributions from other funding sources. It could include a process to measure returns on investment through a system of integrated Federal and State Government, industry, researcher and community benchmarks which Research Australia would welcome the opportunity to assist in delivering.

#### **1.3 National information and data framework (\$5 million)**

The best health and medical practice is evidence-based so it follows logically that the best health and medical policy is also evidence-based. The development of an easily-accessible national information and data framework would ensure health policy decisions are based on evidence. This framework would build on and bring together current health data, and analyse new data to measure the social and economic benefits of health and medical research investment, through government, industry, philanthropic and international sources.

#### **1.4 Mechanism to understand social and economic impact of research funding policies (\$500,000)**

Developing a model to better understand and quantify the social and economic benefits of health and medical research will assist both the government and private sectors to target delivery of research dollars to the areas of greatest need and benefit. The NHMRC is best-placed to develop such a model and able to do so if appropriately resourced.

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<sup>5</sup> Results of Research Australia Public Opinion Polls are available at <http://www.researchaustralia.org/aboutresearch.asp>

**Recommendation 2: Building researcher talent (\$4 million)**

Australians are world leaders at research and the community is proud of the innovations of its scientific and research community. Such breakthroughs as Ian Fraser's vaccination for cervical cancer and Fiona Wood's spray-on skin for burns are readily cited as recent and prominent examples of how Australian research is at the cutting edge of medical technology.

With a tight labour market and fierce competition for skilled workers, a new research workforce development program is needed to foster the next generation of Australian science leaders and ensure students are attracted to careers in science, technology, and mathematics.

**Recommendation 3: Ensuring Australia reaps the social and economic rewards of research discoveries through a Health and Medical Research Innovation Fund (\$1 billion)**

Research Australia recommends the establishment of a \$1 billion "Health and Medical Research Innovation Fund" to promote medium and long-term strategic capability for research translation through biotechnology, medical devices and the life sciences. Such a fund would provide capacity to bridge the commercialisation gap, helping to develop Australian innovations at home instead of overseas, and provide leadership on regulatory and industry development reforms. The fund would provide early and mid term support for the commercial development of medical innovations and significantly expand the pool of risk capital. From this fund, specific initiatives could be developed to:

**3.1 Develop commercialisation talent to drive investment**

Develop effective commercialisation and industry management expertise in the health and medical field, to build and retain talent, as well as to attract Australians now overseas to apply their experience back in the Australian context.

**3.2 Support universities and research institutes to protect their intellectual property**

Introduce a program to provide universities and research institutes with assistance to protect their intellectual property and to assist discoveries to proceed to market or be absorbed into clinical practice.

**3.3 Review tax and regulatory arrangements to explore the impact on health and medical research**

Research Australia supports an appropriate and timely regulatory framework that moves closer to the regulatory environment in the rest of the world while addressing the balance between the need to ensure public safety and facilitate the development and growth of Australia's biomedical industry.

**Recommendation 4: Research infrastructure review to drive innovation (\$500,000)**

Research Australia recommends a review to develop a new, co-ordinated infrastructure support program. A strategic infrastructure program, applied across agencies and jurisdictions would inform decision making. It would co-ordinate essential funding for establishment of innovative research facilities, including infrastructure that is shared across research institutions, to support plant and equipment and specialised commercial business expertise.

## ASSURING AUSTRALIA'S FUTURE

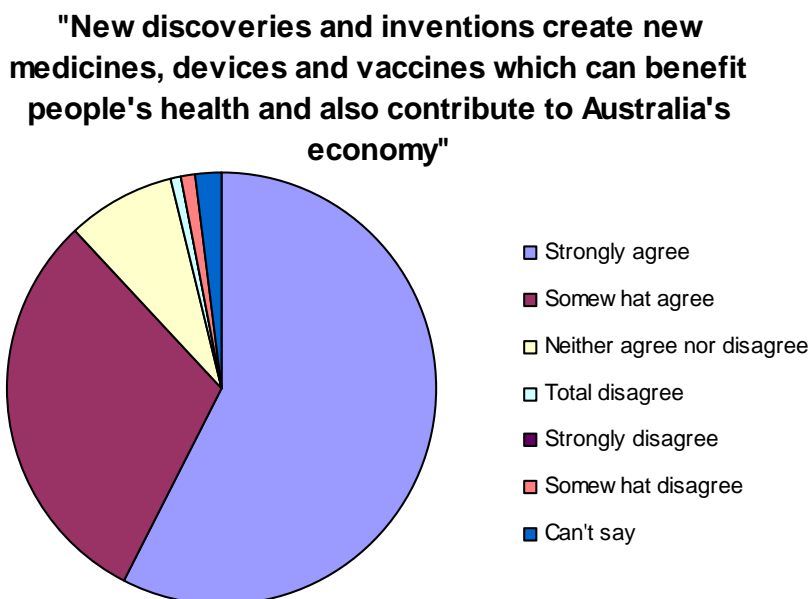
**Ageing of the population, combined with chronic diseases such as cancer and lifestyle-related conditions, pose serious challenges for Australia. Without strong, sustained support for health and medical research, this could threaten future social and economic stability, and the quality of life of millions of Australians.**

We are living longer. Ageing of the 'baby boomer' generation means that by the middle of the 21<sup>st</sup> century, a quarter of the population will be aged over 65.

The Australian Government's Intergenerational Report (2)<sup>6</sup> predicts that the resulting necessary spending on hospitals and health care will seriously burden economic growth and the long-term fiscal outlook.

## AUSTRALIANS CONSIDER HEALTH AND MEDICAL RESEARCH IS IMPORTANT TO OUR FUTURE

Research Australia's public opinion polling shows that Australians consistently support more spending on health and medical research.



