

Submission to the Strategic Review of  
Health and Medical Research in Australia  
(McKeon Review)

By Heart Foundation

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## Submission Summary

### *Why is it in Australia's interest to have a viable, internationally competitive health and medical research sector?*

A viable, internationally competitive health and medical research sector is an important asset for Australia from an economic point of view. In cardiovascular research, each dollar spent on research results in a benefit to the community valued at \$8<sup>1</sup>. A strong research sector is also required to respond to research priorities of particular importance to Australia, improve our ability to translate research into better health and wellbeing (i.e. promote positive population behaviour change) and to train high quality health care professionals.

### *How might health and medical research be best managed and funded in Australia?*

Collaboration and communication are the keys to better management and funding of health and medical research in Australia. Improved communication between research funding agencies (government and non-government) and the development of an overseeing agency for the coordination of research funding would allow a more cohesive and complementary approach to health and medical research funding. Improved monitoring and analysis of health and medical research conducted in Australia is required to provide evidence to inform the provision of future research funding in the best and most effective way.

### *What are the health and medical research strategic directions and priorities and how might we meet them?*

There should be an increased emphasis on translation and implementation research as such research has the potential to produce significant clinical, public health and financial outcomes. Multidisciplinary, multi-sectoral, collaborative research should also be encouraged as such collaboration has been shown to produce improved research outcomes. However, greater emphasis on translational research cannot be made at the cost of reduced support into discovery research, as it is discovery research that generates knowledge for translation.

Australia currently has a high quality internationally competitive cardiovascular health and medical research sector, and we must ensure the continued viability of our existing cardiovascular research sector when considering strategic directions and priorities.

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<sup>1</sup> Access Economics. Exceptional returns: The value for investing in Health R&D in Australia. 2003.

*How can we optimise translation of health and medical research into better health and wellbeing?*

Support and encourage the development of teams of researchers and health professionals whose combined skills and positions make them well placed to translate research into better health and wellbeing. Furthermore, health and wellbeing outcomes need to be fairly assessed as 'research outputs' and to contribute to a researcher's academic and research track record, making collaboration an advantage for their research career. Incentives for health care providers to become involved in translational research would also greatly assist in this area. Increased consumer- focussed public health research to identify innovative interventions for reducing the burden of disease with at-risk populations would be optimal for improving the long term health and wellbeing of the Australian population.

## **Introduction:**

The Heart Foundation is dedicated to reducing suffering and death from heart, stroke and blood vessel disease in Australia. We aim to achieve our goal through funding world-class cardiovascular research, guidelines for health professionals, informing the public and assisting people with cardiovascular disease.

The Heart Foundation welcomes the opportunity to contribute to the Strategic Review of Health and Medical Research in Australia.

The Heart Foundation strongly believes that Australian health and medical research is a sound and important investment in Australia's future, and that more effort can, and should, be made to increase the capacity of research in Australia. While the main elements of an effective health and medical research sector are already in place. However, a coherent national approach and improved resource allocation is required to make even more fertile ground for health and medical research innovation in Australia.

The Heart Foundation acknowledges that the current Review seeks to identify ways to optimise the use of existing resources and enablers that support health and medical research in Australia.

We believe that to develop a successful strategy, one that will position health and medical research conducted in Australia as a world leader, we must consider both the Australian and global health agenda, the limited research capacity and resources available in Australia and the strength and weakness of Australian health and medical research. A successful strategy should seek to build a broad research capacity while strongly supporting areas of strength in Australian health and medical research, especially where these strengths are in areas of global importance.

In essence, we believe that a successful strategy should:

1. Address the role of all stakeholders (researchers, funders, governments, health providers etc) in Australian health and medical research, and seek to engage them in the strategy;
2. Identify the elements and mechanisms required to support the plan;
3. Cater to the rapidly changing research environment, perhaps by including a mechanism for the regular review of the plan;
4. Include key performance indicators that can be used to track and evaluate the strategy.

The Heart Foundation looks forward to continued participation in this important Review.

