

2019/20 PRE-BUDGET SUBMISSION

A SUBMISSION ON BEHALF OF
AUSTRALIA'S HEALTH AND MEDICAL
RESEARCH AND INNOVATION SECTORS

December 2018

ABOUT RESEARCH AUSTRALIA

Our vision: Research Australia envisions a world where Australia unlocks the full potential of its world-leading health and medical research sector to deliver the best possible healthcare and global leadership in health innovation.

Our mission: To use our unique convening power to position health and medical research as a significant driver of a healthy population and contributor to a healthy economy.

Our role:

Engage

Australia in a conversation about the health benefits and economic value of its investment in health and medical research.

Connect

researchers, funders and consumers to increase investment in health and medical research from all sources.

Influence

government policies that support effective health and medical research and its routine translation into evidence-based practices and better health outcomes.

Nadia Levin
CEO & Managing Director
02 9295 8547
nadia.levin@researchaustralia.org

www.researchaustralia.org
384 Victoria Street Darlinghurst NSW 2010

This document and the ideas and concepts set out in this document are subject to copyright. No part of this document, ideas or concepts are to be reproduced or used either in identical or modified form, without the express written consent of Research Australia Limited ABN 28 095 324 379.

TABLE OF CONTENTS

Summary of recommendations.....	4
Introduction.....	6
A focus on healthcare, innovation, and health and medical research.....	8
Data as a national resource	8
Embedding research in the health system	9
Smarter investment in health and medical research	9
The Medical Research Future Fund	10
Continued capitalisation.....	10
NHMRC and ARC funding.....	11
Indirect research costs.....	13
R&D Tax Incentive	15
Funding for research infrastructure	16
National Innovation Strategy 2030.....	16
Data for better health.....	17
Departmental capacity to share and release data	17
Secondary Use of My Health Record Data	17
An informed public.....	18
Improving Australians' digital health literacy	19
Conclusion	21

Summary of recommendations

<p>Health and Medical Research and Innovation</p>	<p>Continuing to invest in and support Australia's world class capacity and expertise in health and medical research and innovation is a key element of positioning Australia as a knowledge-based economy able to make the most of the information revolution.</p>
	<p>Research Australia urges the Government to finalise and release the Digital Economy Strategy as a matter of urgency, and to commit funding to the Strategy's implementation in the 2019 Budget.</p>
<p>The MRFF</p>	<p>The Government's commitment to fully fund the MRFF by 2020/21 must be maintained; Research Australia looks forward to seeing this commitment included in the in the 2019/20 Budget.</p>
<p>NHMRC and ARC Funding</p>	<p>Funding for the research programs of the NHMRC and ARC must be increased in real terms in 2019/20 and over the forward estimates.</p>
<p>Indirect Research Costs</p> <p>These recommendations reiterate Research Australia's position outlined in our Pre-Budget submission in December 2016 and December 2017</p>	<p>In the short term, and as proposed in the Draft 2019 HERDC specification, MRFF funding to universities needs to be treated as Category 1 income, the same as NHMRC and ARC competitive grant funding.</p>
	<p>The cuts to the Research Block grants outlined in the MYEFO on 17 December 2018 must be reversed, and instead the pool of funding for the Research Support Program needs to be increased proportionately in the 2019/20 Budget to reflect the inclusion of MRFF grants as Category 1 funding.</p>
	<p>In a similar manner, an additional stream of the IRIISS program needs to be funded by the Department of Health to cover the indirect costs associated with MRFF funding incurred by Independent Medical Research Institutes. This funding should be administered by the NHMRC.</p>
	<p>In the longer term, Research Australia supports the call of the MRFF Advisory Board for a whole of government approach to the issue of funding indirect research costs. Research Australia proposes that the Chief Scientist lead a review of the funding of indirect research costs to establish a sustainable and equitable funding program.</p>
<p>R&D Tax Incentive</p> <p>These recommendations reiterate Research Australia's position outlined in our Pre-Budget submission in December 2017</p>	<p>In an environment in which there is evidence of declining business expenditure on R&D (ABS Data), the Government should not take action to reform the R&D Tax Incentive that could further dampen R&D activity.</p>
	<p>In the interim the Government should continue with measures to improve compliance with the existing scheme.</p>

Research Infrastructure	Research Australia acknowledges the \$1.9 billion announced in the May 2018 Budget over the forward estimates. We look forward to seeing this funding commitment retained in the May 2019 Budget.
National Innovation Strategy 2030	<p>Commit the additional funding required to implement the measures outlined in the <i>Australian Government response to Innovation and Science Australia's Australia 2030: Prosperity through Innovation</i></p> <p>These include, for example, implementation of a framework to identify and implement additional National Missions.</p>
Data for better health	<p>Invest in capacity building in Commonwealth departments and agencies to enhance their ability to capture, manipulate and analyse data, and their capability to link data and to prepare secure, deidentified datasets for public release.</p> <p>Ensure the AIHW is adequately resourced to prepare for and undertake the significant new role of preparing and providing de-identified My Health Record data for research and public health purposes.</p> <p>A systematic approach to address public concerns around My Health Record is needed. In addition, a clear consistent demonstration of the benefits needs to be provided.</p> <p>Provide funding to develop and implement an ongoing strategy to improve Australians' health literacy, with a particular focus on disadvantaged groups. This strategy should include ongoing monitoring of Australians' digital health literacy to enable the progress of the strategy to be assessed. It should incorporate the initiatives in relation to the My Health Record proposed above.</p>

2019/20 PRE-BUDGET SUBMISSION

A SUBMISSION ON BEHALF OF AUSTRALIA'S HEALTH AND MEDICAL RESEARCH AND INNOVATION SECTORS

Introduction

Research Australia welcomes the opportunity to make this submission to the Treasurer in relation to the 2019/20 Budget.

Following on a record 27 year period of uninterrupted economic growth, we are seeing some clear and positive changes in the Australian economy:

- Australia continues to enjoy record low interest rates
- Increased volumes of venture capital looking to invest in Australian innovation, including in the products of health and medical research¹
- The Australian Government Budget is expected to return to surplus next year
- Modest growth in real wages.²

The Australian Government has also been active, with several positive developments for our membership.