*Q: Following is a list of possible arguments or reasons for a significant increase in the level of research funding for health and medical research in Australia. Please rate whether you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree or strongly disagree with each as an argument or reason for a significant increase in the level of research funding for health and medical research in Australia.*

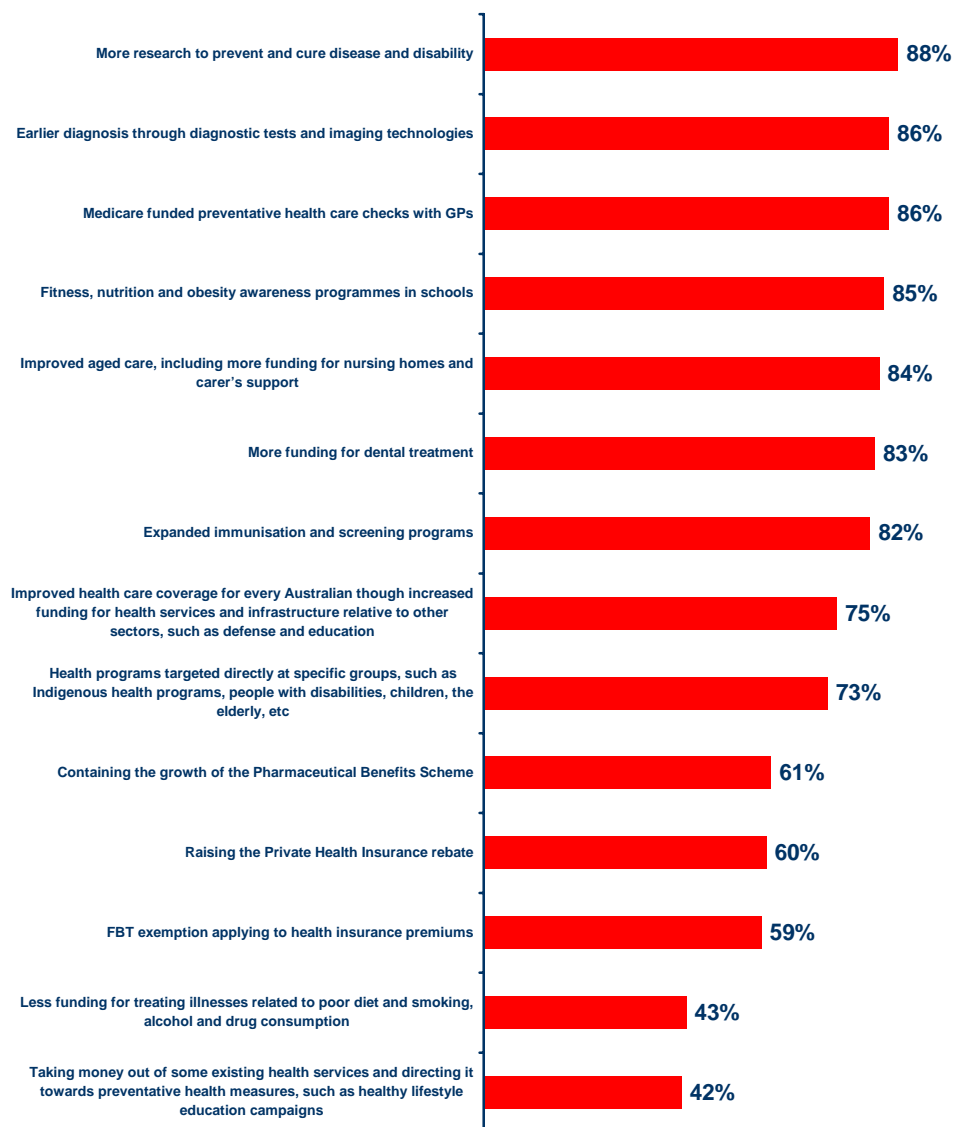
Source: Research Australia Public Opinion Poll 2006<sup>7</sup>

Australians recognise the importance of research investment to our nation's future. In terms of improving overall health outcomes in Australia, more Australians agree that "more research to prevent and cure disease and disability" is the action that will most effectively achieve this.

<sup>6</sup> Available at <http://www.treasury.gov.au>

<sup>7</sup> Results of Research Australia Public Opinion Polls are available at <http://www.researchaustralia.org/aboutresearch.asp>

**Improving Overall Health Outcomes (% Agree)**



Q: Following are a number of suggested initiatives for improving overall health outcomes in Australia or for containing the overall growth of Australia's health care costs. Please rate whether you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree or strongly disagree with each suggested initiative for improving overall health outcomes in Australia or for containing the overall growth of health care costs.

Source: Research Australia Public Opinion Poll 2007<sup>8</sup>

Investment in health and medical research delivers exceptional social and economic returns. Every dollar invested generates a five-fold return.<sup>9</sup>

**The rapid gain in health care costs will continue without better treatments, more clinical research, and a stronger emphasis on prevention**

<sup>8</sup> Results of Research Australia Public Opinion Polls are available at <http://www.researchaustralia.org/aboutresearch.asp>

<sup>9</sup> Access Economics (2003), Exceptional Returns, The Value of Investing in Health R & D in Australia, The Australian Society for Medical Research

## Building a Healthier and More Productive Nation Through Health and Medical Research

Total health spending as a proportion of GDP is 9.8% and rising.

Only 1.5% of the Federal Department of Health and Ageing's \$42 billion annual budget is invested in health and medical research<sup>10</sup>.

The responsibility for supporting health and medical research must be shared by governments, the corporate sector and the community. However, Australians look to governments for leadership and to provide essential infrastructure support for research. Research Australia acknowledges that investment in NHMRC spending on health research has grown from \$180m in 1999-2000 to \$500m in 2006-07 and is expected to grow to more than \$700 m in 2009-2010.

This funding has the potential to be the catalyst for investment in health and medical research from the private sector, including philanthropy. Australians at work and at home increasingly find health and medical research an attractive option for philanthropic giving programs as an added boost to promote discovery and find cures.