## Heart Foundation Response to Questions:

### **Why is it in Australia's interest to have a viable, internationally competitive health and medical research sector?**

There are many reasons why it is in Australia's interest to have a viable, internationally competitive health and medical research sector. These range from national identity and responsibility to direct and indirect economic benefits. We have listed a number of reasons which together provide a compelling case for why it is in Australia's best interests to support health and medical.

#### **Economic benefits to Australia**

The Australian Institute for Health and Welfare estimates that real total health expenditure including private and all government spending would increase by 189% (or \$161 billion) between 2002-2003 and 2032-33<sup>2</sup>. Based on this estimate, the real total health expenditure would be over 12.4% of Gross Domestic Product (GDP) by 2032-33 compared to 9.3% of GDP in 2003.

Australian government spending on health alone is projected to increase from 4% of GDP in 2009-10 to 7.1% of GDP by 2049-50<sup>3</sup>. This increase is significantly accelerated by a growing population (\$3.7 billion), ageing of the population (\$6.4 billion), the extra volume of services per case of disease (\$4.2 billion) as well as excess health price inflation (\$1.5 billion). These estimates represent an unaffordable increase in health cost and pose a significant threat to the future of Australia's health system.

Chronic diseases such as cardiovascular disease, diabetes, cancer and mental health add significant costs to the projected increase in health expenditure. For example, the projected change in expenditure for the period 2003 to 2033 for cardiovascular disease (both treatment and preventive) is \$13.2 billion (142%), from \$9.3 billion in 2003 to \$22.6 billion in 2033. This projection already takes in account the decline in the cardiovascular disease incidence rate due to improved acute care and better prevention. It is estimated that an additional \$3.2 billion could be added to the expenditure estimate if the disease rate remains constant<sup>4</sup>.

Health and medical research has a vital role to play in reducing the cost of health expenditure. The economic benefit of health and medical research has been documented in many publications. Australian health and medical research expenditure between 1992-93 and 2004-05 is estimated to

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<sup>2</sup> Goss J 2008. Projection of Australian health care expenditure by disease, 2003 to 2033. Cat. HWE 43. AIHW.

<sup>3</sup> Australian Government, The Treasury 2010. Australia to 2050: future challenges – The 2010 Intergenerational Report.

<sup>4</sup> Goss J 2008. Projection of Australian health care expenditure by disease, 2003 to 2033. Cat. HWE 43. AIHW.

have returned a net benefit of approximately \$29.5 billion<sup>5</sup>. This equates to \$2.17 in health benefits returned for the average dollar invested<sup>6</sup>. Cardiovascular research has been demonstrated to yield above average health benefits. In 2003, it was reported that research into cardiovascular disease offered \$8 return for every dollar invested, whilst \$5 return was estimated for overall health and medical research<sup>7</sup>. The recent report examining the returns on NHMRC funded research also estimated a strong \$5.02 net benefit for cardiovascular research from 2000 to 2010, the highest value returned amongst five most funded diseases<sup>8</sup>.

These reports clearly demonstrate the economic gains made from health and medical research in Australia and the potential it offers to enhance the wellbeing of all Australians.

Furthermore, improved health outcomes in Australia's ageing population will not only produce significant savings in health expenditure, but also allow older Australians to remain in the workforce for longer, further contributing to the Australia economy.

### **Capacity to respond to health and medical research priorities of particular importance to Australia**

The benefits to Australia resulting from a strong health and medical research sector go beyond pure economic benefits. There are a number of health and medical issues that are either specific, or of particular interest, to Australia. The need to close the gap between the cardiovascular health of Aboriginal and Torres Strait Islander Australians and the broader community is just one of many such areas of particular importance to Australia.

This is an example of an obligation that is unlikely to be addressed by research outside of Australia. Other cardiovascular health priority areas for Australia include rheumatic heart disease and the need to find public health strategies for the prevention of cardiovascular disease that are effective in the unique Australian environment.

As future areas of strategic interest to Australia may not be known at this time, it is in our interest to have a strong, broad based health and medical research sector in order to be able to respond to these priority areas as they are identified.

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<sup>5</sup> Access Economics. Exceptional returns: The value for investing in Health R&D in Australia. 2003.

