

## SUBMISSION

# INQUIRY INTO FUNDING AUSTRALIA'S RESEARCH SYSTEM

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## About AAMRI

The Association of Australian Medical Research Institutes (AAMRI) is the peak body for medical research institutes across Australia. Our 49 member organisations work on a broad spectrum of human health issues such as preventive health, chronic disease, mental health, immunology and Indigenous health. Their research ranges from fundamental biomedical discovery through to clinical research and the translation of research findings from bench to bedside.

AAMRI's members and their 19,000 staff and research students undertake over one-third of all government funded medical research. Their combined revenue exceeds \$1.65 billion per annum, and they received over \$622 million in competitive grant funding in 2016. With over 900 active clinical trials and over 100 new patents awarded per year, our members have a firm focus on improving health outcomes and delivering great commercial returns for the nation.

**AAMRI welcomes the opportunity to put forward a submission to the House of Representatives Standing Committee on Employment, Education and Training for their *Inquiry into Funding Australia's Research*.**

We would be pleased to provide any further information about the points made in our submission, and we would welcome the opportunity to appear before the Committee to answer any questions that members might have.

We have divided our submission into **two parts**:

**Part one (sections 1–3)** outlines the multiple issues that need to be addressed with respect to how systemic costs of research are supported, and

**Part two (sections 4–6)** looks at how we can get the most from our research investment through fair and competitive processes. It specifically looks at the lost opportunities being caused by illogical program rules within the Australian Research Council and Cooperative Research Centre programs, as well as the **importance of competition and expert reviews within the research funding process**.

## Executive summary

### The funding system for the systemic costs of research is inefficient, inequitable and burdened with red tape

- Different levels of financial support are provided for systemic costs of research, which are not based on need or costs incurred, but based on the type of organisation undertaking the research.

#### Recommendation

1. The level of support provided for systemic costs of research should be the same irrespective whether a university, hospital or medical research institute is undertaking the research.
2. Funding for systemic costs of research should be pooled and allocated by one central government agency across all research disciplines, schemes and organisation types to ensure a consistent and streamlined approach.

### Insufficient levels of funding are provided for systemic costs of research

- Inadequate financial support for systemic costs of research creates a perverse system which effectively punishes excellence as the more successful a research organisation is at receiving competitive peer reviewed grants, the greater the financial gap they must bridge each year.

#### Recommendation

3. Adequate support must be provided for systemic costs of research as well as the direct costs of research. This should be achieved by increasing the quantum of funding available for systemic costs of research.
4. The arbitrary \$30 million non-indexed cap on support for systemic costs of research through NHMRC IRIISS should be lifted, and the total support available through the scheme provided with inflationary increases.

### Unclear how support will be provided for MRFF systemic costs of research

- It is unclear how the additional systemic costs of research incurred in undertaking Medical Research Future Fund (MRFF) research will be supported.
- There will be a significant increase in research funding and this will require additional support for systemic costs of research.
- All research organisations face a funding blackhole unless this policy and funding issue is appropriately resolved.

#### Recommendation

5. Support for systemic costs of research associated with MRFF funded research should be provided at a level that is at least the equivalent to that provided for NHMRC funded research.

### Illogical ARC funding program rules are weakening our research effort by excluding some of Australia's top talent

- Australia's research effort is being undermined by ARC funding rules which are excluding some of Australia's top research talent.

#### Recommendation

6. Researchers at medical research institutes should be allowed to compete for ARC funding on the basis of excellence, rather than be held back by arbitrary rules.

### Industry collaboration, the commercialisation of research and improved patient outcomes are being hampered by Cooperative Research Centre program rules

- Medical research institutes are being excluded from the CRC program as the technical definition of a Publicly Funded Research Organisation does not recognise medical research institutes.

#### Recommendation

7. An administrative change to the CRC Program rules should be made to allow medical research institutes to be recognised as an eligible publicly funded research organisation.

### Competition and the use of expert reviews must continue to be used to ensure best value from our research investment

- It is competition that makes the Australian research system strong, internationally competitive and ensures research funding delivers maximum returns.

#### Recommendation

8. Expert review processes should continue to be used to inform research funding decisions within the ARC and NHMRC programs.
9. Appropriate competitive processes that utilise expert review mechanisms should be used to guide research funding decisions within the MRFF.