They recognise the solutions to healthy ageing and maintaining healthy, productive lives can be found through health and medical research.

### **Australia risks losing its international reputation for leadership in health research**

Historically, Australia has enjoyed international respect for our medical achievements. Australians are proud of Australian Nobel Prize winners and leading scientists whose discoveries have impacted nationally and throughout the world. Our achievements and capacity for leading edge medical research is increasingly enabling Australia to attract international expertise to our shores.

However, Australian researchers continue to seek research opportunities overseas. Australia's total budget expenditure for health and medical research and development as a percentage of GDP is modest in comparison with benchmark countries. A richly competitive international research environment, dominated by fast growing economies in Asia and resource rich research centres in the USA and Europe, offers the lure of attractive overseas opportunities for Australia's young researchers. Ultimately, Australia must aim to attract our young, internationally-experienced researchers back home.

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<sup>10</sup> Australian Government Department of Health and Ageing, Fact book, April 2007

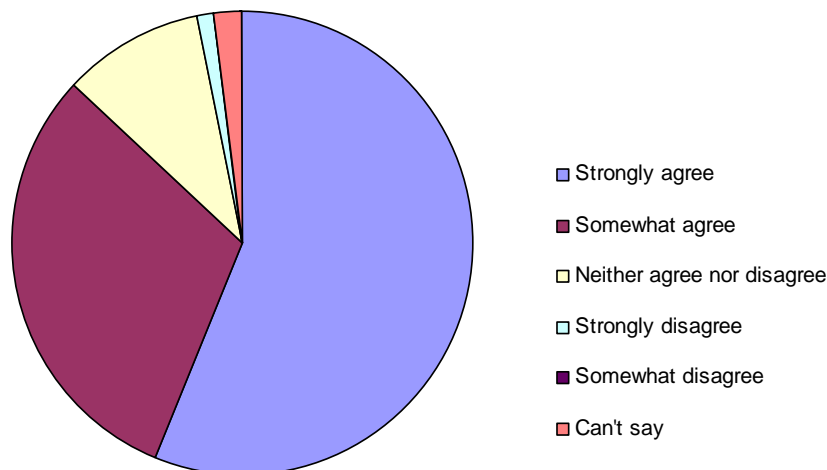
## RESEARCH TO KEEP PEOPLE WELL

Today's research discoveries offer tomorrow's health care solutions: managing an ageing population, the health threats posed by modern lifestyles and protection from emerging diseases.

The best way to reduce health care spending is to promote health and prevent illness. The new vaccine to prevent cervical cancer, developed by Professor Ian Fraser, could save 200 – 300 lives each year and millions of dollars in health care costs. This is an outstanding achievement for Australian health and medical research.

Public opinion research shows Australians consistently support more research into preventative health with 87% agreeing in both 2006 and 2007 research that "there is more that can be done in the area of preventative health care". Their aspirations are for good health and long productive lives for themselves and future generations.

### "There is more that can be done in the area of preventative health care"



Q: Following is a list of possible arguments or reasons for a significant increase in the level of research funding for health and medical research in Australia. Please rate whether you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree or strongly disagree with each as an argument or reason for a significant increase in the level of research funding for health and medical research in Australia.

Source: Research Australia Public Opinion Poll 2006<sup>11</sup>

**Australians are worried about the social and economic implications of obesity and lifestyle related conditions. Research is urgently needed to understand how to tackle this epidemic.**

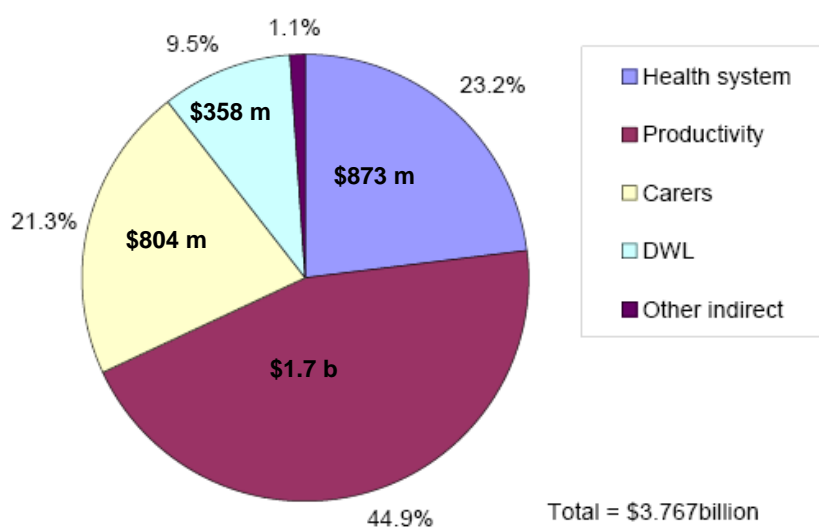
<sup>11</sup> Results of Research Australia Public Opinion Polls are available at <http://www.researchaustralia.org/aboutResearch.asp>

## Building a Healthier and More Productive Nation Through Health and Medical Research

Access Economics has estimated that in 2005, more than three million Australians were obese. This results in costs to the health system, lost productivity and social security costs. It is estimated that the magnitude of the social and economic costs of diabetes alone – borne by individuals, families, governments, employers and other members of society – is almost \$4 billion each year.

The cost of diabetes to the health system will continue to rise. Most people with diabetes (80%) will suffer from cardiovascular disease. Cardiovascular diseases are the most expensive group of diseases in Australia in terms of direct health care expenditure. Cardiovascular diseases were responsible for 11% of total allocated health system expenditure - \$5.48 billion in 2000-01 (Australian Institute of Health and Welfare). Its health and economic burden continues to exceed that of any other disease.

