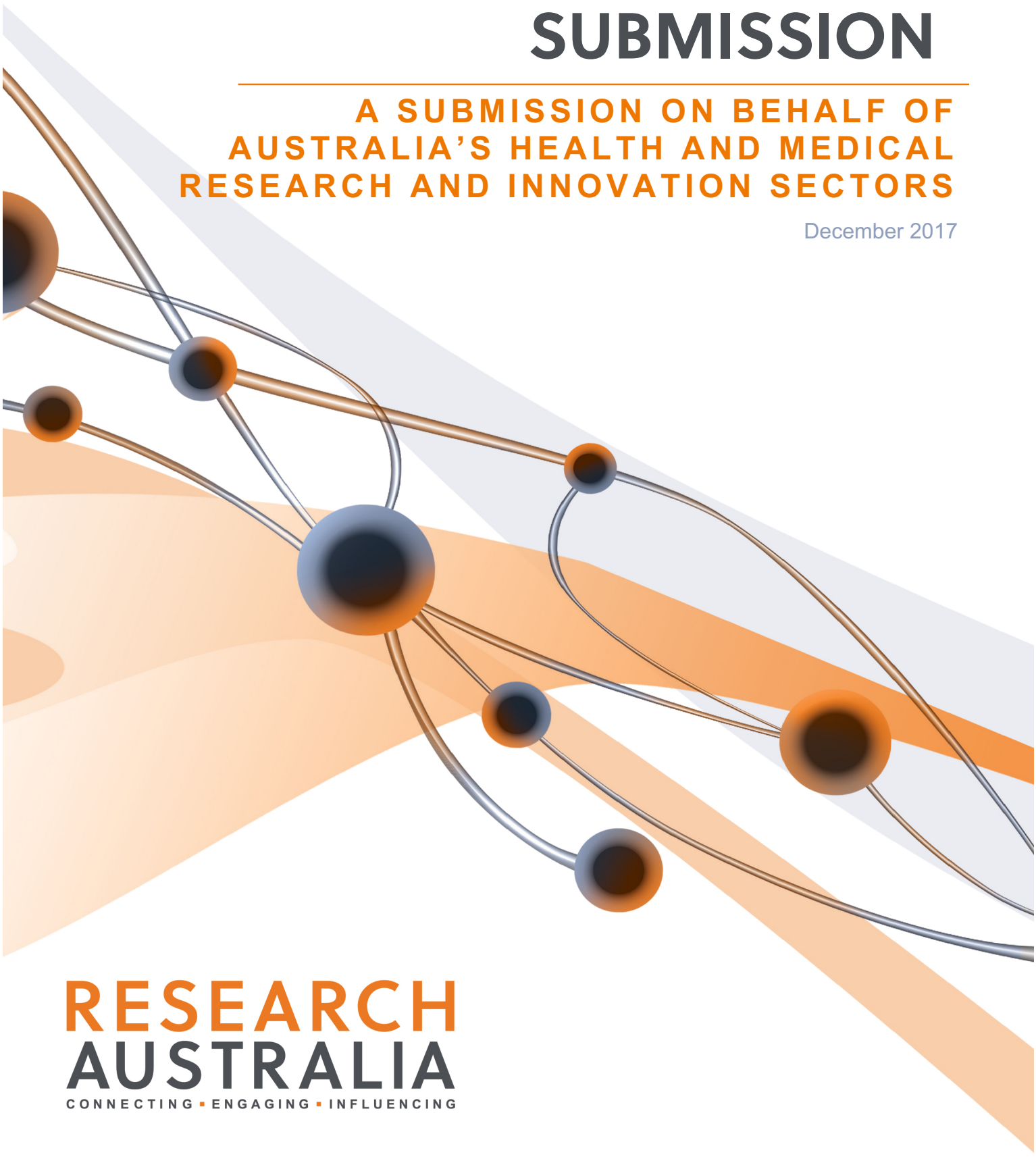
2018/19 PRE-BUDGET SUBMISSION

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

December 2017



RESEARCH AUSTRALIA

CONNECTING · ENGAGING · INFLUENCING

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 goals:

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.