<sup>6</sup> Access Economics. Exceptional returns: The value of investing in Health R&D in Australia II. 2008.

<sup>7</sup> Access Economics. Exceptional returns: The value for investing in Health R&D in Australia. 2003.

<sup>8</sup> Delloite Access Economics. Extrapolated returns on investment in NHMRC medical research. 2012.

## **Improved ability to translate health and medical research into better health and wellbeing**

The ability to rapidly and effectively translate research findings into improved clinical and public health practice is strongly assisted by collaboration and co-localisation between those who conduct and understand the research and those responsible for its implementation. Of particular importance in this area, are those individuals whose expertise spans the fields of health and medical research and clinical or public health practice. Indeed, the translation of health and medical research into better health and wellbeing is of itself an area of health and medical research that should be strongly supported.

## **Better health professionals**

Australian universities are ranked (at least in part) on their research outputs (eg. QS rankings, ARWU). Being 'research active' means that universities are at the cutting edge of knowledge, and that the academics or teachers are sharing this evidence with their students and colleagues. We thus produce the best possible health professionals for the Australian community by ensuring health and medical research remains active in Australia.

## **Asset, capacity and income generation**

The development of world class researchers, research facilities and intellectual property, create a valuable asset to Australia. Having a viable internationally competitive research capacity allows Australia to access international and industry funding and to attract/retain top researchers to work on the pressing health issues impacting the Australian public. In addition, it also serves as an important income generating source. For example, clinically applicable intellectual property developed within Australia, can attract health and medical research funding from overseas and industry sources for further development of the intellectual property (e.g. drug development, clinical trials). One such example is the development of the world's first vaccine to prevent cervical cancer (Gardasil) by Professor Ian Frazer and colleagues. Access Economics estimates \$63 million in attributable benefits per annum compared to \$8.5 million in cost per annum as a result of vaccine

use<sup>9</sup>. However, the true benefit of Gardasil comes from the estimated 225,000 lives it can save each year worldwide.

### Australia's contribution to world health

In addition to the development of vaccine against cervical cancer, Australian health and medical research has contributed significantly to improved health globally in other ways. Lateral Economics reported that Australian research-related goods and services not only contribute to Australia's GDP but also reinforce Australia's reputation in this field and are exported all over the world<sup>10</sup>.

Development of penicillin as a life saving medicine, development of the electronic pacemaker, development of the bionic ear (cochlear implant), discovery of the *helicobacter pylori* as the cause of stomach ulcers and gastritis, and the invention of the Humidicrib to help poliomyelitis are a few examples of historical medical research achievement of Australians<sup>11</sup>. Although it is extremely difficult to accurately estimate the total attributable gains from these advancements, their contribution to improved world health is apparent.

The Heart Foundation thus believes that it is in the best interest for Australia to have a viable, internationally competitive health and medical research sector.

Additional effort and commitment must be made to ensure that Australian's health and medical research capacity continues to grow and that the quality of Australian research continues to improve.

<sup>9</sup> Access Economics. Exceptional returns: The value of investing in Health R&D in Australia II. 2008.

<sup>10</sup> Lateral Economics. The economic value of Australia's investment in health and medical research: Reinforcing the evidence for exceptional returns. 2010.

<sup>11</sup> The White Hat Guide to Australian Inventions, Discoveries & Innovations. Internet: [www.whitehat.com.au/australia/Investions/InvestionsA.html](http://www.whitehat.com.au/australia/Investions/InvestionsA.html)



## How might health and medical research be best managed and funded in Australia?

Improved collaboration and communication appear to be fundamental to all elements required to improve the current health and medical research management in Australia.

### Collaboration to increase quality of Australian health and medical research

Australian health and medical research expenditure is estimated to be 1.1% of the global expenditure on health and medical research<sup>12</sup>. Access Economics suggests that despite the relatively small investment, the proportion of world health returns attributable to Australian health and medical research, through Australian research publication is 3.04%<sup>13</sup>. Furthermore, despite Australia accounting for only 0.3% of the world's population, Australia is estimated to contribute 3% of the Organisation for Economic Cooperation and Development (OECD)'s health and medical research publications<sup>14</sup>.