**Financial costs of obesity by type of cost, 2005 (% total)<sup>12 13</sup>**



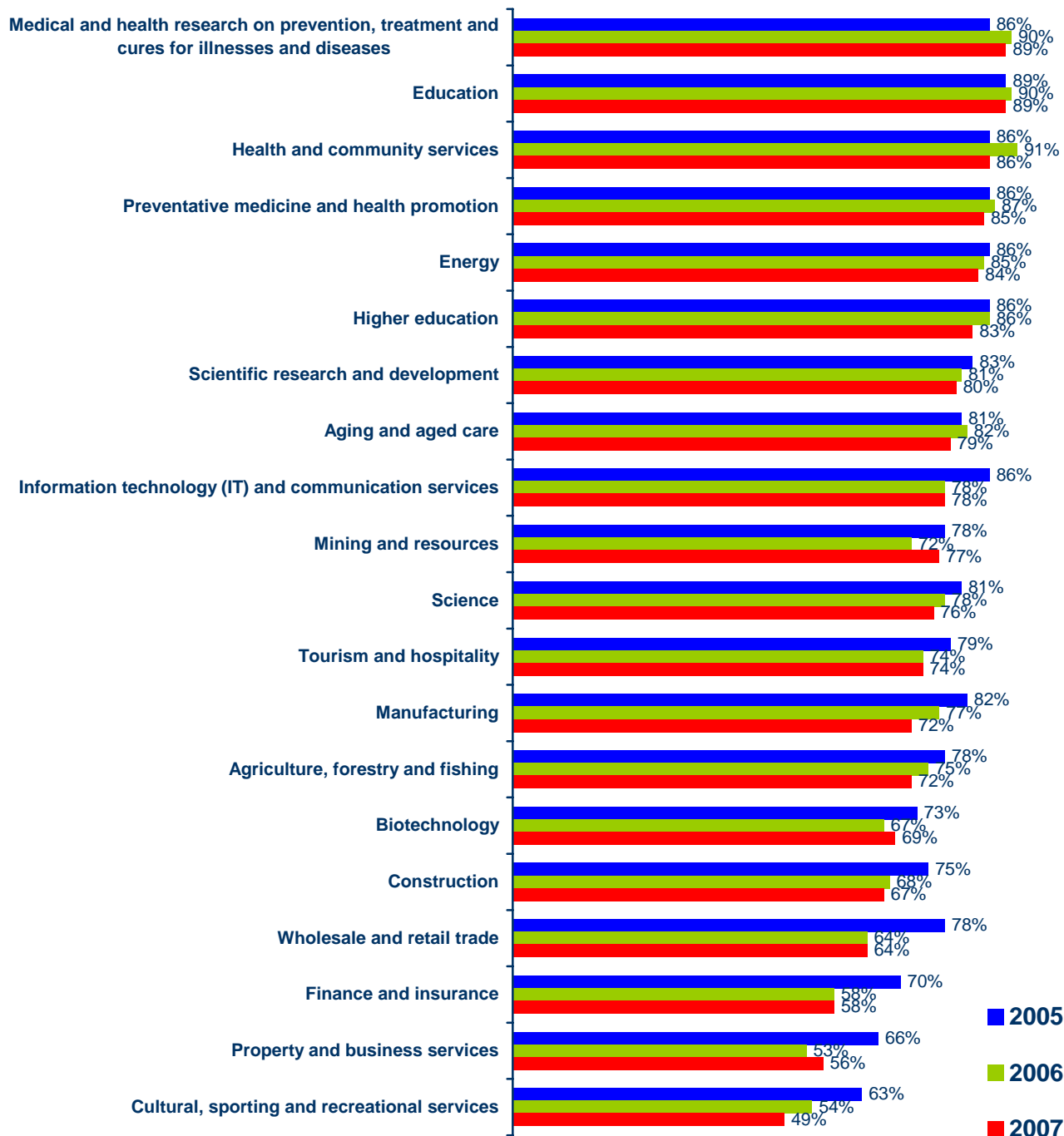
More funding for research is needed to address these serious issues, to identify possible new health promoting interventions, and to ensure we can monitor and track population health changes as they occur and be in a position to respond accordingly.

<sup>12</sup> Access Economics The Economic Costs of Obesity, October 2006 available at <http://www.diabetesaustralia.com.au>

<sup>13</sup> DWL – Deadweight Loss from transfers – taxation revenue foregone, welfare and other government payments.

**AUSTRALIANS RECOGNISE HEALTH AND MEDICAL RESEARCH AS AN INDUSTRY WHICH PLAYS AN IMPORTANT ROLE IN AUSTRALIA'S FUTURE**

**Industries Playing Important Role in Australia's Future (% Agree) – Trend**



Q: Following are a list of industries and sectors that may or may not play an important role in Australia's future. For each industry or sector please rate whether you strongly agree, somewhat agree, somewhat disagree or strongly disagree that it WILL play an important role in Australia's future.

Source: Research Australia Public Opinion Poll 2007<sup>14</sup>

<sup>14</sup> Results of Research Australia Public Opinion Polls are available at <http://www.researchaustralia.org/aboutresearch.asp>

## Building a Healthier and More Productive Nation Through Health and Medical Research

Australia has a growing biotechnology sector. Australian pharmaceutical and biotechnology industries provide a means of commercialising research discovery into products that will benefit Australians, and build a stronger national economy, that is important to our future.

The biomedical sector in Australia is the strongest area of biotechnology. Of the 427 biotechnology companies in Australia at the end of 2006, 209 (49%) were in human therapeutics and 55 (13%) in medical diagnostics<sup>15</sup>.

Australia is ranked by Ernst & Young<sup>16</sup> as the number one biotech location in the Asia-Pacific region, and fifth in the world. As the sector matures, more assets will find their way into clinical development offering ever greater returns from innovation. International pharmaceuticals, operating in Australia, have benefited and support continued growth, because all activity (even that by competitors), raises the profile of Australian R&D globally and helps attract continued investment from parent companies. Nevertheless, our biotechnology industry has been characterised by lack of knowledge and expertise in translating innovation into a commercial products. Asia is developing rapidly, typically with lower salaries, highly-educated workers and supportive governments that are committed to funding knowledge-intensive industry.