- The 2018 Budget outlined a long-term plan investment by the MRFF in Australia's health and medical research and innovation.
- New MRFF Priorities provide the opportunity to build on and consolidate the progress made under the inaugural MRFF priorities.
- The Minister for Education initiated an inquiry by The Standing Committee on Employment, Education and Training into Australian Government Funding Arrangements for non-NHMRC research. We await the Government's response to the Report's recommendations.
- The Department of Prime Minister and Cabinet consulted on new Data Sharing and Release legislation, designed to improve access to publicly held data for research and other purposes. The Government also appointed an interim Data Commissioner. We look forward to draft legislation being released next year.

¹ Australian Private Equity & Venture Capital Association Limited and Preqin, 2018, 2018 Yearbook November 2018

² Australian Bureau of Statistics, 6345.0 - Wage Price Index, Australia, Sep 2018

- Better use of data in the delivery of healthcare is especially important to the national economy and the wellbeing of Australians, and data related initiatives in this space have included the implementation and expansion of the My Health Record, Australia's first National Digital Health Strategy and the development of a framework for the secondary use of My Health Record data for research and public health.

In other areas, the news has been less favourable.

- The 2018 Budget confirmed the Government's commitment to changes to the R&D Tax Incentive Scheme. While as a sector we welcome the exemption of clinical trials from the cap on the refundable R&D Tax offset, Research Australia is opposed to several other measures. Our ability to understand and articulate the impact of the changes on our sector has been hampered by a lack of data or modelling from the Government on the effect of the proposed amendments. At this stage, the further passage of the legislation is pending on the outcome of a Senate Committee Inquiry, expected in February 2019. In the meantime, the uncertainty in this critical area of innovation policy continues.
- No visible progress has been made with the development of a National Digital Economy Strategy, which was to be released this year, following consultations in mid 2017. Such a strategy could help link data, research, innovation and the broader Australian economy. It also has a role in better preparing the Australian population to take advantage of technological advances, including in the delivery of healthcare and better management of our own health.
- The research capacity of Australia's universities, the powerhouses of Australian health and medical research, has been hampered by cuts to university funding.

Research Australia is an active participant in policy development and has been a respondent to the consultations and reviews in the above areas that are so critical to Australia's future. We welcome the Australian Government's action in some areas to support our sector, and urge it to reconsider other measures and the impetus for funding cuts as it prepares the 2019 Budget.

We also call on the Government to help better equip all Australians to take advantage of the digital health revolution, to ensure the promise of safer, higher quality and more effective care and better health outcomes is realised.

A focus on healthcare, innovation, and health and medical research

Research Australia represents the whole pipeline of health and medical research and innovation, from the new ideas that power basic research through to the application of this knowledge to improve human health. This is an important part of the knowledge economy, which is reliant on new ideas, discoveries, new ways of looking at things and doing things to drive economic progress.

Healthcare is a sector in which governments, the private sector and not for profit service providers are all key stakeholders. For this reason, healthcare is the perfect exemplar of the need for the Commonwealth Government to work and invest strategically, responsively and proactively with other sectors of our community to deliver the healthier population and higher quality, safer and more efficient healthcare system Australia needs if it is to prosper in the future.

Data as a national resource

Research Australia believes that when it comes to improving Australians' health and our healthcare system, the key is harnessing the transformative power of data to accelerate advances. Digitisation of healthcare is already occurring, but continued support from Government through initiatives like the Australian Digital Health Strategy and the proposed Digital Economy Strategy is essential to accelerate and guide this activity, and to promote the more systematic adoption that will enable the greatest benefits to be derived. It also provides an opportunity to encourage the crossover of technologies from other sectors of the economy such as banking, which is a leader in the use of technology to interact and transact with consumers.

Research Australia is disappointed that the Digital Economy Strategy has not been released. **We urge the Government to finalise and release the Strategy as a matter of urgency, and to commit funding to the Strategy's implementation in the 2019 Budget.**

Making better use of data in healthcare also offers the prospect of safer and higher quality healthcare, improving Australians' wellbeing and boosting productivity. In a 2015 report for the Minister for Health, the Productivity Commission identified that there were significant opportunities to improve the Australian health system, and that one of the keys to doing so was to make better use of data.³ More recently the Productivity Commission's report on Data Availability and Use concluded that across all of government, some of the greatest gains could be made through making health data more available.⁴

The experience earlier this year with the opt out period for the My Health Record illustrates the need to ensure the Australian population is better engaged with and informed about both the risks and benefits of the digitisation of healthcare.

³ Productivity Commission 2015, *Efficiency in Health*, Commission Research Paper, Canberra. P.4

⁴ Productivity Commission 2017, *Data Availability and Use*, Report No. 82, Canberra Pp. 5-6

Embedding research in the health system

The greatest opportunities for improvement and innovation in our healthcare system lie in the systematic application of evidence based healthcare, driven by the best research. With Australian healthcare expenditure in 2016/17 estimated to be \$181 billion, even relatively small efficiency improvements can have significant economic benefit.⁵ For example, adverse events in hospital are events that lead to harm to patients. Approximately 5% of patients experience an adverse event, and these patients stay an average of 10 days longer in hospital. Screening for risks such as falls and medication errors are recognised ways of reducing adverse events that that can be addressed with digital solutions, leading to millions of dollars in annual savings.⁶

An even more recent report by the Productivity Commission concluded that the healthcare sector is ripe for significant productivity improvements. Health and medical research and innovation will be one of the key drivers of this change- providing new technologies and approaches to improve efficiency, and new platforms to support the quicker uptake of new practices into healthcare.

The Third Atlas of Healthcare Variation, published in December 2018, continues to highlight unwarranted variation in the delivery of healthcare, pointing to a lack of consistent adoption of evidence-based care across the system.⁷

While undertaking the research to establish the best type of care to deliver is essential, it is not enough. We must redouble our efforts to ensure that this knowledge is communicated and implemented more quickly and consistently throughout our healthcare system and the broader community.