One way to increase health returns of Australian health and medical research is to leverage international expertise through collaboration. Successful examples of international collaborations are seen from countries such as Canada, Sweden, Denmark, Belgium and the Netherlands. Despite some of these countries having a smaller population than Australia, their collaborative research yields higher impact publications<sup>15</sup>.

Australia can learn from the above examples to better leverage our existing capabilities and expertise. Australian research needs to become better at attracting international collaborators in order to leverage overseas research knowledge and investments and to expanding Australia's research abilities. Such international collaborations allow researchers to tackle difficult research questions that can not be addressed using only local knowledge and infrastructure.

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<sup>12</sup> Access Economics. Exceptional returns: The value of investing in Health R&D in Australia II. 2008.

<sup>13</sup> Access Economics. Exceptional returns: The value of investing in Health R&D in Australia II. 2008.

<sup>14</sup> Grant J. Sustaining the Virtuous Cycle. Australian Government. 2004.

<sup>15</sup> Research Australia. 2011, Shaping Up: Trends and Statistics in Funding health and Medical Research, Occasional Paper Series: Two, Melbourne.

## **Improved collaboration and communication between health and medical research agencies**

Medical research in Australia is funded by governments, industry, non-government organisations and philanthropies. These agencies often operate independently with little or no communication between them and researchers fall victim to duplicated administration effort. Researchers are required to submit similar applications to multiple funding sources. Better communication and improved collaboration between funding agencies could result in a significantly more efficient health and medical research funding system in Australia. A successful example of such collaboration is the Heart Foundation Grant in Aid scheme. The Heart Foundation has partnered with the NHMRC to undertake scientific assessment of applications being managed through the NHMRC grant review panels. This collaboration has had several benefits, including a reduced burden of peer review for our already stretched researchers and improved co-ordination of funding for cardiovascular health research.

In addition, partnership arrangements can be made among research funding agencies to collectively address health priorities. For example, rheumatic fever and subsequent rheumatic heart disease is a major health burden for Australia, particularly among Aboriginal and Torres Strait Islander populations. There are a number of research funding agencies providing funding for research into rheumatic fever and/or rheumatic heart disease. However, such effort is made individually and a coordinated approach does not currently exist. Collaboration of like-minded agencies may be able to develop a comprehensive research funding solution that covers all research costs from bench top to bedside including research personnel costs.

## **Cohesive, not segmented, health and medical research approach**

Many barriers exist that can hinder promotion of collaborative research. Artificial barriers created by classifications of research into archaic categories (e.g. 'clinical' v 'basic' research or one disease group vs. another in population and health services research) can force researchers into silos, restricting collaboration.

Health research has also traditionally focussed on scientific disciplines, however many public health issues cannot be addressed through this mode of research. For example, research that addresses spheres of planning, policy, environment and health is not captured under present research governance and funding. Acceptance and promotion of qualitative research in health is urgently required, and will significantly facilitate improvements in translating research into practice.

For example, much of the preventative health agenda of the Heart Foundation focuses on the domain between health, environment, planning, infrastructure, and sociology. Yet acceptance and promotion of this important work in research is lagging behind in the national health research community.

The cultural separation between different scientific, public policy, and social fields makes it difficult to establish multidisciplinary and multi-skilled teams. Convergence of different disciplines is necessary to be successful in translational research.

### **Encourage collaboration in health and medical research**

Current systems that support health and medical research in Australia predominantly focus on success by individuals. Most peer review processes favours individual achievement over collaboration as a sign of leadership. For example, Australian Research Council's Excellence in Research for Australia (ERA), that is used to allocate government funding to universities, measures research income by chief investigators and their affiliated universities, whereas partnering researchers on collaboration do not receive as much recognition in this system.

Another example of systems that can hinder collaboration is the NHMRC's Independent Research Institutes Infrastructure Support Scheme (IRISS). Infrastructure funding support is provided proportional to competitive research funding that is administered by the institute. This system fails to acknowledge the importance of multi-centre research collaboration.