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	It is critical to the success of the MRFF that the Department is adequately resourced to administer the MRFF and its program of disbursements and Research Australia proposes the allocation of additional funding to Department for this purpose.
	Research Australia recommends a modest proportion of the MRFF be assigned to fund frontier opportunities that will lead markets and create new ones by applying cutting-edge science and technologies to new, first in world applications that improve human health.
NHMRC and ARC Funding	Funding for the research programs of the NHMRC and ARC must be increased in real terms in 2018/19 and over the forward estimates.
Indirect Research Costs These three recommendations reiterate Research Australia's position outlined in our Pre-Budget submission in December 2016	In the short term, MRFF funding to universities needs to be treated as Category 1 income, the same as NHMRC and ARC competitive grant funding, and the pool of funding for the Research Support Program needs to be increased proportionately in the 2018/19 Budget.
	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.
	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.
R&D Tax Incentive	In an environment in which there is evidence of declining business expenditure on R&D, the Government should not take action to reform the R&D Tax Incentive that could further dampen R&D activity.
	In the interim the Government should continue with measures to improve compliance with the existing scheme.
Research Infrastructure	Research Australia urges the Government to commit funding in the 2018/19 Budget to the Research Infrastructure Investment Plan.
National Innovation Strategy 2030	Research Australia urges the Government to release the National Innovation Strategy, developed by Innovation and Science Australia at the request of the Government, as soon as possible. Similarly, we urge the Government to respond to the Strategy as a matter of priority and to fund the Strategy's implementation, commencing with the 2018/19 Budget.

Making public data available	The Government should use the 2018/19 Budget to invest in capacity building in Commonwealth departments and agencies to enhance their capacity to capture, manipulate and analyse data, and their capability to link data and to prepare secure, deidentified datasets for public release.
	The 2018/19 Budget should resource the System Operator of the My Health record to prepare and provide de-identified data for research and public health purposes.

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

Introduction

Research Australia welcomes the opportunity to make a submission to the Treasurer in relation to the 2018/19 Budget.

In recent years the Australian Government has taken a number of actions to create a more forward looking nation with a knowledge-based economy.

- The National Innovation and Science Agenda was announced in December 2015 and most measures are now implemented.[1]
- The Medical Research Future Fund, created in August 2015, made its first disbursements in mid 2017.
- 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 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 Productivity Commission Inquiry in to the Availability and Use of Public Data.
- 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, creation of the Australian Digital Health Agency, Australia's first National Digital Health Strategy and the consultation on the secondary use of My Health Record data for research and public health.
- Improving Australia's capacity to collect, analyse and utilise data is one objective of the 2016 National Research Infrastructure Roadmap, and the ability to work with increasing volumes of data is also expected to be a key element of the much anticipated 2030 Plan for Science, Research and Innovation, due to be released before the end of the year.
- The link between data, research, innovation and the broader Australian economy is the subject of the recent consultation by the Government on the development of a National Digital Economy Strategy, which looks beyond our shares to our place in the global digital economy.
- Australia's place in the world, and the role of migration, is the subject of a multi stage review, commenced in mid-2017, to design a new and simpler visa system that better supports our future economic growth and security.

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 forward-looking work in these areas, and recognise that developing new policy, strategies and plans is vitally important.

[1] Australian Government, Department of Industry, Innovation and Science, NISA Information and Updates, 6 December 2017

The benefits these promise are only realised when they are implemented, and in most cases, this requires an investment by the Government in the new processes, capability, infrastructures and programs required to deliver these initiatives. It is the need for this new, increased and ongoing investment which is the subject of Research Australia's submission.

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 though 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. While the Government is developing a strategy for the whole of the economy, and no part of the Australian economy is immune to change (for good and bad), the prospects for transformation of Australia's health sector are greater than most, and health and medical research and innovation are the means by which this transformation can be achieved.

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 out healthcare system, the key is harnessing the transformative power of data to accelerate advances. Digitisation of healthcare is already occurring, but a Digital Economy Strategy provides the opportunity 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.