Smarter investment in health and medical research

The Australian Government makes a substantial investment in health and medical research every year, and one that is set to increase as the Medical Research Future fund reaches its full potential.

There is an opportunity to make this investment more effective, yielding better returns to Australia's population and taxpayers alike, balancing resources with need, capacity and opportunity.

The NHMRC has restructured its grant programs to better encourage and support research and collaboration with the healthcare and pharmaceutical sectors, and to reduce burden of grant applications and administration. The new Australian Medical Research and Innovation priorities 2018-2020 provide an opportunity for the MRFF to build on and complement the funding provided by the NHMRC, ARC and other Government funding programs.

Medical devices, diagnostics and therapeutics continue to feature strongly in non-health specific government programs such as the Cooperative Research Centres and commercialisation grants. The success of these products in programs designed to boost commercialisation across the economy is a pointer to the significance of the health technologies and pharmaceuticals sector to Australia's future and our increasing ability to capitalise on our world class health and medical research.

Research Australia submits that continuing to invest in and support Australia's world class capacity and expertise in health and medical research and innovation is a key element of positioning Australia as a knowledge-based economy able to make the most of the information revolution.

⁵ Australian Institute of Health and Welfare 2018. Health expenditure Australia 2016–17 Health and welfare expenditure series no. 64

⁶ <https://www2.health.vic.gov.au/hospitals-and-health-services/patient-care/older-people/resources/improving-access/ia-adverse>

⁷ The Australian Commission on Safety and Quality in Healthcare, 2018, *The Third Australian Atlas of Healthcare Variation*

The Medical Research Future Fund

Continued capitalisation

Research Australia congratulates the Government on its ongoing commitment to the MRFF which has seen the Fund reach a balance in excess of \$9.5 billion. The MRFF is one of the Government's signature policy initiatives and enjoys strong support from the public; in Research Australia polling conducted in June 2018, 88% of poll respondents expressed support for the MRFF⁸.

The MRFF also has the strong backing of the health and medical research and innovation sectors. They have embraced the MRFF's potential to improve the translation of research into new drugs, therapies, interventions and practices that will:

- improve health outcomes;
- enhance the quality, safety, and efficiency of our health system; and
- boost exports.

The funding provided so far has responded to a range of different needs and strategic priorities, and utilised different approaches to the disbursement of funding. It has also successfully leveraged contributions from other sources. The Fellowships Program is giving health professionals the opportunity to establish their careers as researchers, while the Missions are supporting large multidisciplinary programs that have the potential to transform the delivery of healthcare to Australians and around the world. The Frontiers Program is an innovative two stage program, supporting long term collaborations to explore bold and innovative ideas in the health and medical research sector and/or make discoveries of great potential and global impact.

Research Australia looks forward to these investments making a material difference to the health and wellbeing of Australians, and contributing to a safer, more effective and efficient healthcare system and a vibrant home-grown medical technologies and pharmaceuticals sector.

Funding from the MRFF is forecast to rise rapidly over the next few years, from \$222 million in this current financial year to more than \$650 million in 2020/21. This increase, and the benefits this funding will bring are only possible if the capital in the MRFF continues to grow; the 2018/19 Budget forecast the MRFF will achieve its capital target of \$20 billion in 2020/21.

The MRFF is forecast to receive a capital injection of \$7.8 billion in 2019/20; this is by far the largest addition to the capital of the MRFF in any single financial year. It is critical that the MRFF remain on track to reach the targeted \$20 billion balance by 2020/21. Any delay in reaching this target will undermine confidence in the MRFF and in the Government's commitment to its success.

Research Australia submits that the Government's commitment to fully fund the MRFF by 2020/21 must be maintained and looks forward to seeing this commitment included in the 2019/20 Budget.

⁸ Research Australia, 2018, *Australia Speaks! 2018 Opinion Polling for Health and Medical Research*, available at <http://researchaustralia.org/reports/public-opinion-polling/>

NHMRC and ARC funding

Australia's universities and medical research institutes are the foundation on which Australian health and medical research and innovation is built, and the Commonwealth Governments' premier funding bodies are the National Health and Medical Research Council (NHMRC) and the Australian Research Council (ARC).

The NHMRC's funding programs are clearly aligned with health and medical research; the importance of the Australian Research Council's own programs to health and medical research is less obvious but just as real. While the ARC does not fund 'medical and dental research', it funds basic life sciences research. It also funds the application of research in a range of disciplines, including biochemistry, engineering, computing and the social sciences, which directly and indirectly support health and medical research and its application.

Examples of ARC funding in 2018 that supports HMR:⁹

Australian National University- This project aims to improve our understanding of the damage processes in Positron Emission Tomography (PET). **PET is a widely used medical imaging technique**, but there are gaps in our understanding of the underlying interactions, in particular in the case of the radiation damage induced during the process.

The University of NSW- This project aims to determine the fundamental mechanisms that drive particle transport in physiologically realistic human airways. The project outcomes are expected to enable unprecedented definition of **how particles are transported in human airways** as a function of breathing profiles, particle properties and morphology.

Macquarie University- This project aims to examine the **deterioration of health and wellbeing in migrant communities in Australia** over time. Some migrant groups suffer higher mortality and morbidity in older age, despite having better health than non-migrants upon arrival in the host country. The project will inform government policymakers, migrant aged care service providers, and migrant communities in supporting quality of life outcomes.

University of Queensland- This project aims to characterise a new stem cell population that can maintain both blood vessels and contribute to a variety of tissues whether fibrous, bone, fat or cartilage. Blood vessels comprise an inner endothelial layer and surrounding mesenchyme, are integral to many organs and constitute a unique system connecting different parts of the body. Despite their importance little is known about how they are maintained and how they contribute to the response to injury. This project will help define a unique population of **stem cells capable of both vascular and mesenchymal repair**.