## PART ONE

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### Funding for the systemic costs of research

#### 1 Funding systems for the systemic costs of research - inefficient, inequitable and burdened with red tape

##### 1.1 Issue

**Australian Government funding for the systemic costs of research is inefficient, inequitable and burdened with red tape.** Depending on what type of research organisation is awarded Commonwealth funded research grants different systems and methodologies are used to calculate levels of support for systemic costs of research (otherwise known as indirect costs of research). The result of this complex system is that different research organisations receive different levels of support for the systemic costs of research (hospitals undertaking research have no support available). The current approach is not only unfair, **its complexity wastes precious funding that could be used for research** and leads to perverse incentives for research organisations to funnel their research grants through other organisations, thereby allowing them to receive a better level of support.

Notably, guidance from this Committee states this inquiry will not revisit issues that have been examined by previous recent reviews. With respect to funding for systemic costs of research,<sup>i</sup> Revisiting issues covered by previous inquiries is not what is needed, but what does need to be addressed is why little so action has been taken to act on the findings of past reviews. Over the last 20 years there has been the Wills Review 1998, the Grant Review 2004, the Bradley Review 2008, the Cutler Review 2008, the Bennett Report 2009, the National Commission of Audit 2013, the McKeon Review 2013, and the Samuel Review 2015. This Committee does not need to repeat these exercises, but instead could consider why responses have only tinkered around the edges and have not dealt with the inequity, complexity and inefficiency within the system.

Most recently in 2015, the Watt review concluded:

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*“Given the inconsistencies, the Department of Education and Training and the Department of Health should work to resolve the current complex and seemingly inequitable indirect costs support arrangements to determine how to achieve a level playing field for researchers that is independent of their host institution”.<sup>ii</sup>*

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*Watt Review (2015)*

Since the review was published in 2015 there has been no substantive work undertaken to act on this finding. Similarly, the Samuel review into independent medical research institutes undertaken in 2013 concluded that that the issue of inconsistent funding of

systemic costs of research warrants further exploration by the Commonwealth in conjunction with the States and Territories. To date, no such work has taken place.

This issue is a policy issue and requires a policy solution, but for too long it has been put in the too hard basket.

1.2 Background

1.2.1 Research organisations undertaking medical research

The federally funded medical research sector consists of three major players: medical research institutes, hospitals and universities. Medical research institutes receive around 38 per cent of National Health and Medical Research Council (NHMRC) funding, and a significant proportion of other domestic and international competitive grants.

1.2.2 Understanding the difference between research costs and the systemic costs of research

Competitive research grants awarded by the NHMRC, the ARC and other Commonwealth agencies<sup>iii</sup> to medical research institutes, universities and hospitals only cover the ‘direct costs’ of carrying out an individual research project. For example, they cover partial salary support for research staff and the costs of materials to carry out experiments. **Grant funding rules specifically exclude the use of grants to fund overhead costs institutions incur in providing the platform technology and services essential for delivering the program of research.** For example, essential services not covered by Commonwealth-funded grants include IP protection and development, research ethics approval process costs, animal research regulation compliance costs, laboratory equipment, insurance, security, health and safety compliance, electricity and other utilities, IT services and data management, building maintenance, human resources and finance.

These costs are referred to as systemic costs of research (or indirect costs) and are estimated both in Australia and internationally to be between 53 and 60 cents per dollar of research expenditure.<sup>iv</sup> As can be seen in Figure 1, AAMRI’s most recent comprehensive survey of its members found the cost in medical research institutes to be 54 cents per dollar of research expenditure.