**We exist in a global market place and proactive industry support is needed to ensure our potential is captured. Australia faces fierce and growing competition from other countries in our region that are hungry to attract further industry investment. We need to build on our strengths to maximise past investment in this fast-growing, promising sector.**

Research Australia's yet-to-be-released "Beyond Discovery 2007 Report", has revealed some important insights into Australian biotechnology. A comparison with a similar study conducted in 2004 has shown that company investments now are making a far greater contribution towards innovative discoveries. This is a notable increase, up to 44% from 21% in 2004. The reported increase in contributions to early research funding from companies is also up from 15% in 2004 to 24% in 2007 – now similar to that from universities (21%).

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<sup>15</sup> Hopper K & Thorburn L 2007 Bioindustry Review

<sup>16</sup> Ernst & Young Beyond Borders Global Biotechnology Report 2007

## SPECIFIC POLICY PROPOSALS

To ensure ongoing success and prosperity, it is essential that Australia continues to invest in creating knowledge by building strong home-grown health and medical research and development capacities.

### **Recommendation 1: A Stronger National Health and Medical Research Council (NHMRC)**

#### **1.1 Double NHMRC funding**

**Research Australia seeks a commitment to a further doubling of funding for the NHMRC to reach \$1.4 billion per annum, by 2013-2014.**

Research Australia supports the continued strengthening of the NHMRC as the leading national research agency. As Australian and international economies grow, the pace of health and medical research will gather speed. Additional resources will enable continued growth in research programs, along with the capacity to strengthen support to meet critical research infrastructure requirements.

A central dilemma that needs to be understood and acknowledged is that the NHMRC is funded according to a Federal budget cycle that falls far short of the life span of many of the research projects it funds. This leads to potential uncertainty as a line of discovery unfolds. The value of grants is further eroded over time by increases in the costs of salaries and infrastructure.

While funding for health and medical research in recent Federal budgets has been warmly welcomed, only one in five (20%) of research grant applications are able to be funded. Many worthy projects are unable to proceed due to lack of funding.

#### **1.2 A responsive funding mechanism to target emerging opportunities.**

A funding process that would provide a known, minimum level of growth and support for health research could be supplemented with top-up funds for targeted priority projects. This could include the development of a formula that would combine base funding with a variable funding component calculated according to an index of performance measures and contributions from other funding sources. It could include a process to measure returns on investment through a system of integrated Federal and State Government, industry, researcher and community benchmarks which Research Australia would welcome the opportunity to assist in delivering. Health and medical research funding is subject to cyclical fluctuations as intense competition for scarce research funding and financial insecurity for researchers and research institutes deflects attention and resources away from what researchers do best.

A secure and known funding base is essential to the continued development of a strong and effective, competitive basic research effort in Australia, in the same way as we meet basic infrastructure requirements in areas such as transport, defence and education.

### **1.3 National information and data framework**

The best health and medical practice is evidence-based so it follows logically that the best health and medical policy is also evidence-based. The development of an easily-accessible national information and data framework would ensure health policy decisions are based on evidence. This framework would build on and bring together current health data, and analyse new data to measure the social and economic benefits of health and medical research investment, through government, industry, philanthropic and international sources.

Additional funding for priority and targeted projects would provide flexibility and a capacity to respond to current and emerging issues and opportunities. Understanding research impact will be essential to maximising the community benefit.

The Wills Review<sup>17</sup> identified the need to strengthen priority-driven research and to ensure that the evidence revealed through public health research is fed back through service delivery, such as in the hospital system. The public hospital system, which is administered by State governments, can be remote from research conducted in universities and research institutes. Programs to promote clinical research, linking institutes, universities, health service professionals and consumers will ensure the benefits of research are absorbed into improved health outcomes, faster.

The development and implementation of health and medical research funding, industry support programs and national health strategies, whether in cancer, diabetes or asthma, should be supported by improved sharing of information between jurisdictions, along with a monitoring and evaluation framework to measure progress and inform the development of future programs.

Research Australia supports the development of a national health and medical research information and data framework to understand sources and distribution of health and medical research funding, allow measurement of social and economic impact, and to provide a means of measurement against international benchmarks.

Research Australia urges governments to work together to undertake research on how to improve health services and to ensure available funding is used effectively. The Australian Health Care Agreements, or direct funding through the National Health and Medical Research Council, offer potential mechanisms to include health research within clinical settings, as an important aspect of improving patient care.

### **1.4 Mechanism to understand social and economic impact of research funding policies**

The Grant Review<sup>18</sup> highlighted the importance of understanding research impact. Currently we do not have the tools to undertake this work, and this inhibits decision making about health and medical research funding.

The National Health and Medical Research Council should be resourced to enable the development of a mechanism to better understand the social and economic impact of health research funding, whether through improved health, the leveraging of funding

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<sup>17</sup> The Virtuous Cycle – Working together for health and medical research. Health and Medical Research Strategic Review, May 1999 (“The Wills Report”).

<sup>18</sup> Sustaining the Virtuous Cycle for a Healthy, Competitive Australia. Investment Review of Health and Medical Research. Final Report. December 2004 (“The Grant Report”) Canberra: Commonwealth of Australia.2004.

## Building a Healthier and More Productive Nation Through Health and Medical Research

from private and international sources, and improvements to community living. This framework would build on current health data, and analyse new data to measure the social and economic impact of research investment, through government, industry, philanthropic and international sources.

### **Recommendation 2: Building researcher talent**

The essential role performed by universities and research institutes in training and developing skilled researchers should be supported, valued and publicly-recognised. Research Australia members from universities, research institutes, the private and not-for-profit sectors provide a rich environment to inspire future leaders in health and medical research.

