Research Program

Heart Foundation™

The Secretary
House of Representatives Standing
Committee on Industry, Science and Innovation
Parliament House
CANBERRA ACT 2600

June16, 2008

Submission to the Inquiry into research training and research workforce issues in Australian universities

Dear Secretary

The Heart Foundation appreciates the opportunity of lodging this submission with the House of Representatives Standing Committee on Industry, Science and Innovation to assist its inquiry into research training and research workforce issues in Australian universities.

The Heart Foundation supports the inquiry as a timely review of the structure of funding provided to build capacity and skills in the area of health and medical research.

The Heart Foundation's mission is to improve the cardiovascular health of all Australians. Health and medical research funding is an integral part of this mission.

To date, the Heart Foundation has invested more than $189 million in medical research. Given that there is an eight dollar return for each dollar invested in cardiovascular research[1], the return on the Heart Foundation's investment – secured through the support and generosity of donors - equates to some $1.51 billion in terms of improved cardiovascular health outcomes.

The research investment has also led to many advances in our understanding of cardiovascular disease. As a result, the Heart Foundation is recognised as one of Australia's significant non-government research funding bodies.[2] Research supported

[1] Access Economics, The Shifting Burden of Cardiovascular Disease, 2005
[2] NHMRC, Review of the Implementation of the NHMRC Strategic Plan 2003-2006, 2006

by the Heart Foundation continues to achieve outstanding visibility in international cardiovascular journals.[3]

During 2008, the Heart Foundation will invest almost $12 million in research across Australia, with half of this funding dedicated to fellowships and scholarships. This achieves a focus on early career researchers, particularly on training awards such as scholarships to support postgraduate research and postdoctoral fellowships.

This work provides us with an insight into research training and research workforce issues in Australian universities that we believe will assist the committee with its inquiry.

Response to Inquiry Issues

Australian research is demonstrably world class. Australian publications are in the world's top 1% most cited papers, 30% more than the world average.[4] Australia was also ranked number one in the world for health research publications in 1999, on a publications per capita basis.[5]

This success is largely due to the quality and dedication of our researchers. By supporting the development of health and medical research, Australia reaps very significant health and economic benefits. It is estimated that around 50% of the health gains achieved over the past 40 years are a result of research outcomes.[6]

Cardiovascular research makes a major contribution to these health gains. Access Economics has recently completed a second study on health and medical R&D – Exceptional Returns II[7]. It found that investment in cardiovascular R&D is expected to provide the greatest 'wellbeing' gains of all disease groups, with a total benefit of around $39.5 billion for investment made between 1992-93 and 2004-05. This is followed by investment in malignant neoplasm and other neoplasm (cancer) research and development, which is expected to yield a benefit of around $15.7 billion.

The contribution of medical research to health is also well understood by the Australian community, with a recent poll indicating that 73% of Australians felt that health and medical research (HMR) leads to an improvement of the health of our community.[8] To maintain this virtuous cycle, it is essential that appropriate support is provided for the training of future generations of researchers.

If Australia is to maintain its HMR track record, it will need to support its researchers. This requires a comprehensive and systematic approach that supports continued

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[3] Clay et al., The returns from cardiovascular research: the impact of the National Heart Foundation of Australia's investment, MJA 2006, pp209-212

[4] *Health and Medical Research Strategic Review 1998*

[5] *Sam Garrett-Jones, Tim Turpin and Brian Wixted. 'Some international benchmarks for evaluating Australian health and medical research', Research Evaluation, December 2004.*

[6] *Access Economics, Exceptional Returns, 2003*

[7] *Access Economics, Exceptional Returns II, 2008*

[8] Research Australia, Health & Medical Research Public Opinion Poll, 2005

development of capacity in the research area, across all areas of research, but particularly in health and medical research.

Currently, there is little effort outside of the university sector to attract talented, young Australians to a career in research. At all levels, from pre-school to post-graduate years, there seems to be a lack of inspiration to attract young people to a research career. For Australia to be competitive in the fields of science, research and innovation, this must change.

When students do aspire towards a research career, maintaining this interest is also challenging. The career structure for researchers is tenuous – researchers need to seek competitive funding throughout their careers, not only to support their research, but also their salaries. Although this process of competition and peer review can generate high quality research outcomes, it can also be daunting to those considering a research career. When this is added to the relatively poor salaries that are the norm for researchers in Australia, compared with more lucrative career opportunities elsewhere, it becomes clear why talented students may decide to move from research to other more lucrative careers. Clearly, any system which does not support the best students to a career in research will not maintain competitiveness in a global environment.

This competitive environment also presents significant challenges for clinicians who are also interested in undertaking research. Clinician researchers face enormous difficulties in overcoming competition on their time to undertake research. This is in addition to the financial strain associated with undertaking research, which competes against far more lucrative careers in full time clinical practice.