The University of Adelaide- This project aims to address shortcomings in understanding the mechanics of neck trauma. Understanding the mechanical factors leading to cervical facet dislocation and fracture is necessary to improve injury prevention strategies and their assessment. The project expects to provide knowledge necessary to improve crash test dummy design, associated injury criteria, and computational models, which provide the potential for **improved spinal injury prevention measures**, reducing the personal and economic burden of spinal injuries.

Flinders University- This project aims to deepen knowledge of gastrointestinal physiology, and reveal the mechanisms by which the major gastrointestinal signalling molecule, serotonin, regulates gut peristalsis. Almost all of the serotonin in our body is made in the gastrointestinal tract where it controls many functions, including how our gut wall contracts during peristalsis. **Proper control of gut peristalsis and the transit of material through our bowel is important for our health**. This project expects to define how serotonin controls peristalsis, where in the bowel this serotonin comes from, how serotonin communicates with the nervous system in our gastrointestinal tract, and how the cells that synthesise gut serotonin respond to contraction to trigger the secretion of serotonin.

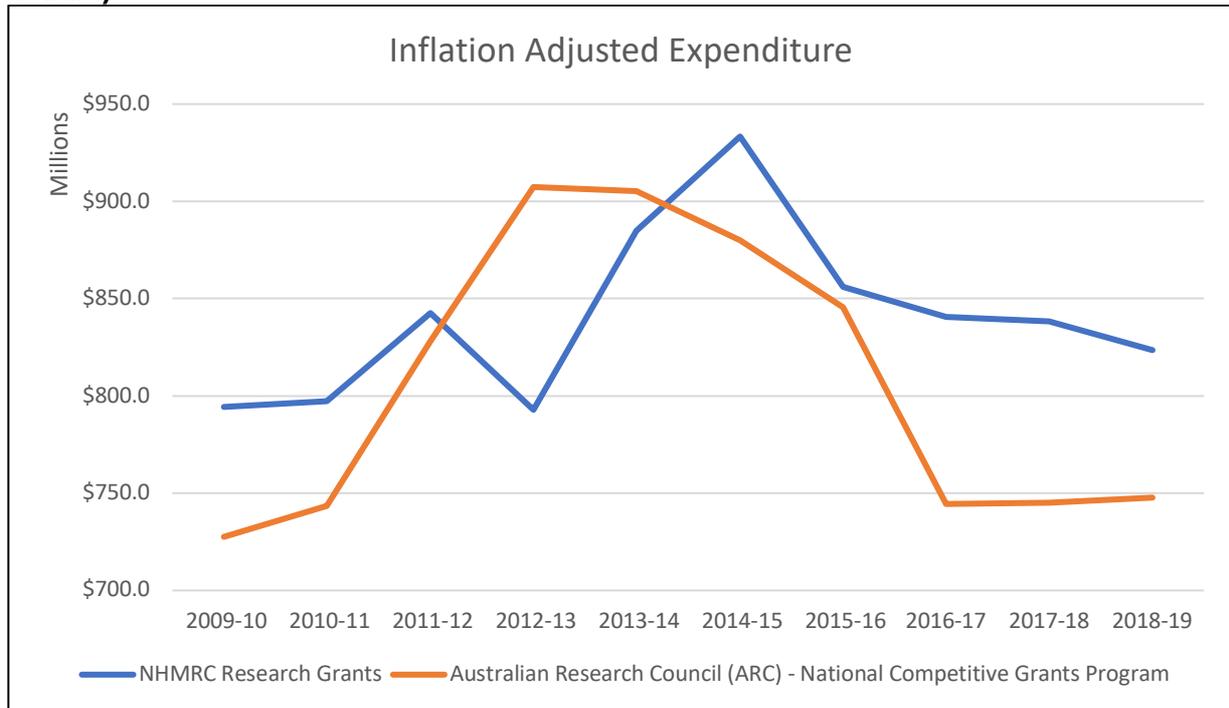
Monash University- This project aims at a step-change in functional, porous microparticle manufacture. To achieve this, the project will use precision flow chemistry techniques that will integrate emulsion preparation, microparticle production and chemical functionalisation in one continuous process. The expected outcome of the project is a process for the manufacture of a suite of designer porous polymer microparticles. Expected benefits are **disruptive advances in a number of key technological sectors, including biomedicine, pharmacy**, energy and bioprocessing. Platform technology for **cartilage tissue engineering** has been chosen as an exemplar of the power of precision microparticles.

⁹ ARC Funding announcements 2018 funded research, selected projects, <https://rms.arc.gov.au/RMS/Report/Download/Report/1b0c8b2e-7bb0-4f2d-8f52-ad207cfbb41d/189>

While there has been increased investment by the Australian Government in a range of areas in the last few years, this has not been the case for the research programs offered by the NHMRC and ARC.

The diagram below, using data from the Department of Industry, Science and Innovation, illustrates a real decline in funding for the programs of the NHMRC in recent years.

NHMRC and ARC expenditure 2009/10 to 2018/19 (forecast); inflation adjusted (2016-17 dollars)¹⁰



The May 2018 Budget projects funding to the NHMRC's Medical Research Endowment Account increasing at a rate lower than the forecast CPI over the budget forward estimates. This level of funding is continuing the underfunding of the NHMRC's MREA that has occurred in recent years.

This trend cannot continue if Australia is 'to embrace new ideas in innovation and science, and harness new sources of growth to deliver the next age of economic prosperity in Australia', as is the ambition of the National Innovation and Science Agenda.¹¹ And if the MRFF is to achieve its full potential it is essential that the financial assistance it provides 'complements and enhances' existing government funding sources, as specified in the MRFF's enabling legislation.

For this to be achieved other sources of government funding for research must be at least maintained in real terms. This investment in scientific research is essential if Australia is to implement the National Innovation and Science Agenda and reap the benefits of a new, knowledge-based economy and a safer, higher quality and more effective health system.