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.[2] 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.[3]

Embedding research in the health system

The greatest opportunities for improvement an 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 estimated to be $170 billion, even relatively small efficiency improvements can have significant economic benefit.[4] 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.[5]

[2] Productivity Commission 2015, *Efficiency in Health*, Commission Research Paper, Canberra. P.4
[3] Productivity Commission 2017, *Data Availability and Use,* Report No. 82, Canberra Pp. 5-6
[4] Australian Institute of Health and Welfare 2017. Health expenditure Australia 2015–16. Health and welfare expenditure series no. 58. Cat. no. HWE 68. Canberra: AIHW. P.vii
[5] https://www2.health.vic.gov.au/hospitals-and-health-services/patient-care/older-people/resources/improving-access/ia-adverse

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.

Smarter investment in health and medical research

The Australia 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 recently 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 current consultation on the peer review process is seeking to further improve the efficiency of the grant 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.

The MRFF

Continued capitalisation

Research Australia congratulates the Government on its ongoing commitment to the MRFF which has seen the first funding awarded in 2017. 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 2017, 86% of poll respondents expressed support for the MRFF[6]. The MRFF also has the strong backing of the health and medical research sector which has 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. Research Australia looks forward to these first investments making a material difference 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.

The initial funding from the MRFF, drawing on the investment income from the first contributions to the MRFF's capital, are just a taste of the greater things to come. Funding from the MRFF is forecast to rise rapidly over the next few years, from $120 million in this current financial year to more than $600 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 2017/18 Budget forecast the MRFF will achieve its capital target of $20 billion in 2020/21.

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 demonstrated in the forward estimates in the 2018/19 Budget.

Funding for the Department of Health to administer MRFF programs

As noted above, the funding disbursed from the MRFF is forecast to grow rapidly in the next few years. With the primary responsibility for the administration of the MRFF resting with the Department of Health and Ageing, it is critical to the success of the MRFF that the Department is adequately resourced to administer the MRFF and its program of disbursements.

Research Australia proposes the allocation of additional funding to Department for this purpose.

The MRFF is a once in a generation opportunity; while a lean administration process is good, a lack of funding for the administration of the MRFF for example supporting the MRFF Advisory Board, managing public consultations on the Strategy and Priorities, designing and promoting MRFF funding programs, and administering the application and selection processes places the potential of the MRFF at risk.

[6] Research Australia, 2017, *Australia Speaks! Research Australia Opinion Polling 2017*, available at http://researchaustralia.org/reports/public-opinion-polling/

Embracing the frontier of health and medical research and technology

Around the world, exponential digital disruption, machine learning, augmented intelligence and an array of new devices will see a digital revolution in healthcare which will easily match the progress of the biological revolution of the 21st century. Now is the time to galvanise the national collective imagination around the possibilities of the frontier technologies which will revolutionise global healthcare.

Australia has the potential to lead markets and create new ones by applying cutting-edge science and technologies to new, first in world applications that improve human health. However, to achieve or even entertain these possibilities, we must take a bold step and adapt our current approach to funding to reach an economies of scale ideal.

How do we do this? A role for the MRFF

Research Australia proposes an approach that will truly bring to the life the notion that the MRFF is indeed a once in a generation opportunity to change our future. This proposal asks for a small percentage of the fund (assume 10%) to be used to drive a frontier project or programme not entirely dissimilar to a grand challenges type of approach.

At a high level, it follows a two-stage process capitalising on investments that have already been made into existing research or research technologies by the Commonwealth.

In the initial round, collaborators will receive a funding boost to progress their existing research towards a translatable stage. It is essentially providing seed funding for several frontier collaborative programs at any one time that have the potential to deliver large scale outcomes in terms of new products/interventions. Successful applicants will be funded to undertake research to achieve specific objectives as proof of concept.

From these boosted projects, a panel of national and potentially international experts, will select one project per round to receive large-scale funding to enable a frontier outcome.

The next stage would be for projects that have real promise of achieving the 'Frontier Outcome,' a maximum of $75 million in funding is provided over and up to 5 years.