In order to ensure the longevity of internationally competitive health and medical research in Australia, funding mechanisms that foster collaboration must be implemented.

### **Development of an overseeing agency for the management of research funding**

A significant portion of research funding in Australia is provided by philanthropic organisations and charities. The Heart Foundation provides funding for cardiovascular research which is approximately 10% of that provided by the NHMRC. However, there are currently no guidelines or standards to guide non-government organisations in the best and most effective way to disperse their research funding. Many of these organisations are relatively small and have limited capacity/resources for the assessment of grant applications. Ideally a mechanism should exist whereby a single application by researchers could be considered for funding from all relevant

funding sources. An independent body could be formed with representatives from relevant funding agencies to coordinate the grant application process and monitor efficiency in research funding.

### **Improved monitoring and analysis of health and medical research conducted in Australia**

There is currently no central database of health and medical research being conducted in Australia and it is difficult, if not impossible, to determine what research is being conducted, or what the current research capacity is in Australia. Developing a mechanism to record, monitor and analyse the research being conducted and funded in Australia would allow analysis of the research trends. In particular, this should include a better assessment of research impact. While metrics relating to practice and policy translation are difficult to define, international cutting-edge standards should be utilised. Such evidence could be used to inform the provision of future health and medical research funding in the best and most efficient way.

### **Improved infrastructure and environment for clinical trials**

Despite many attempts and reports identifying regulatory hurdles as a major issue for conducting Clinical Trials in Australia, this has not yet been resolved. Delays in the approval process and differing requirements across institutions continue to delay studies. Multi-centre studies still do not have a single streamlined approach to approvals, though various models have unsuccessfully attempted to address this problem. The unfavourable environment and cost of running such research in Australia has seen a number of very significant players exit the Australian research arena or downsize their investments. Fixing this problem would provide financial incentives to attract international research funding.

### **Sustainable health and medical research by promotion of early career researchers**

Currently, the opportunities for early career investigators to secure funding are limited by a system of research funding that is dominated by well established researchers. Many criteria used to select worthy applicants for research funding value the track record of the applicants as assessed by publications, invited presentations, student supervisions, and funding history. Many rising

researchers in their early career are forced to compete against well established researchers. Whilst high quality, promising research projects led by experienced researchers are necessary to continue producing new knowledge, greater opportunities are required to allow early career researchers to secure funding. Funding support as well as mentoring support must be adequately provided to nurture the Australian research leaders in the making.

Furthermore, most 'people' funding support currently available seeks to identify the future leaders of health and medical research in Australia. While pioneering research leaders are important for advancement of health and medical research, adequate support must also be provided to experienced researchers who are members of research groups but not necessarily the lead investigators. These senior staff are the hands and eyes of the research team providing data for publication as well as training for younger research fellows. A support mechanism must be in place to acknowledge their contribution to health and medical research and ensure they too are given reasonable employment security and longevity.

The Heart Foundation believes that increased capacity, communication and collaboration within research sectors will facilitate accelerated research into practice, hence delivering better health returns.

## What are the health and medical research strategic directions and priorities and how might we meet them?

The Heart Foundation acknowledges that Australia currently has a high quality internationally competitive cardiovascular health and medical research sector, and that we must ensure the continued viability of the sector when considering strategic directions and priorities. The identification and implementation of strategic directions and priorities is a critical step in furthering health and medical research in Australia.

The Heart Foundation makes the following suggestions for research strategic directions and priorities in Australia.

### Emphasis on translation and implementation research

The value of health and medical research can only be fully realised when knowledge and evidence generated through innovative research is applied to health and medical practice. Translational research is the enabler of the knowledge creation, application, implementation and evaluation cycle, which leads to improved health outcomes.

However, the emphasis on translational research should not be made at the cost of reduced effort in discovery research. Discovery research often leads to breakthroughs or paradigm-shifts in clinical practice; whereas applied research is capable of having an impact in practice within a relatively short time frame, but often presents an incremental improvement to current processes rather than delivering radical breakthroughs.