A \$5m research student career development program, conducted by Research Australia, would foster the next generation of Australian science leaders, ensure students are attracted to careers in science, technology, and mathematics and help attract internationally-based researchers back home to Australia. This program would incorporate training, conferences, exchanges and communications programs.

### **Recommendation 3: Ensuring Australia reaps the social and economic rewards of research discoveries through a \$1 billion Health and Medical Research Innovation Fund.**

Business/community/research partnerships present a growing opportunity to promote higher social and economic returns from investing in health and medical research.

Research Australia recommends the establishment of a \$1 billion “Health and Medical Research Innovation Fund” to promote strategic capability for research translation through biotechnology, medical devices and life sciences. It would provide capacity to bridge the commercialisation gap and support industry development. The fund would provide early and mid term support for the commercial development of medical innovations and expand significantly the pool of risk capital. The fund would enable specific initiatives to develop commercialisation talent to drive investment, support universities and research institutes to protect their intellectual property and to review tax and regulatory arrangements to promote Australia’s budding biomedical industry.

The Investment Review of Health and Medical Research (Grant Review) 2004 identified key steps to sustain progress in the development of Australian commercialisation and to build a more substantial health and medical research industry.

Australia continues to lack early-stage venture capital to provide support to early stage project development. Proving a technology works beyond the laboratory is pivotal to progress the research to market. However, this early stage of commercialisation is frequently seen as too high risk for investors or industry partners and promising research frequently fails to proceed into proof-of-concept or suffers a lengthy delay. This “funding gap” in the technology development process – from the end of the research grant until investors or industry partners become interested – is significantly diminishing the returns that Australia generates from its world-class research. Current research commercialisation programs have provided valuable assistance, but the potential far exceeds the limited resources that have so far been applied.

Research Australia supports programs to help attract venture capital, aid the development of partnerships and alliances between early stage discovery and industry, assist in the development and trials of new treatments, and measures to increase the rate of uptake of

evidence from research into practice. Critically, such initiatives will increase the speed with which the community can benefit from research findings and lead to a more immediate community advantage from research investment.

### **3.1 Develop commercialisation talent to drive investment**

Australia has a reputation for world-class health and medical research which generates new knowledge with commercial potential. One of the key constraints in realising economic potential is the shortage of skilled people to drive the commercialisation process. This includes staff for commercialisation offices, start-up companies, venture capital firms and large Australian companies wanting to turn Australian research into products.

Australia recognises that it must supplement income and resources to attract and retain world class scientists, but the pathway to social and economic benefits requires industry know-how.

Commercialisation requires a strong technical and commercial skill base, along with a number of years to develop the required experience and knowledge. The relatively small size of Australian biotechnology, salaries, bonus programs, option programs and tax law frequently means that working overseas is a more attractive option.

Support is required to develop effective commercialisation and industry management expertise, to build and retain talent, and attract overseas Australians to apply their experience in the Australian context.

### **3.2 Support universities and research institutes to protect their intellectual property**

Research Australia supports the introduction of a program to provide universities and research institutes with assistance to protect their intellectual property and to ensure discoveries proceed to market or are absorbed into better health practice.

Australian scientists, especially in the health and medical research sector, have been recognised as strong performers against international benchmarks. However, Australia's share of patent grants is low by international comparisons, in sharp contrast to our exceptional record on research publications<sup>19</sup>.

In an ideal world a research institution or university would identify its most promising projects, obtain IP protection and provide funds for identified activities that would add significant value to the project prior to licensing or roll-out. Having made this investment they would therefore also have the incentive to follow through with commercial development.

Capturing economic benefit from these innovations often requires the filing of patents, since patents protect companies from competition for a period of time that allows them to recoup the massive costs associated with the development of medical interventions.

Australia has the opportunity to improve its ability to capture stronger economic benefits simply by achieving international benchmarks in conversion of knowledge into patents.

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<sup>19</sup> Australia's share of scientific publications approaches 3% with an impact relative to the rest of the world greater than 1.1. This is impressive when considered relative to Australia's GDP.

Current NHMRC, ARC and industry support programs are frequently out of reach of academic institutions wanting to protect their research findings.

For academic organisations both the NHMRC and ARC have developed grant schemes to encourage early commercial development or proof-of-concept studies (Development Grant and Linkage Grant schemes, respectively). However, these grant funds cannot be used for paying patent costs and successful grant applications often require a solid patent position to be in place already and for a commercial partner to have been identified.

Other existing government funding schemes which address early commercialisation are Commercial Ready, Commercial Ready Plus, Innovation Investment Fund and Pre-seed Investment Fund. These, however, can only be applied for by companies (all except the Pre-seed Fund) and/or require matching funding (Commercial Ready) and/or apply only to Federal Government Research Agencies (Pre-seed Fund).

Under current arrangements, most academic institutions cannot legitimately use research grant income to fund their patent portfolio and therefore many have developed a policy that patents will be allowed to lapse if a commercial partner (willing to fund the patent costs) cannot be found prior to entering the expensive national phase.

This of course places the institution in a very weak bargaining position and there are usually few buyers because the project is still at the early development stage. Consequently many potentially good commercial projects are lost as the underlying IP disappears or is licensed at unfavourable terms.

Research Australia supports the introduction of a program to provide universities and research institutes with support for securing commercial protection, acquitted against commercial activities (particularly filing of patents).

### **3.3 Review tax and regulatory arrangements to explore the impact on health and medical research**

Recently announced changes to the beneficial ownership test for the 175% Premium R&D Tax Concession will give multinationals a further incentive to expand their operations in Australia. Research Australia welcomes this initiative.

Research Australia considers it is important to ensure that tax laws seek to stimulate intellectual property development and commercialisation of health discovery. Research Australia supports an appropriate and timely regulatory framework that addresses the appropriate balance between the need to protect public safety while facilitating the development and growth of Australia's growing biomedical industry. Research Australia would support a higher level of harmonisation between Australia's regulatory environment and the rest of the world.