Research Australia recommends a modest proportion of the MRFF be assigned to fund frontier opportunities that will lead markets and create new ones by applying cutting-edge science and technologies to new, first in world applications that improve human health.

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 2017 that supports HMR:[7]

The University of Technology Sydney will lead a project worth $435,279 to create a fabrication facility for production of novel portable, wearable and stretchable **biomedical devices** to monitor health conditions in a non-invasive way.

Macquarie University has received $336,446 to develop a **miniaturised cochlear implant** using advanced microfabrication techniques, to enable low-cost production.

A $247,239 project at University of Queensland that aims to create ultrasensitive electrochemical biosensors by developing novel proteins that can convert biochemical cues into electronic signals. The project will address a need for new technologies that allow the **diagnosis and monitoring of health conditions and diseases** without specialised laboratories.

A project at Australian National University has received $371,815 to investigate how lactation and breastmilk donation after infant death may modulate bereaved mothers' grief experiences. Expected outcomes include the development of guidelines and recommendations for lactation and bereavement healthcare services, providing **benefits for bereaved mothers and their carers**.

A project at Australian National University that received $266,912 to model diseases that spread via a mixture of routes including food, water, the environment, and direct spread between individuals. This project will develop mathematical and statistical tools to better estimate risk, analyse outbreak data, and provide guidance for disease control. This research will improve policy and enhance our ability to **respond to disease outbreaks**.

A project at UNSW received $462,710 to understand the molecular and cellular interactions between host and parasite, as well as providing a quantitative framework for analysing infection dynamics in other systems. Infection involves a complex interaction between the host and the parasite, which is very dynamic and therefore difficult to study by traditional sampling and analysis approaches. This project has combined mathematical modelling with a novel experimental protocol to allow the study of kinetics of parasite replication in vivo. Expected outcomes will provide significant benefits, such as **new avenues for vaccination and immune intervention**.

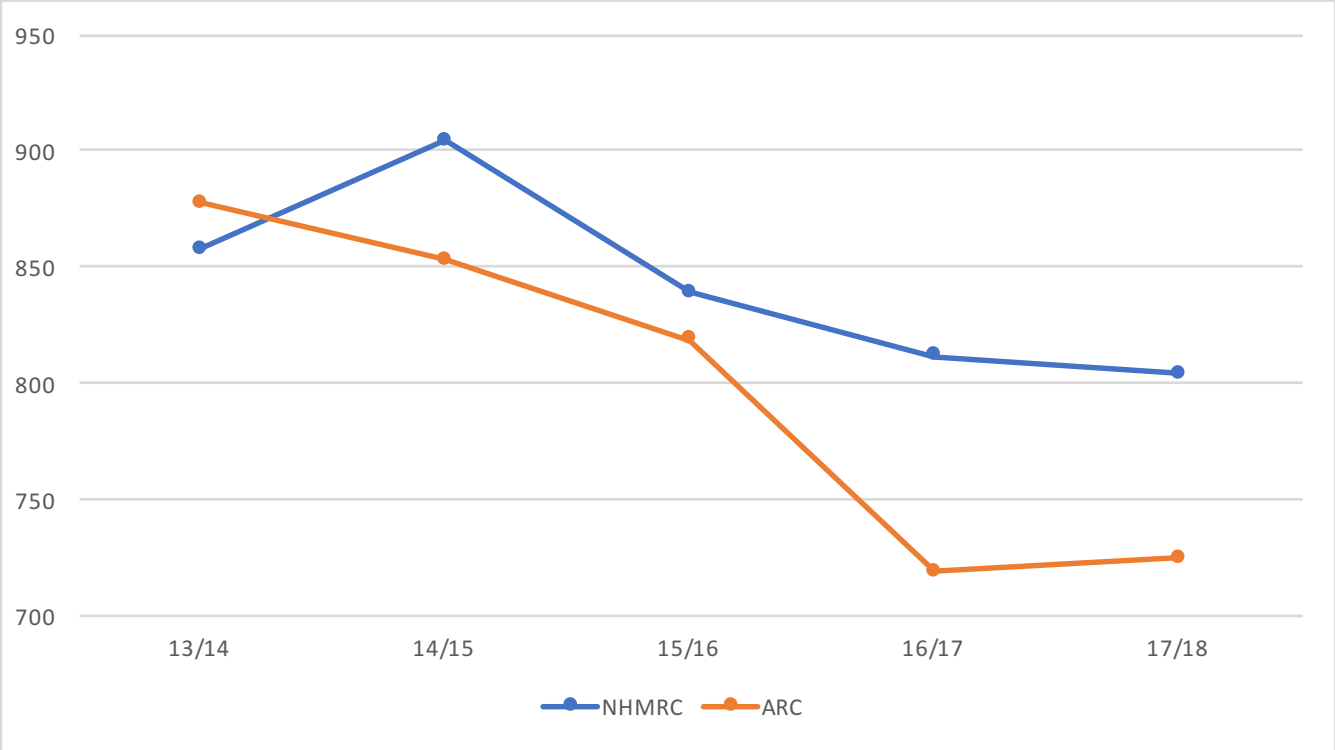
The University of Wollongong received $534, 573 to develop and use new technologies to address mechanistic aspects of anti-bacterial compounds in development, and of the development of resistance to them. The outcomes are expected to be an increased understanding of bacterial DNA replication and mechanisms of antibiotic action and resistance. This project expects to generate new knowledge to assist in **combatting antibiotic resis**tance in Gram-negative bacterial pathogens.