The importance of this investment by the Australian Government is recognised and valued by the Australian community. Research Australia has undertaken annual public opinion polling since 2003. One of the questions that has been included in every poll has related to funding priorities for the Commonwealth Government. In the whole time, of a list of more than 20 priorities, 'improving hospital and the healthcare system' has been number one. This result is not surprising; what is

¹⁰ Government, Dept. of Industry, Science and Innovation, SRI Budget Tables 2018-19, Programs, Table 2. Australian Government R&D programs and activities valued at over \$100 million in 2018-19, 2009-10 to 2018-19 (\$m inflation adjusted, 2016-17 dollars) selected data

¹¹ <https://www.innovation.gov.au/page/agenda>

perhaps less expected is that ‘more funding for health and medical research’ is also in the top 10, (priority 6 in the 2018 poll).¹²

Research Australia submits that funding for the research programs of the NHMRC and ARC must be increased in real terms in 2019/20 and over the forward estimates.

Indirect research costs

The funding from the ARC, NHMRC and MRFF meet only part of the costs of the research to which they are directed. They are a contribution to the direct costs of research, such as paying researchers’ salaries and purchasing necessary equipment and experimental materials. They do not cover the cost of ‘keeping the lights on’, quite literally and metaphorically: paying utility bills, administrative staff, maintenance on buildings and facilities.

Securing appropriate levels of funding for the indirect costs of research conducted in Australia’s higher education institutions and medical research institutes is a longstanding problem. It has been exacerbated by recent developments, including an emphasis on universities partnering with industry on research projects and reductions in the revenue of higher education institutions- it is widely recognised that teaching revenues from domestic and international students subsidise research expenditure, including covering indirect costs.

Currently, universities receive funding from the Department of Education and Training’s Research Support Program (RSP). The RSP distributes a pool of money to universities in proportion to research income each university received in the reporting period; the ratio varies depending on how the research revenue is categorised.

In 2016/17, the MRFF allocated \$65 million in research funding, a relatively small amount compared to the funding from the ARC and NHMRC of approximately \$1.5 billion. By 2019-20, the MRFF is forecast to be distributing \$392 million in funding for direct research costs, and more than \$600 million the following year, approaching the size of the other two schemes.

The Higher Education Research Data Collection (HERDC) is used to report university research income to the Department of Education for the purpose of calculating the share of RSP. The Draft 2019 HERDC specification categorises MRFF funding as ‘Category 1’, the same as NHMRC and ARC funding. (The final 2019 HERDC Specification has not yet been published.)

While a welcome development, even if MRFF funding is to be treated as ‘Category 1’ income, without a substantial increase in funding available from the RSP over the next few years there will be a significant reduction in the ratio of indirect research cost funding to direct research income. This will leave universities to fund the difference. This is now even more critical, following the Government’s decision to reduce the funding allocation to the Research Block Grants by \$328.5 million over four years from 2018-19.

While their circumstances and funding for indirect costs are different, the situation is at least as difficult for Independent Medical Research Institutes (IMRIs), those not affiliated with a university. IMRIs are ineligible to participate in the RSP or to receive funding from the ARC. IMRIs receive direct research funding from the NHMRC and receive funding for indirect research costs from the NHMRC through the Independent Research Institute Infrastructure Support Scheme (IRIISS). IRIISS provides funding to IMRIs to assist with indirect research costs, at a rate of up to 20% of the value of NHMRC grants awarded to IMRIs.

¹² Research Australia, 2018, *Australia Speaks! 2018 Opinion Polling for Health and Medical Research*, available at <http://researchaustralia.org/reports/public-opinion-polling/>

Funding for indirect research costs was raised as an issue during the public consultation on the Inaugural five-year strategy and two year priorities for the MRFF conducted by the MRFF Advisory Board in 2016. While the MRFF Advisory Board subsequently drew attention to the issue of funding for indirect research costs, it did not proffer a solution:

A whole-of-government approach is needed to address the issue of research costing to ensure the research sector can continue to thrive. MRFF funding cannot in isolation solve the conundrum that surrounds indirect costs and may with the injection of new funds increase the need for a solution. The Advisory Board, while advocating for a whole-of-government and research sector agreed solution, must therefore abstain from implementing yet another funding model. In the short term MRFF program investment should adhere to existing costing approaches. Collaboration between Government and funded bodies to identify an equitable solution should be prioritised.¹³

Indirect research costs were also examined by the House Standing Committee on Education, Employment and Training at the request of the Minister for Education. The Committee's report, tabled on 26 November 2018, recommended that 'the administration of research block grants be reviewed to provide more timely and adequate support for the indirect costs of research.'

The following four recommendations reiterate Research Australia's position outlined in our Pre-Budget submissions in December 2016 and 2017.

In the short term, Research Australia submits that as proposed in the Draft 2019 HERDC specification, MRFF funding to universities should be treated as Category 1 income, the same as NHMRC and ARC competitive grant funding.

The cuts to the Research Block grants outlined in the MYEFO on 17 December 2018 must be reversed, and instead the pool of funding for the Research Support Program needs to be increased proportionately in the 2019/20 Budget to reflect the inclusion of MRFF grants as Category 1 funding.

In a similar manner, an additional stream of the IRIISS program needs to be funded by the Department of Health to cover the indirect costs associated with MRFF funding incurred by IMRIs. This funding should be administered by the NHMRC.

In the longer term, Research Australia supports the call of the MRFF Advisory Board for a whole of government approach to the issue of funding indirect research costs. **Research Australia proposes that the Chief Scientist lead a review of the funding of indirect research costs to establish a sustainable and equitable funding program.**

¹³ Australian Government, MRFF Advisory Board, 2016, *Australian Medical Research and Innovation Strategy 2016-2021*, p.7

R&D Tax Incentive

Consistent with the announcement in the May 2018 Budget, there is currently a Bill before Parliament that seeks to:

- impose a cap on the refundable R&D Tax Incentive
- exempt clinical trials from the cap
- lower the rate of the refundable and non- refundable R&D Tax offsets
- create an intensity measure for the non-refundable R&D Tax Offset.

