



Economic Impact of Medical Research in Australia

Executive Summary

A report prepared for the
Association of Australian
Medical Research Institutes

October 2018

KPMG.com.au

Executive Summary

Medical research plays a significant and critical role in improving the health and wellbeing of all Australians. We are remaining healthier for longer due to improved treatments and improved healthcare that results from this research.

However, its benefits extend well beyond health outcomes for individuals. Medical research makes a significant economic contribution to Australia, including from direct and indirect job creation, and from creating a larger and more productive workforce due to health gains.

This study, *The Economic Impact of Medical Research in Australia*, conducted by KPMG and commissioned by the Association of Australian Medical Research Institutes (AAMRI), is an analysis of the existing and potential economic contribution that medical research makes to Australia.

Given that the Commonwealth Government is the single largest investor in medical research in Australia, it is critical that the full benefits of medical research are understood. Currently, the National Health and Medical Research Council (NHMRC) invests over \$800 million per annum in medical research, and the government's Medical Research Future Fund (MRFF) will invest a further \$1 billion per annum from 2020–21.

Medical research and wider economic outcomes

- Medical research from 1990 to 2004 has delivered net present gains of \$78 billion from a net present cost of \$20 billion — a return on historical investment of \$3.90 for every dollar invested.
- Of the \$78 billion in gains, \$52 billion has been delivered in the form of health gains, and \$26 billion in wider economic gains and from commercialisation of medical research.
- Health gains translate into a larger and more productive workforce, which in turn has wider economic flow-on impacts across the economy. KPMG estimates that medical research from 1990 to 2004 has resulted in a current workforce 23,000 FTEs larger than it would have been in the absence of medical research.
- KPMG modelling shows that in 2016–17 Australia's GDP was \$2.6 billion larger as a result of medical research conducted between 1990 to 2004. Welfare — an economic measure that highlights how much better off we are as a population — is \$1.5 billion higher in 2016–17 than it would have been in the absence of medical research.

Medical research and job creation

- The Medical Research Sector employs around 32,000 people, with a further 78,000 jobs within the downstream Medical Technologies and Pharmaceuticals sector.
- These are typically high value, knowledge-based jobs that contribute substantially to the economy.
- In the Scientific Research Services sector, jobs generate \$134,000 in value-add per employee; and \$107,000 per employee in MTP industries.

Medical research in the future

With an increased focus on translation and commercialisation of medical research through the MRFF, medical research in the future is expected to continue to deliver excellent returns on investment.

Conclusion

Medical research is an integral factor in Australia's healthcare system and economy. It continues to deliver treatment and prevention initiatives for the population, leading to substantial existing economic and health benefits, which are outlined in this report.

Medical research is expected to continue delivering excellent returns on investment in the coming years, but delivering further health gains to the population will require ongoing investment. An increased focus on translational research through the MRFF will help to realise the gains of Australia's stock of research that has been built up over the past three decades.

Key findings

Medical research and jobs



Medical research employs around 32,000 people.



Medical research jobs – high-value, knowledge-based.



There are 78,000 jobs in the Medical Technologies and Pharmaceuticals (MTP) sector.



Medical researchers in the Professional, Scientific and Technical Services (PSTS) sector contribute \$134,000 per FTE.



Medical researchers in the Medical Technology and Pharmaceutical (MTP) sectors contribute \$107,000 per FTE.

The impact of historical research



Medical research from 1990 to 2004 has delivered net present gains of \$78 billion from \$20 billion, with a benefit cost ratio (BCR) of 3.9.



\$52 billion in health gains, and \$26 billion in wider economic gains.



Today's economy is \$2.6 billion larger as a result of medical research.



Welfare is \$1.5 billion higher as a result of medical research.

The impact of future research



Medical research is expected to continue to deliver excellent returns on investment.

Project methodology

KPMG adopted a unique hybrid methodology that combined:

- Bottom-up case studies of Human Immunodeficiency Virus (HIV), mental health and Human Papillomavirus (HPV) to better understand the pathway between medical research and population health improvements.
- Top-down burden analyses of disease improvements to help quantify the health gains.
- A bibliographic analysis of Australian guidelines and through consultations with research experts to estimate the share of benefits attributable to Australian medical research, and the associated time lag between expenditure and benefit.
- Economy-wide modelling of the productivity benefits from medical research using KPMG's computable general equilibrium model (KPMG-CGE) of the Australian economy.

The analysis of existing returns from medical research considered investment from 1990 to 2004, to allow for the lag between historical research and current outcomes, and the findings from the case studies were extrapolated out to wider medical research.

Disclaimers

Inherent limitations

The services provided in connection with this engagement comprise an advisory engagement which is not subject to Australian Auditing Standards or Australian Standards on Review or Assurance Engagements, and consequently no opinions or conclusions intended to convey assurance have been expressed.

No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by the AAMRI employees or management consulted as part of the process.

KPMG have indicated within this paper the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the paper.

KPMG is under no obligation in any circumstance to update this paper, in either oral or written form, for events occurring after the paper has been issued in final form.

The findings in this paper have been formed on the above basis.

Any redistribution of this paper requires the prior written approval of KPMG and in any event is to be complete and unaltered version of the paper and accompanied only by such other materials as KPMG may agree.

Third party reliance

This paper is solely for the purpose set out in the Purpose and Scope section and for the Association of Australian Medical Research Institutes' information, and is not to be used for any other purpose or distributed to any other party without KPMG's prior written consent.

This report has been prepared at the request of the AAMRI in accordance with the terms of KPMG's letter of engagement dated 13 June 2018. Other than our responsibility to AAMRI, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this paper. Any reliance placed is that party's sole responsibility.



Contact us



Brendan Rynne
Partner, Chief Economist
+61 3 9288 5780
bjryrne@kpmg.com.au



Dr Chris Schilling
Associate Director, Economics
+61 3 9288 6263
cschilling1@kpmg.com.au

[KPMG.com.au](https://www.kpmg.com.au)

The information contained in this document is of a general nature and is not intended to address the objectives, financial situation or needs of any particular individual or entity. It is provided for information purposes only and does not constitute, nor should it be regarded in any manner whatsoever, as advice and is not intended to influence a person in making a decision, including, if applicable, in relation to any financial product or an interest in a financial product. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

To the extent permissible by law, KPMG and its associated entities shall not be liable for any errors, omissions, defects or misrepresentations in the information or for any loss or damage suffered by persons who use or rely on such information (including for reasons of negligence, negligent misstatement or otherwise).

© 2018 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

The KPMG name and logo are registered trademarks or trademarks of KPMG International.

Liability limited by a scheme approved under Professional Standards Legislation.

October 2018. 273988776MC