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 on the following page, using data from the Department of Industry, Science and Innovation, illustrates a real decline in funding for the programs of both the NHMRC and ARC since 2013/14.

[7] ARC Funding announcements 2017 funded research, selected projects, http://www.arc.gov.au/funded-grants

NHMRC and ARC expenditure 2013/14 to 2017/18 (forecast); inflation adjusted using 2014/15 values ($m.)[8]



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.[9] 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. Furthermore, 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, followed by 'improving education standards and outcomes'. This result is not surprising; what is perhaps less expected is that 'more funding or health and medical research' and more focus and funding for scientific research and development are also in the top 10, (priorities 7 and 10 respectively in the 2017 poll.[10]

Research Australia submits that funding for the research programs of the NHMRC and ARC must be increased in real terms in 2018/19 and over the forward estimates.

[8] Australian Government, Dept. of Industry, Science and Innovation, SRI Budget Tables 2016-17 Interactive Data Visualisations accessed on 4 December 2017 at https://app.powerbi.com/view?r=eyJrIjoiNzM3ODFhOTctOTQ5YS00OTBkLTk2OTMtMDRjZGM4NDNiNzczIiwidCI6IjhmNzNmNDI3LTMyZTUtNGEzYi04ZDQyLWIzNjliOTU2YTk2YiJ9

[9] https://www.innovation.gov.au/page/agenda

[10] Research Australia, Australia Speaks! Research Australia Opinion Polling 2017

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 and one that has been exacerbated by recent developments, including an emphasis on universities partnering with industry on research projects and the looming prospect of reductions in the revenue of higher education institutions- it is widely recognised that teaching revenues from domestic and international students subside research expenditure, including covering indirect costs.

Currently, higher education institutions 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. received

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 $386 million in funding for direct research costs, and more than $600 million the following year, approaching the size of the other two schemes

Currently, no provision has been made to fund the universities' indirect research costs associated with funding received from the MRFF. As it currently stands, universities will need to fund these costs from their own resources, which will become an increasingly large impost over coming years. Even if MRFF funding is to be treated as 'Category 1' income (the same as ARC and NHMRC funding), 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 higher education institutions to fund the difference.

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. In 2017, the NHMRC distributed $29.5 million in IRIISS grants; $30.85 million in grants under this scheme has been announced for 2018. Some state governments also provide limited financial support to some IMRIs.

The issues of 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.*[11]

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

The following three recommendations reiterate Research Australia's position outlined in our Pre-Budget submission in December 2016.