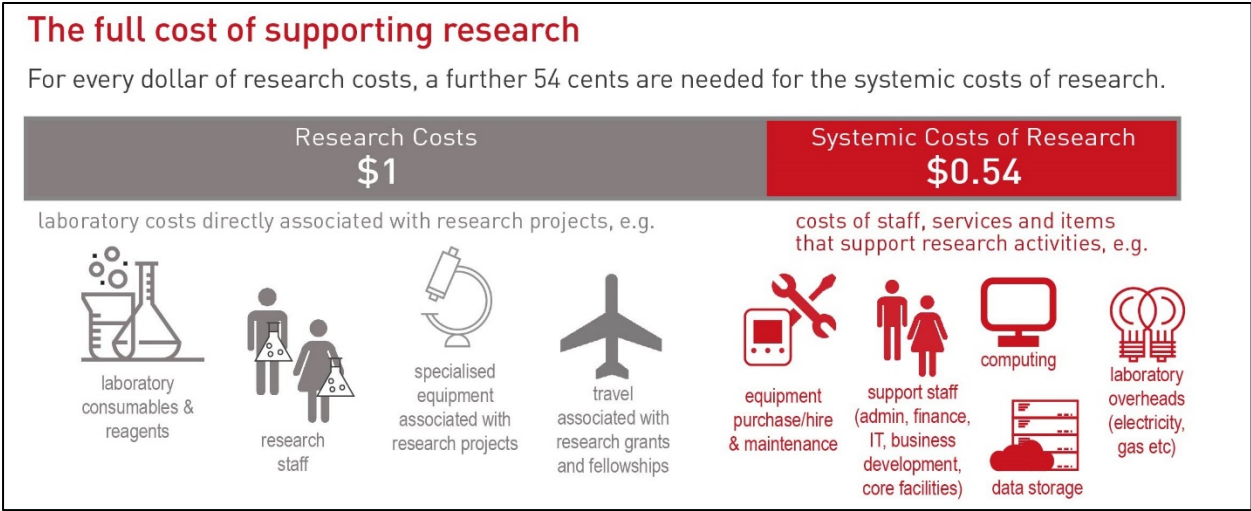


Figure 1 The full cost of supporting research – the systemic costs of research needed to support expenditure on research activities. Source: 2018 AAMRI Member Survey

These systemic costs of research are (partially) funded through a range of programs spread across the Department of Education and the NHMRC, and in some cases, state governments. Depending on the type of institution (i.e. university, medical research institute or hospital) that hosts the research grant, the institution will receive funding for the systemic costs of research at a different rate and from a different range of schemes. This means that for exactly the same grant different levels of support are provided for systemic costs of research to different types of research organisation. For example, a \$1 million NHMRC Project Grant should attract \$200,000 of support from NHMRC IRIISS if the grant is hosted by an MRI. In a university it would attract around \$250,000 of support from Department of Education Research Support Program. In a hospital the grant would attract no support for systemic costs of research.

Each of the financial support schemes intended to cover systemic costs of research has a different funding formula, with different rules, and are administered by different government departments. Figure 2 provides an overview of the different systemic research cost schemes and how they relate to different research organisations and funding agencies.