The ABS has reported that annual Australian R&D expenditure by businesses declined by more than \$2 billion (12%) per annum between 2013/14 and 2015/16 (the latest period for which data is available).¹⁴ This puts it at levels not seen since the global financial crisis.

Business Expenditure on Research and Development 2008/09 to 2015/16

2007-08 (\$m.)	2008-09 (\$m.)	2009-10 (\$m.)	2010-11 (\$m.)	2011-12 (\$m.)	2013-14 (\$m.)	2015-16 (\$m.)	Difference 15/16 to 13/14 (\$m.)
15,047,360	17,291,228	16,759,641	18,006,887	18,321,322	18,849,438	16,659,296	-2,188,700 (-12%)

This decline in activity is also evident in recent expenditure on the R&D Tax Incentive, which declined from \$3.285 billion in 2015/16 to \$3.134 billion in 2016/17 and to \$2.832 billion in 2017/18.¹⁵

The Bill, if enacted, will further suppress R&D activity. For example, by linking the non-refundable R&D Tax Incentive to the value of R&D as a percentage of total expenditure, the proposed intensity measure not only provides an incentive to increase R&D, but to reduce other expenditure, including moving other expenditure, such as manufacturing, to other countries.

In this environment, the Government should not take action to reform the R&D Tax Incentive that could further dampen R&D activity, and should instead wait and see what effect the reduction in R&D activity has had on the annual cost of the R&D tax Incentive.

Research Australia would instead support raising the rate of the refundable R&D Tax offset to the initial rate of 45% as a measure to support small innovative research-intensive companies. Still in the startup phase and not generating revenue, these companies will not benefit from reductions in the corporate tax rate for several years and are instead penalised at a time when their need for support is greatest.

In the interim the Government should continue with measures to improve compliance with the existing scheme.

¹⁴ Australian Bureau of Statistics, Cat. No. 8104.0 - Research and Experimental Development, Businesses, Australia, releases for years 2007-08 to 2015-16

¹⁵ Australian Government, Dept. of Industry, Science and Innovation, SRI Budget Tables 2016-17, R&D, lines 296 and 297; SRI Budget Tables 2017-18, lines 350 and 351

Funding for research infrastructure

Commissioned by the Australian Government, the 2016 National Research Infrastructure Roadmap outlines national research infrastructure required over the coming decade so that Australia's research system continues to improve productivity, create jobs, lift economic growth and support a healthy environment.

The Plan was provided to Government by the Chief Scientist in February 2017. Jointly releasing it to the public in May 2017, the Minister for Education and Training, and the Minister for Industry, Innovation and Science, committed to the development of a research infrastructure investment plan.

“Key to our consideration will be the development of a research infrastructure investment plan to develop a broad understanding of the range and scale of the infrastructure required for the future so that Australia continues to deliver cutting edge research outcomes.

“The plan will inform how we approach future investment in national research infrastructure and equipment needs across the sector consistent with the 2016 Roadmap, including in the publicly funded research agencies. It will be developed in consultation with Innovation and Science Australia and the Commonwealth Science Council,” Minister Sinodinos said.¹⁶

Research Australia acknowledges the \$1.9 billion announced in the May 2018 Budget over the forward estimates. **We look forward to seeing this funding commitment retained in the May 2019 Budget.**

National Innovation Strategy 2030

The National Innovation Strategy is another important piece of public policy; it will set the direction for Australian science, research and innovation through to 2030, at a time when this has arguably never been more important to Australia's future. If we get this right it will help establish Australia as a leading player in Industry 4.0, the fourth industrial revolution, and lay the foundation for prosperity for decades to come. And, of course, this will only happen if the Strategy's implementation is supported by sustained national investment in:

- our education system,
- our publicly funded research organisations, institutes and universities; and
- an innovation system that supports private sector investment and innovation.

In the 2019 Budget the Government should commit the additional funding required to implement the measures outlined in the *Australian Government response to Innovation and Science Australia's Australia 2030: Prosperity through Innovation*

These include, for example, implementation of a framework to identify and implement additional National Missions. (Recommendation 28)

¹⁶ 'National roadmap for research infrastructure shows the way', Joint media release with the Minister for Education and Training, Senator the Hon Simon Birmingham, 12 May 2017

Data for better health

The potential value of publicly held data has been recognised by the Australian Government and action is being taken to improve the value Australia derives from this data. Initiatives in this area include the Department of Prime Minister and Cabinet's work on the Public-Sector Data Management Strategy, the creation of the Australian Government Public Data Policy Statement, and the response to the Productivity Commission Inquiry into the Availability and Use of Public Data.

Departmental capacity to share and release data

The Government should use the 2019/20 Budget to invest in capacity building in Commonwealth departments and agencies to enhance their ability to capture, manipulate and analyse data, and their capability to link data and to prepare secure, deidentified datasets for public release.

This will complement the legislative steps being taken with the Data Sharing and Release Act and build on the investment the Government has already made in modernising Government Departments through the Data Integration Project for Australia (DIPA).¹⁷

Secondary Use of My Health Record Data

The Government has made a significant commitment over many years to the development and implementation of the My Health Record. This is an important initiative with the potential to save lives, improve the delivery of healthcare and increase efficiency and productivity.

Under the *My Health Records Act 2012*, one of the functions of the System Operator (the Australian Digital Health Agency) is 'to prepare and provide de-identified data for research and public health purposes.' Before these provisions of the Act can be implemented, a framework for secondary use of My Health Record system data must be established. The consultation on this has been completed and the framework is expected to be implemented in the next year.