### Application of research as a tool to address burden of diseases, particularly in prevention

Chronic diseases such as cardiovascular disease, diabetes, cancer and dental and mental health issues are projected to account for the majority of the \$160 billion projected increase in health expenditure by 2033<sup>16</sup>. This clearly demonstrates the need for targeted research into such areas. Interestingly, the incidence of cardiovascular disease is estimated to reduce by 40.4% by 2033 compared to 2003, yet the health expenditure of cardiovascular disease is projected to increase by

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<sup>16</sup> Goss J 2008. Projection of Australian health care expenditure by disease, 2003 to 2033. Cat. HWE 43. AIHW.

142% in the same period 2003-33<sup>17</sup>. If it was not for the past research effort into prevention and better management, the projected health expenditure for cardiovascular disease would be significantly higher. This further illustrates the benefits of strong health and medical research in Australia.

Increasing consumer-focussed research with at-risk populations - such as Aboriginal and Torres Strait Islander and cultural and linguistically diverse communities - addressing the social determinants of health will enable Australia to identify innovative interventions for improving access and reducing the burden of disease in these vulnerable communities.

### **Support for research with outcomes focused around improved health service delivery and economic impact**

Health and medical research is a long-term investment. In order to recognise the true value of research, a system that supports research must be able to sustain adequate levels of investment. Most research funding schemes provide short term funding. This system can lead to inefficiencies, as it requires researchers to spend a high proportion of their time applying for funding, rather than conducting valuable research.

Furthermore, the short term nature of most funding schemes means that short term outputs (e.g. publications, patents, grant incomes and student numbers) become disproportionately important as measures of research success. Work towards longer term outputs, such as knowledge translation and direct health outcomes are therefore more difficult for researchers to prioritise. An improved system to appropriately acknowledge research that is translated with direct health outcomes is necessary to ensure both short-term and long-term benefits are supported by research funding schemes.

In addition, measures to reward and encourage research that links laboratory research to clinical and public health research and/or seeks to implement and assess research findings should be implemented. Collaboration is inherently difficult in comparison to non-collaborative work, and some mechanism to recognise and reward those willing to take on this increased level of complexity is recommended.

The sustainability of the Australian health and medical research workforce must also be addressed. It is estimated that more than 6,000 individuals in the health and medical research sector who are

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<sup>17</sup> Goss J 2008. Projection of Australian health care expenditure by disease, 2003 to 2033. Cat. HWE 43. AIHW.

over 40 years of age in 2009, will leave the workforce during 2009-2019<sup>18</sup>. Furthermore, a survey of the Australian health and medical research workforce in 2008 revealed that more than 70% of researchers have considered leaving active research due to a shortage of funding, lack of career development opportunities, and poor financial rewards<sup>19</sup>. Therefore, capacity development for a sustainable workforce within health and medical research must be addressed.

Translation of research knowledge/evidence into practice is only possible if health care providers are prepared to implement changes in practice. Therefore, training of health professionals in the importance of integrated health care, from research to practice, should be a priority area. Such integration can have great benefits. For example, implementation of a comprehensive management system for heart failure (as a result of Australian health and medical research) has led to an 87% reduction in hospital readmissions for heart failure, with substantial savings to the health care system<sup>20</sup>.

### **Support for multidisciplinary, multi-sectoral, collaborative research**

As mentioned above, Australia is a small country that can only make small research investments from a global perspective. Many health and medical questions are complex, wicked problems and require substantial multidisciplinary, multi-sectoral, collaborative research to address them. Therefore, higher return on investment may be realised when Australia contributes to international research efforts that have direct relevance to our health and welfare priorities.

There is a significant gap of qualitative research in Australian health and medical research, particularly in relation to public health policy research questions. Many public health issues are not being addressed through traditional research funding streams because they are not considered 'rigorous' against traditional research criteria of assessment. A multitude of government as well as non-government bodies such as the Australian Institute of Health and Welfare and the Grattan Institute are continuously highlighting the expanding research needs in this area. Policy interventions in for example, design for healthy, liveable cities and regional centres, needs foundation in quality research, that is presently not supported by the health and medical research fraternity. Support for public health focused, collaborative, qualitative research needs attention.