#### **Recommendation 4: Research infrastructure to drive innovation**

Funding for research infrastructure is complex and spread across multiple agencies. Health and medical research infrastructure is frequently ageing and inadequate. Access to appropriate new technologies, staff support and other support requirements is not sufficiently addressed through current funding formulae. Increasingly sophisticated technologies, plant and equipment require specialised technical staff, and this requires a dedicated funding stream.

## Building a Healthier and More Productive Nation Through Health and Medical Research

Research Australia is concerned about lagging support for health and medical research infrastructure to complement the distribution of funding from the NHMRC and other sources. Additional support is urgently needed to ensure research is conducted in world-class laboratories with leading-edge equipment and facilities and to ensure Australia is at the forefront of global initiatives in basic science, diagnostics, drug development, and clinical research.

A broad-ranging review is required to develop an equitable approach that maximises the potential of Australia's research investment.

Research Australia recommends a review to develop a new, co-ordinated infrastructure support program. A strategic infrastructure program, applied across agencies and jurisdictions would inform decision making. It would co-ordinate essential funding for establishment of innovative research facilities, including infrastructure that is shared across research institutions, to support plant and equipment and specialised commercial business expertise.

### **Conclusion**

Australians strongly support and are proud of the achievements of the nation's health and medical researchers. Health and medical research underpins our high standards of health care and must continue to be strongly supported in funding terms if it is to do so into the future.

Funding for health and medical research by federal and state governments has reached unprecedented levels, and this has been strongly embraced by the Australian community. However, more needs to be done to ensure opportunities today are maximised for future generations.

Health and medical research is an innovation success story with even greater promise and an essential role in Australia's social and economic future.

**Building a Healthier and More Productive Nation  
Through Health and Medical Research**

**Summary of Measures**

	\$m
NHMRC Base Funding	700.000
Funding Formula	.750
National Information and data framework	5.000
Social and Economic Impact model	.500
Building researcher talent	4.000
Health and Medical Research Innovation Fund	1.000.000
Infrastructure funding review	.500
<b>Total :</b>	<b>\$1.7 billion</b>

## About Research Australia

Research Australia's mission is to make health and medical research a higher national priority.

What makes Research Australia unique is our broad-based membership and network of alliance partners, including health and medical research institutes, universities, biotechnology and medical device companies, health insurers, pharmaceutical companies, not-for-profit organisations, philanthropic and other private, public and government agencies, all of which share the common goal of advancing health and medical research.

Our members and supporters recognise that stronger health and medical research will lead to a healthier community, and optimise Australia's global competitiveness in a rapidly changing international environment. A list of our members and supporters accompanies this statement.

### Sydney

The Exchange Centre,  
20 Bridge Street, Sydney NSW 2000  
Telephone +61 2 8298 8365 Facsimile +61 2 9227 0636

### Melbourne

Rebecca James, CEO  
Suite 2, Mezzanine  
257 Collins Street, Melbourne VIC 3000  
Telephone + 61 3 9650 3131 Facsimile+ 61 3 9639 4126  
Email + rebecca.james@researchaustralia.org



# Research Australia

An alliance for discoveries in health

Research Australia is a unique national alliance of organisations and supporters with a common goal of making health and medical research a higher national priority.

A not-for-profit organisation, independent of government, Research Australia's activities are supported by over 190 members and donors from leading research organisations, academic institutions, philanthropy, community and special interest groups, peak industry bodies, biotechnology and pharmaceutical companies, small businesses and corporate Australia.

Health and medical research includes basic scientific research and discovery; clinical and applied research and invention; public health research focussing on healthy living and disease prevention; and practice and policy research turning evidence into action.

Research Australia's message is that investment in Australia's research sector will improve the health and quality of people's lives in current and future generations and will strengthen the national economy by generating new businesses and industry.

[www.researchaustralia.org](http://www.researchaustralia.org)

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# MAJOR SUPPORTERS 2007

## FOUNDATION MEMBERS



## FOUNDATION DONORS



The Garnett Passe and Rodney Williams  
Memorial Foundation

### PLATINUM



First for Business

Department of State and  
Regional Development

Macquarie Bank  
Foundation



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### GOLD



Sisters of  
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The University of Sydney

Mrs Margarete Ainsworth



### SILVER



Fred P Archer Charitable  
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biogen idec



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# RESEARCH AUSTRALIA MEMBERS & SUPPORTERS 2007

## Businesses/Companies

ACRUX Ltd  
Actelion Pharmaceuticals Aust. Pty Ltd  
Australian Stock Exchange  
BioDiem Limited  
Biogen Idec Australia Pty Ltd  
Biota Holdings Limited  
Brain Resource Company Limited  
Brooker Consulting  
Chandler MacLeod Group  
Cochlear Limited  
CSL Limited  
Dia-B Tech Limited  
Diabetes Vaccine Development Centre  
DFP Recruitment Services  
Eli Lilly Australia Pty Ltd  
GlaxoSmithKline Australia Pty Ltd  
Global Philanthropic  
GroPep Limited  
Heartware Limited  
HCFHealth & Medical Research Foundation  
IBM Australia  
Innovation Xchange Network  
Integrated Sciences Pty Limited  
Johnson & Johnson Pty Ltd  
Kendle Pty Limited  
Macquarie Bank Foundation  
MBF Foundation  
Mckesson Asia-Pacific Pty Ltd  
Merck Sharp and Dohme (Australia) Pty Ltd  
Neurosciences Australia Limited  
Novartis Pharmaceuticals Australia Pty Ltd  
Pacific Strategy Partners  
PanBio Ltd  
Pfizer Pty Ltd  
Proteome Systems Ltd  
Queensland Clinical Trials Network Inc.  
Quintiles Pty Ltd  
Q-Pharm Pty Ltd