The report of the Productivity Commission Inquiry into Data Availability and Use has highlighted the significant social and economic benefits to be derived from making public data more available. Many of these recommendations relate to better access to data for researchers and innovators. The relative importance of health data was highlighted by the Commission's Report.¹⁸

An earlier report of the Productivity Commission looking at the opportunities for productivity improvements in health highlighted the role of data in this regard:

'More generally, administrative data — including performance data, patient health records and government-held datasets on patients' use of medications or procedures — can support development of a more rigorous evidence base on the clinical and cost effectiveness of health interventions. Among other things, these data (subject to appropriate privacy safeguards) enable researchers to investigate the burden of disease, access to health care across the community, and the effectiveness of specific health interventions. This can help health care providers to choose the best treatments for individual patients. It also helps governments and insurers to make better overall funding decisions by directing funding to where the greatest health benefits can be achieved

¹⁷ <https://www.pmc.gov.au/public-data/data-integration-partnership-australia>

¹⁸ Productivity Commission 2017, *Data Availability and Use*, Report No. 82, Canberra Pp. 509

(including to preventive health measures), and away from interventions with low or no clinical value.¹⁹

Some of the greatest opportunities for better health outcomes lie in preventive health measures and public interventions. The burden of non-communicable disease has increased rapidly in the last two decades, linked to obesity and population wide changes in daily activity. Health data can be used to monitor changes in populations and sub-populations, and to identify emerging issues and solutions.

Access to reliable and current health data makes public health interventions both more effective and more cost effective, making it possible to respond more quickly to emerging issues. In addition to making the data available, it requires a commitment to use this data and a meaningful commitment by governments to evidence-based policy development and implementation.

The secondary use of My Health Record data for research and public health purposes is going to be central to achieving this ambition and is supported by the Australian public; in public polling undertaken on behalf of Research Australia in mid 2018, 90% supported the use of patients' medical records for research purposes.²⁰

The Australian Institute for Health and Welfare (AIHW) has been appointed to manage and release datasets for the My Health Record secondary use of data. The first data releases are expected to occur as early as 2020.

Research Australia urges the Government to use the 2019/20 Budget to ensure the AIHW is adequately resourced to prepare for and undertake the significant new role of preparing and providing de-identified My Health Record data for research and public health purposes.

An informed public

The public controversy surrounding the commencement of the opt out period for the My Health Record, culminating in amendments to the legislation, illustrates the importance of ensuring the public is well informed about how the My Health Record will be used, and why it has been introduced.

In many ways the My Health Record is an extension of what we see in society more broadly, where many (but not all) individuals consent to the collection and use of their personal data in exchange for the ability to transact online, to access information and to make and maintain social relationships. In each of these cases individuals consciously or unconsciously evaluate the risks and benefits to them of using a particular application and decide whether or not they will use it. The relative value they assign to the risks and benefits, their assessment of the likelihood of adverse events and the impact it will have are very individual. A victim of online identity theft, for example, is likely to make a very different assessment of risks and benefits of being online to someone whose experience has only been positive.

Research Australia submits that a systematic approach to address public concerns around My Health Record is needed. Such a campaign needs to acknowledge that individuals are being asked to provide the MHR system with their personal information, and give them balanced information about this risk; acknowledging that while steps are being taken to mitigate the risk there is no guarantee. **The benefits of the My Health Record should also be presented- both for the individual and for the broader community.**

¹⁹ Productivity Commission 2015, Efficiency in Health, Commission Research Paper, Canberra. p.75

²⁰ Research Australia, 2018, *Australia Speaks! 2018 Opinion Polling for Health and Medical Research*, available at <http://researchaustralia.org/reports/public-opinion-polling/>

Recognising that the risks and the benefits are perceived and valued differently across the population, we need many different messages and they need to be delivered through different channels. This includes showing the ways that data from individuals can be used to improve the safety, quality and effectiveness of health care, and provide better health outcomes for all Australians.

Improving Australians' digital health literacy

The National Digital Health Strategy notes that 'Digital information can transform the quality and sustainability of health and care. Used effectively, it can help save lives, improve health and wellbeing and support a sustainable health system that delivers safe, high quality and effective health services for all Australians.'²¹

Australia's ability to make the most of initiatives like the My Health Record and to fulfill the promise of the National Digital Health Strategy is dependent on a population that is able to take advantage of, and use, digital applications to communicate with their healthcare providers and to monitor and better manage their own health.

This requires a combination of digital literacy (the ability to utilise technologies like smart phones and health monitors) and health literacy (the ability to use and understand health information to make informed decisions about our health, our illnesses and our lifestyles).

Australians generally have low levels of health literacy. Perhaps of even greater significance when considering policy and programs for a general audience is the wide variation in health literacy levels in the Australian community.

The Australian Institute of Health and Welfare (AIHW) reports that in 2006, (sadly the latest date for which data is available):