Australia has had a significant role in many global clinical trials. This helps to drive innovation, to attract international funding to Australian research and to improve clinical care in this country.

If Australia is to be well placed to embrace new technologies, techniques and therapies in the future, it is essential that we have an appropriately trained workforce that is able to understand, interpret and extrapolate any relevant research outcomes and apply them in the Australian context.

Therefore, appropriate support for clinical researchers is critical to any program to improve research capacity and quality in Australia.

In summary, there are a number of challenges in the health and medical research area that are impinging on Australia’s ability to compete internationally in the research domain.

Many of these issues relate to the lack of a clear and well-funded career structure for Australian researchers. This is particularly true when compared to many other OECD countries. This is compounded by a failure to drive talented students towards a research career. These issues are especially challenging in the clinical research

area. Unless these issues are addressed, this could seriously compromise the research effort in Australia, resulting in a reduction of the potential impact of health and medical research in Australia, and the health and economic benefits associated with this.

Existing Commonwealth research training schemes in health and medical research are limited to the postgraduate and postdoctoral level. Current awards are highly competitive and are therefore awarded to only the most outstanding applicants. However, each year, there are many promising young researchers who fail to be funded through these systems. Therefore, it is essential that further funding be provided through these schemes to ensure an adequate success rate is obtained.

There is certainly room for review of the structure of the postgraduate scholarships. In Australia, these are highly time limited, usually to no more than three years and six months. This can compromise the quality and outcomes of the research undertaken. Of further issue, is the value of the awards, some of which are as low as $22,000 per annum. Although such a salary may be feasible for a new graduate, it is often a barrier to undertaking postgraduate research for more experienced professionals seeking to apply their 'real world' experience to the research area. This could once again mean that those who could make the best researchers are not encouraged to undertake a research career.

For many of the researchers that the Heart Foundation works with and funds, the challenge in furthering their own research is finding talented young researchers to work with them. This problem can be traced back to low enrolment numbers for science degrees at universities. This issue could be addressed by supplementing current research training schemes with a variety of funding mechanisms to encourage talented students to undertake science degrees, honours years and masters courses. This would create a larger pool of tertiary-qualified scientists who might continue to work in the research area, in the broader health area in industry or in policy, or perhaps go on to further study such as doctoral degrees.

Clearly, any effort to encourage enrolment in science courses and to undertake research careers must be supported by a campaign to improve science education and training at more junior levels. In turn, this will require a concerted effort to ensure that those teaching science at various levels are suitably equipped and qualified to undertake this work. Once again, a comprehensive and appropriately funded strategy to address this is urgently required.

Despite these issues, a significant number of training awards are completed each year. A further challenge is ensuring that these researchers remain in Australia. In many areas of research, particularly in health and medical research, those completing a PhD are almost encouraged to go and work overseas for a portion of their postdoctoral career. This is seen as an opportunity to broaden exposure to the research community, to develop networks and collaborations and therefore, to further research careers. However, many Australian researchers who travel overseas find that the better funded, more stable environment they encounter is difficult to leave.

This makes a significant contribution to the so called ‘brain drain’. In our experience, many researchers in this situation are reluctant to leave well-funded and supported training posts overseas for more tenuous and poorly-funded positions in Australia. Unless the research career path in Australia is further supported and funded, this is unlikely to change.

One final issue of relevance to this inquiry is that of infrastructure funding. Although it is important to consider the structure and function of the training awards offered by the Commonwealth, this discussion must also consider the supportive environments that are required to ensure that an investment in building research capacity is met with an ability to support these researchers through their training and into the future. Therefore, any effort to increase the research workforce must also consider opportunities to develop the existing workforce to allow experienced researchers the time and facilities to undertake the training of the next generation. This is critical if we are to create a sustainable research workforce in Australia for the future.

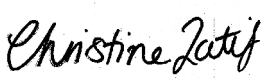
Summary

As a significant funding body for cardiovascular research in Australia, the Heart Foundation strongly supports an investment in building research capacity through the provision of research training awards such as scholarships and fellowships.

It is clear that while Australia has made significant achievements on the world stage in the health and medical research area, the potential to continue at this level into the future is under threat. To address this, it is essential that a comprehensive and systematic approach be undertaken to ensure that bright students are encouraged and adequately supported towards a career in research. This requires intervention at all levels of the education system. In addition, it requires the creation of a well-funded, stable and dynamic career path for aspiring researchers. This must be enhanced by adequate funding for the systems and organisations that will support the training of these future researchers.

If adequately addressed, the revitalisation of the research workforce in Australia could overcome many existing issues, such as the ageing workforce and the brain-drain. This would also ensure that Australia continues to contribute to the global research effort and is therefore a beneficiary of the many health and economic benefits that research can offer.

Yours sincerely



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