

Why Australia needs a Medical Research Future Fund

While Australia already conducts world-class research, future global leadership requires a major funding investment

The Medical Research Future Fund (MRFF) announced as part of the 2014–15 federal Budget¹ will be an integral factor in Australia's ability to continue delivering among the best health and medical research in the world. If we look beyond the political rhetoric and debate, the MRFF offers substantial value to Australia. Yet very few commentators, including those in the medical and health sectors, have acknowledged this to the degree it deserves.

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Presently the Australian Government spends 0.075% of gross domestic product on health and medical research — only 64% of the Organisation for Economic Co-operation and Development (OECD) average of 0.118%.² The MRFF, as proposed, will build to a \$20 billion perpetual fund over the next decade, ultimately providing \$1 billion in funding annually for health and medical research. It is vital that this size and pace of funding be achieved to bring Australia back to an internationally comparable level of government research support.

Benefits of research to health care

There is international evidence that hospitals and health care facilities that do research deliver higher-quality care, have better patient outcomes and are more efficient. In its 2009 final report, *A healthier future for all Australians*, the National Health and Hospitals Reform Commission presented recommendations for creating an agile, responsive and self-improving health system.³ Central to these recommendations was embedding research in clinical and health services settings, and fostering a culture of improvement.

More recently, a key theme in the Strategic Review of Health and Medical Research (the McKeon Review), presented to the federal government in 2013, was that the best performing health systems are those that embed research in health delivery, leading to better health outcomes.⁴ This belies the proposition that it makes more sense to spend our limited public funds on health care, especially when it comes to the vulnerable groups in our community.



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It is not true to say that almost all the medical research discoveries and cures of the future will come from beyond our shores. Australian discoveries, such as the cochlear implant and the recombinant human papillomavirus vaccine against cervical cancer, show that Australia is well and truly capable of health and medical research that has a transformational effect on the health of our community and around the world. Furthermore, a strong medical research culture is required to evaluate and selectively import the fruits of the 97% of medical research performed outside Australia that is relevant to our health system.⁴

Research in many fields, including that on the human brain, genomics, genetic discovery for diseases such as melanoma and multiple sclerosis, and bionics, is increasingly undertaken through international collaborations. The MRFF investment will position Australia as a valuable collaborator and contributor to such global efforts. Having local scientific and public health expertise is vital for our national biosecurity and for taking urgent, effective local action to protect the Australian community against pandemics such as influenza A(H1N1)pdm09, Ebola virus and severe acute respiratory syndrome, or other worldwide health threats.

The benefits of research are also finally becoming visible among our Indigenous communities, where infant mortality is falling, life expectancy is improving and, for the first time, hope is emerging that we can “close the gap” over the coming decades.⁵ The health needs of Australian Aboriginal and Torres Strait Islander people are unique and will not be addressed by research conducted in Europe or the United States.

Economic effects of health research

Medicines and health products now make up one of Australia's most valuable high-technology export industries, at almost \$4 billion per year.⁴ Many discoveries and inventions currently underway have the potential to create high-value jobs and strengthen the economy. For example, innovations such as the continuous automatic positive airways pressure kit, to prevent the upper airways of people with sleep apnoea from closing, generate tremendous export dollars.⁴ Funding the "gap" in the research pathway to such innovations becoming commercially ready will benefit Australia's health and the economy.

However, health and medical research requires substantial investment that is not driven by profit. Much early-stage discovery work is considered too immature for commercial investment and will not occur if left to the private sector. Further, much valuable medical research does not lead to marketable discoveries. The Australian research by Professor Terence Dwyer and colleagues that established the link between prone sleeping and sudden infant death syndrome is just one example.⁶ Thousands of infants' lives have been saved by this important discovery and its successful translation into effective health promotion, but by its nature it could never result in commercial success.

One of the world's largest longitudinal population-based health studies was conducted over 12 years by Melbourne's Baker IDI Heart and Diabetes Institute, to examine the health of Australians with regards to heart and kidney disease, diabetes and obesity. This research is critical in guiding how to best spend our health dollars, where to invest in treatment, and how Australians can play an important role in improving their own health.⁷ This work also informs what clinicians should be talking about with their patients and which tests they should be doing to prevent complications and disability. This is not pie-in-the-sky

research, but work that has a direct bearing on people's health today.

Filling the gaps in health research

While we can be proud of the contribution Australian health and medical research makes to our nation and the world, there are gaps and weaknesses. The McKeon Review identified that we are failing to make the most of our research discoveries.⁴ We have a great health system, but the failure to more completely and quickly adopt our research discoveries means that we miss opportunities to improve the quality of care and the efficiency of our health care system.

We need to do more to embed research into our health system and to improve the interaction between the health sector and researchers. In this way, we can undertake research that is relevant to our health needs and ensure evidence-based improvements in health care are implemented more quickly and effectively. To reduce costs, existing practices should be examined to ensure that they are evidence-based. We also need to do more to ensure that our research discoveries translate into new drugs, medical devices and diagnostic tools that are the basis for progress in health care. This has the potential to deliver not only improvements in health, but new jobs and business opportunities for Australians.

The potential of the MRFF to support these endeavours is enormous. While there are questions to be answered, including what the MRFF will fund and how it will operate, we should not lose sight of the bigger picture. Australia has one of the best and most efficient health care systems in the world, underpinned by past and current research, and the potential to do much more is exciting. The MRFF offers us a way to achieve this potential, and the evidence shows that all Australians stand to benefit.

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- 6 Dwyer T, Ponsonby AL. Sudden infant death syndrome and prone sleeping position. *Ann Epidemiol* 2009; 19: 245-249.
- 7 Baker IDI Heart and Diabetes Institute. The Australian Diabetes, Obesity and Lifestyle (AusDiab) study. <http://www.bakeridi.edu.au/ausdiab> (accessed Dec 2014) ■