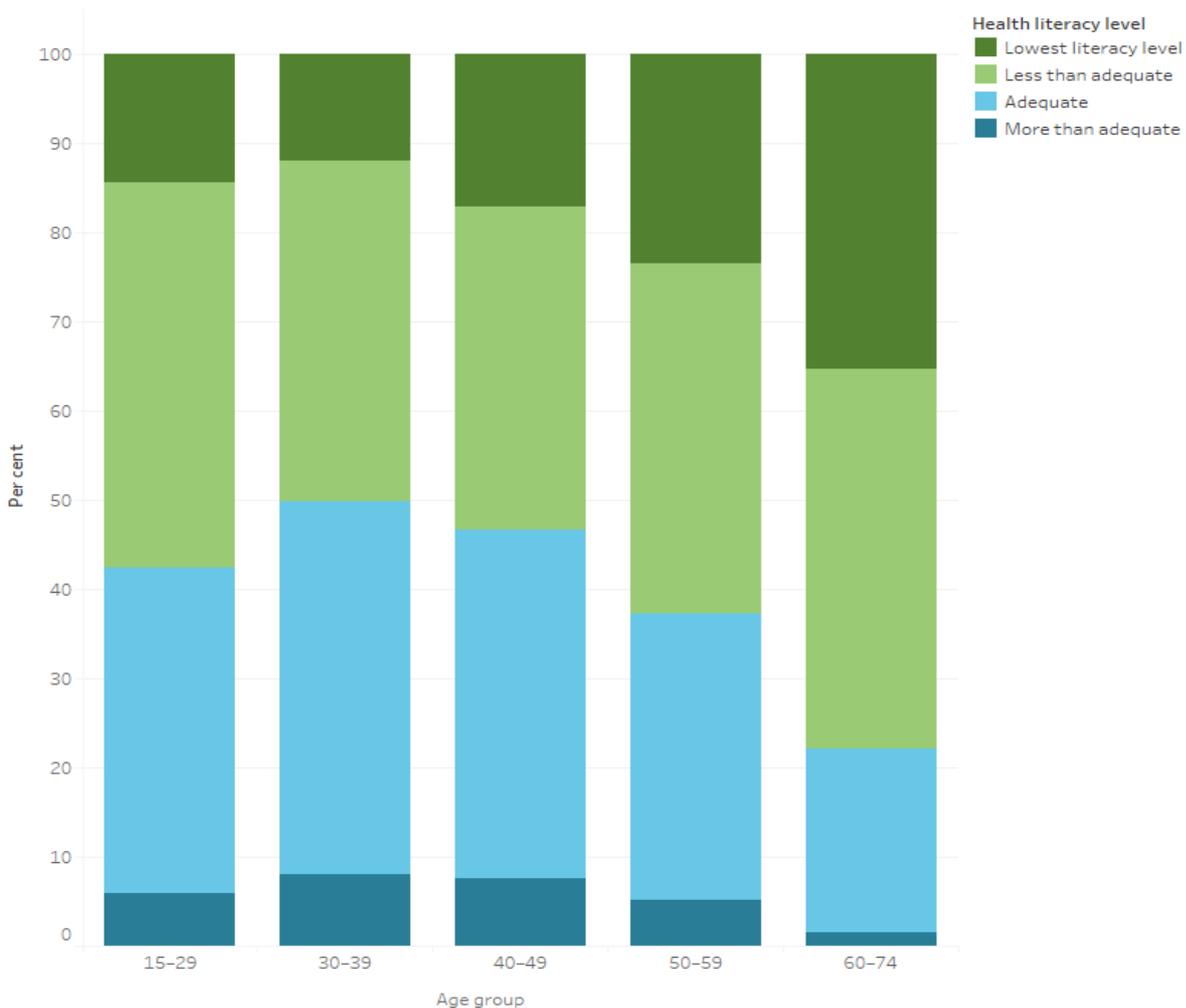
- 41% of Australians aged 15–74 were assessed as having adequate or more than adequate health literacy skills.
- Half (50%) of all people aged 30–39 had health literacy skills that were adequate or better. Less than one-quarter (22%) of people aged 60–74 had health literacy skills that were adequate or better.
- Levels of health literacy skills were similar for males and females—40% of males and 41% of females had adequate or better health literacy skills.²²

The degree of variability by age is illustrated in the following table.

²¹ Australian Digital Health Strategy, 2018, Safe, seamless and secure: evolving health and care to meet the needs of modern Australia. Australia's National Digital Health Strategy, page 5

²² AIHW, <https://www.aihw.gov.au/reports/australias-health/australias-health-2018/contents/indicators-of-australias-health/health-literacy>, accessed on 1 October 2018.

Health literacy, by age, 2006



The wide variation in health literacy was reflected in several other dimensions apart from age, including income level, educational attainment, occupation, and country of birth.

Access to and utilisation of digital technologies also varies widely across the population; older Australians, those on lower incomes, Indigenous Australians and people with a disability score lower than the national average on the Australian Digital Inclusion Index 2018.²³ These are also some of the population groups with poorer health, high levels of interaction with the health system and the greatest need for healthcare.

While the Australian Digital Health Strategy is focused on improving the availability, security and quality of health information, and expanding the capacity of the workforce to use digital health information, it does not address digital health literacy in the general community.

Improving digital health literacy has the capacity to increase the number of Australians able to take advantage of digital health technologies to better manage their own health and their interactions with healthcare providers.

This requires not only understanding the benefits and risks of electronic health records but how digital health technologies can assist them and how to identify technologies that are effective and evidence-based; so they can be savvy digital health consumers.

²³ Thomas, J, Barraket, J, Wilson, CK, Cook, K, Louie, YM & Holcombe-James, I, Ewing, S, MacDonald, T, 2018, *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2018*, RMIT University, Melbourne, for Telstra.

Greater digital health literacy also offers the promise of higher quality healthcare and improved health outcomes but increased efficiency in the delivery of services.

Without increased digital health literacy we will fail to take full advantage of the opportunities that digital health technologies present in the coming years and decades. We will also see a growing disparity in health across the population, with those who are unable to engage digitally with their health left behind and experiencing poorer health outcomes.

Research Australia submits that the 2019 Budget should provide funding to develop and implement an ongoing strategy to improve Australians' health literacy, with a particular focus on disadvantaged groups. This strategy should include ongoing monitoring of Australians' digital health literacy to enable the progress of the strategy to be assessed. It should also incorporate the initiatives in relation to the My Health Record proposed above.

Conclusion

The 2019/20 Budget provides the opportunity for the Australian Government to consolidate the many policy changes it has initiated in the last few years to improve the health and wellbeing of the Australian population and to reposition Australia as a modern and innovative nation with a knowledge-based economy.

Smarter investment in health and medical research and innovation can improve the effectiveness of our health system; constraining the rise in health costs that accompany an ageing population. It can also provide a sustainable pathway to addressing modern lifestyles factors such as obesity. Smarter investment also drives skilled employment in vibrant new pharmaceutical, medical device and biotechnology industries.

At the same time, we need to invest in raising the digital health literacy of all Australians, particularly the most disadvantaged and vulnerable. The promise of the digital revolution to make more information available to more people is only useful if those people are equipped to use that information to make decisions about their healthcare and lifestyle that will improve their health.

This investment will ensure that more Australians benefit from this revolution, transforming our health system and the way we manage our own health and wellbeing.

RESEARCH AUSTRALIA LIMITED
384 Victoria Street, Darlinghurst NSW 2010
P +61 2 9295 8546 ABN 28 095 324 379
www.researchaustralia.org