In the short term, Research Australia submits that MRFF funding to universities needs to be treated as Category 1 income, the same as NHMRC and ARC competitive grant funding, and the pool of funding for the Research Support Program needs to be increased proportionately in the 2018/19 Budget.

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.**

R&D Tax Incentive

Research Australia is aware that the Government has yet to respond to the report into the review of the R&D tax Incentive.

The ABS recently 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).[12] It is now 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.[13]

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.

In the interim the Government should continue with measures to improve compliance with the existing scheme, including the initiative announced by the Minster for Industry, Innovation and Science in mid August, for the Department to co-design guidance for specific industry sectors. Other measures to improve compliance with the existing scheme could also be continued and extended.

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, Senator the Hon Simon Birmingham and the

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

[13] Australian Government, Dept. of Industry, Science and Innovation, SRI Budget Tables 2016-17, R&D, lines 296 and 297

Minister for Industry, Innovation and Science, Senator the Hon Arthur Sinodinos AO 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.[14]

No further public statements have been made in relation to the Research Infrastructure Investment Plan, and there has been no indication yet about the timing or scale of the Plan, which needs to include not only a capital spending program but make provision for whole of life cycle operating costs for all existing and new research infrastructure, and decommissioning costs where necessary.

The research sector participated actively in the development of the National Research Infrastructure Roadmap and welcomed its release. We are now looking for certainty for the future of Australian research infrastructure, which can only be provided with the implementation of the Roadmap and the accompanying Research Infrastructure Investment Plan.

Research Australia urges the Government to commit funding in the 2018/19 Budget to the Research Infrastructure Investment Plan.

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.

Research Australia urges the Government to release the National Innovation Strategy, developed by Innovation and Science Australia at the request of the Government, as soon as possible. Similarly, w e urge the Government to respond to the Strategy as a matter of priority and to fund the Strategy's implementation, commencing with the 2018/19 Budget.

[14] '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*

Making public data available

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 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 Productivity Commission Inquiry in to the Availability and Use of Public Data. The importance of data is also recognised by the current consultations on the Digital Economy Strategy.

Productivity Commission Report: Data Availability and Use

The Government has yet to release its response to the Productivity Commission's Report on Data Availability and Use. Research Australia is supportive of the Report's recommendations and urges the Government to implement them. In the absence of the Government's response to the Report it is difficult to make specific submissions in relation to the Budget. However, it is clear that building the Government's capacity to utilise data and make it available is essential.

The Government should use the 2018/19 Budget to invest in capacity building in Commonwealth departments and agencies to enhance their capacity to capture, manipulate and analyse data, and their capability to link data and to prepare secure, deidentified datasets for public release.

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, and this potential can be realised over the next few years as the scheme matures.

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 commenced and a framework is expected to be developed 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.[15]

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 (including to preventive health measures), and away from interventions with low or no clinical value.'[16]

[15] Productivity Commission 2017, *Data Availability and Use,* Report No. 82, Canberra Pp. 509
[16] Productivity Commission 2015, Efficiency in Health, Commission Research Paper, Canberra. p.75

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, and makes 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 2017, 93% supported the use of patients' medical records for research purposes, and 98% supported the use of this data to monitor the outbreaks of new diseases.[17]

The 2018/19 Budget should resource the System Operator of the My Health record to prepare and provide de-identified data for research and public health purposes.

Conclusion

The 2018/19 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 is how we can improve the effectiveness of our health system, constraining the rise in health costs that accompanies an ageing population modern lifestyle factors. It is how we can create vibrant new pharmaceutical, medical device and biotechnology sectors that can then provide skilled employment.

Not all research is the same, and the balance between need, capacity and opportunity varies. In basic research, where potential applications are difficult to identify, we must be guided primarily by excellence. As research progresses towards the patient, need and opportunity become relatively more important. The returns will only materialise if we invest in the translation of research into reality; implementing research into practice and the commercial development of new therapies, products and devices.

The pathway to success is clear; the Government has been provided with the ideas, the strategy and direction. What is now required is the commitment to implementation, and the investment to bring it to fruition.

[17] Research Australia, Australia Speaks! Research Australia Opinion Polling 2017

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