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<sup>18</sup> Schofield DJ, et al. 2011. A crisis in the making? Education, ageing populations and the future of the medical research workforce. *Med.Edu.* 45:200-7.

<sup>19</sup> Kavallaris M, et al. 2008. Perceptions in health and medical research careers: the Australian Society for Medical Research Workforce Survey. *MJA* 188:520-4.

<sup>20</sup> Holst et al. 2001. Improved outcomes from a comprehensive management system for heart failure. *European Journal of Heart Failure.* 3:619-25.



### Smart use of information technology as enabler of new strategy

The capability of information technology today is a promising catalyst for acceleration of health and medical research. Better use of information technology in data collection, analysis, sharing, monitoring and linking will enable coordination of research effort in Australia and around the world. In designing a new research strategy for Australia, it is important to identify enablers such as information technology that will facilitate best implementation of the strategy.

The Heart Foundation believes that implementation of a research strategy that addresses the issues outlined above will produce a sustainable health and medical research sector that is capable of reducing the burden of disease and improving health outcomes for all Australians.

## How can we optimise translation of health and medical research into better health and wellbeing?

Health and medical research is most valuable when it leads to improved health outcomes. This requires knowledge and evidence generated through research to be applied into health practices that can benefit the community. The optimisation of the translation of health and medical research into improved clinical and public health practice, and subsequently into better health and wellbeing, requires a systematic approach. This should include the provision of funding for such research and the development of a mechanism that can recognise and reward relevant outcomes. Broadening the research focus by investigating gender, age or cultural impacts will also ensure the results have greater applicability for all segments of the population towards optimal health and wellbeing. Some suggested actions for increased research translation include:

### **Provision of funding to support research that investigates the most effective and efficient ways to translate research finding into clinical and public health outcomes**

The health care environment can vary significantly from country to country due to differences in systems, policy, regulations, cost, resources, geography and demography. It is important that research is carried out to examine the effective way to support research translation into practice in the Australian health and medical context.

### **Development of metrics to allow health and wellbeing outcomes to be adequately assessed as ‘research outputs’**

Translation of health and medical research into better health and wellbeing can only be optimised and encouraged when there is an adequate mechanism to recognise the value and impact of translated research. Currently, most peer review processes rely on the track record of applicants (that can be easily measured) in order to compare applicants. Unlike publication history and associated impact factors, there is no standardised metrics to adequately assess impact of a research project on population health outcomes that can be used to rate one’s track record. The Heart Foundation funded study led by Professor James Cameron of Monash University is an example of this dilemma. In this project, Professor Cameron and his team attempted to determine how new approaches to diagnose a heart attack before the patient gets to hospital will affect the outcome of heart attack. The team tested whether the impact of using high performance

echocardiogram (ECG) to monitor irregularities in heart rhythm in the ambulance would lead to faster treatment of a heart attack once the patient reaches hospital, hence increasing the chance of survival. His study demonstrated that significant improvements in the time to treatment of heart attack were achieved. Although this study has resulted in only one direct publication, it has subsequently led to adoption of ambulance based triage of patients over the wider Ambulance Victoria metropolitan network.

Therefore, development of standardised metrics that accurately assess researchers' effort in research translation and improved health outcomes is necessary in order to encourage more of these activities.

### **Incentives for involvement in research translation**

As described above, successful translation of research evidence into practice requires the participation of health professionals involved in health care delivery. Incentives for health care providers to participate in translational research are required.

### **Establishment of a centre to monitor research translation effort**

Creation of a regulatory body that can systematically review changes in health outcomes and implementation of research evidence across different jurisdictions, and by different health care providers, would be useful to promote a coordinated approach to research translation in Australia. Such an organisation could identify successful examples of research translation and make recommendations for the implementation of such strategies in other jurisdictions.

The Heart Foundation believes that there should be a nationally coordinated system to support research translation and encourage uptake of research evidence into practice by health care providers. Appropriate recognition and reward to those who embrace translation of research into practice is required to promote research translation.