## Businesses/Companies continued

Ramsay Health Care Limited  
ResMed Foundation Limited  
Roche Products Pty Ltd  
Sanofi-aventis  
Sisters of Charity Health Service  
Sydney Convention and Visitors Bureau  
Ventracor Limited  
Virginia Rigoni Consulting Pty Ltd  
Wyeth Australia Pty Ltd

## Biotechnology Consortia/Hubs

ATP Innovations  
Australian Proteome Analysis Facility Ltd  
Bio21 Australia Ltd  
Medtronic Australasia Pty Ltd

## Industry Groups

AusBiotech Ltd  
Australia-Israel Chamber of Commerce  
Australian Association of Neurologists  
Australian Physiotherapy Association  
Australian Society for Medical Research  
Medical Industry Association of Australia Inc.  
Medicines Australia  
Pharmacy Guild of Australia  
Research Canada  
Research!America  
Sydney Chamber of Commerce

## Medical Research Institutes Special Interest Groups

ANZAC Research Institute  
Australasian Research Institute  
Australian Primary Health Care Research Institute  
Baker Heart Research Institute  
Bionic Ear Institute  
Brain Research Institute Pty Ltd  
Brain & Mind Research Institute–Sydney University  
Burnet Institute  
Centenary Institute of Cancer Medicine & Cell Biology  
Centre for Eye Research Australia Ltd  
Child Health Research Institute Inc.  
Children's Cancer Institute Australia for Medical Research  
Children's Medical Research Institute  
Clifford Craig Medical Research Institute  
Ear Science Institute Australia  
Garvan Institute of Medical Research  
George Institute for International Health  
Hanson Institute  
Heart Research Institute  
Howard Florey Institute  
Hunter Medical Research Institute  
International Diabetes Institute  
Joanna Briggs Institute  
Kolling Institute of Medical Research  
Lung Institute of Western Australia Inc.  
Ludwig Institute for Cancer Research  
Mater Medical Research Institute  
Mental Health Research Institute  
Menzies Research Institute  
Menzies School of Health Research  
Monash Institute of Medical Research  
Murdoch Children's Research Institute  
National Ageing Research Institute  
National Drug and Alcohol Research Centre  
National Stroke Research Institute  
Orygen Research Centre  
Peter MacCallum Cancer Centre  
Prince Henry's Institute of Medical Research  
Prince of Wales Medical Research Institute  
Queensland Institute of Medical Research  
Sax Institute  
Schizophrenia Research Institute  
St Vincent's Institute of Medical Research  
Telethon Institute for Child Health Research  
Victor Chang Cardiac Research Institute  
Walter & Eliza Hall Institute of Medical Research  
Wesley Research Institute Ltd  
Western Australian Institute for Medical Research  
Westmead Millennium Institute  
Woolcock Institute

Alzheimer's Australia  
Arthritis Foundation of Australia  
Asthma Foundations of Australia  
Asthma Foundation of NSW  
Audiology Australia  
Australian Cancer Research Foundation  
Australian Dental Research Foundation  
Australian Institute of Policy and Science  
Australian Red Cross Blood Service  
Australian Stem Cell Centre  
Beyondblue Ltd  
Cancer Council Australia  
Centre for Applied Nursing Research  
Centre for Nursing Research - Sir Charles Gairdner Hospital  
Cerebral Palsy Foundation  
Children, Youth & Women's Health Service  
Clinical Oncological Society of Australia (COSA)  
Cure Cancer Australia Foundation  
Cystic Fibrosis Australia  
Diabetes Australia  
Diabetes Transplant Unit, POWH  
Epilepsy Action  
Gallipoli Research Foundation Ltd  
Garnett Passe and Rodney Williams Memorial Foundation  
Hear and Say Centre  
Heart Foundation  
Juvenile Diabetes Research Foundation  
Leukaemia Foundation of Australia  
Macular Degeneration Foundation  
Mental Health Council of Australia  
MS Research Australia  
National Breast Cancer Centre  
National Breast Cancer Foundation  
NSW Sporting Injuries Committee  
Northern Medical Research Foundation  
Osteoporosis Australia  
Queen Elizabeth Hospital Research Foundation Inc.  
Queensland Centre for Mental Health Research  
Research and Education Foundation, RACP  
Smile Foundation  
Sports Medicine Australia

## Universities / Academic Institutions

Australian National University

- Australian Centre for Economic Research on Health
- Australian National University Medical School
- Australian Primary Health Care Institute
- Centre for Mental Health Research
- John Curtin School of Medical Research
- Menzies Centre for Health Policy
- National Centre for Epidemiology and Population Health
- Research School of Biological Sciences
- School of Biochemistry and Molecular Biology

Central Queensland University

Curtin University of Technology

Deakin University

Griffith University

James Cook University

Macquarie University

Monash University

Queensland University of Technology

Royal Australasian College of Medical Administrators

Royal Australasian College of Physicians

Royal College of Nursing Australia

University of Adelaide

University of Melbourne

University of New South Wales

University of Newcastle

University of New England

University of Queensland

- Institute for Molecular Bioscience

University of Sydney

- Australian Health Policy Institute (AHPI)

- Bosch Institute

- The Medical Foundation

- NHMRC Clinical Trials Centre

- Sydney Cancer Centre

- Sydney Cancer Institute

- Sydney Bioinformatics

- School of Molecular and Microbial Biosciences

- School of Psychology

- School of Biological Sciences

- Save Sight Institute

## Universities / Academic Institutions Cont'd

University of Tasmania

University of Western Australia

University of Western Sydney

University of Wollongong

## Government Agencies

Australian Nuclear Science and Technology Organisation (ANSTO)

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

National Health and Medical Research Council (NHMRC)

NSW Dept of State & Regional Development

- Sydney Convention and Visitors Bureau

## Honorary Life Members

John Funder, AO

John Niland, AC

Peter Wills, AC

The Hon Michael Wooldridge

## Honorary Members

Crosby|Textor

DLA Phillips Fox Lawyers

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