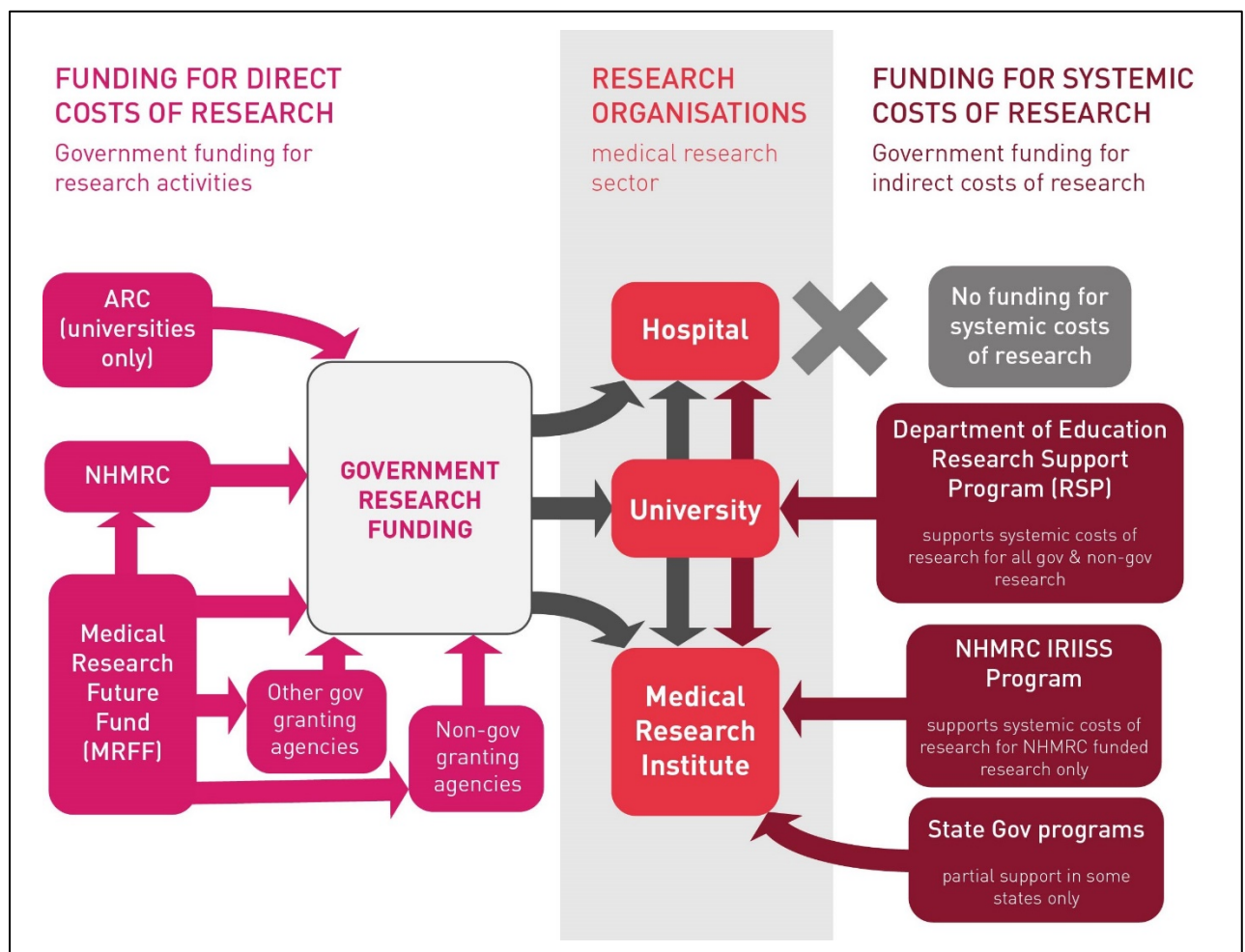


Figure 2. The flow of funding through Australia's complex research funding system. (gov, government; ARC, Australian Research Council; NHMRC, National Health and Medical Research Council; IRIISS, Independent Research Institute Infrastructure Support Scheme)



## Notes on Figure 2

**Hospitals** are not eligible for any funding schemes for systemic costs of research related to competitive research grants.

**Medical research institutes** receive funding for the systemic costs of research at a rate of 20 cents per dollar of NHMRC competitive funding received – although in 2015 and 2016 the funding rate dropped to 19 and 18 cents respectively because of competing funding priorities at the NHMRC. No funding is provided by the Commonwealth Government for the systemic costs of research associated with other Australian Competitive Grants or competitive grants from other sources. Selected state governments provide various levels of support for the systemic costs of research associated with Commonwealth and other competitive grants. **Across all funding programs and for all research undertaken, medical research institutes receive 23 cents per dollar of research expenditure for systemic costs of research, which equates to 19 cents per dollar of research income (see Appendix A).**<sup>v</sup> As the rate of support for medical research institutes is so low and increasingly unpredictable some institutes have chosen to have their grants 'administered' by universities in return for receiving funding support for the systemic costs of research from universities and their share of the Research Support Program (RSP).

**Universities** are eligible for funding to cover systemic costs of research through the RSP administered by the Department of Education. The RSP provides funding for the systemic costs of research related to all Australian Competitive Grants universities receive as well as funding they attract from other sources. **Universities receive around 25 cents per dollar of research income for systemic costs of research.**<sup>ii</sup>

### 1.2.3 Unnecessary complexity – two different systems of support for systemic costs of research in medical research institutes

As outlined in the notes to Figure 2, medical research institutes can receive support for the systemic costs of research through either the NHMRC Independent Research Institute Infrastructure Support Scheme (IRIISS) or from the Department of Education Research Support Scheme via an affiliated university. Institutes must evaluate which system would provide the optimal economic support, and where necessary negotiate a support arrangement with a university.<sup>vi</sup> This is unnecessarily complex, and one system of support would be preferable.

When such arrangements are in place the medical research institute agrees to formally put the name of the administering institute of the grant in the name of the university. This allows the university to count the medical research institute grant income as university research income for the purposes of calculating how much support they are eligible to receive from the Department of Education research block grants (both RSP for systemic costs of research and RTP for research training). The university then passes on a portion of the relevant attributable systemic cost of research funding they receive for the medical research institute grants.

It is advantageous for universities to enter into partnership arrangements with medical research institutes. This funding, as well as research publications that medical research



institutes also attribute to universities, helps universities achieve higher places in world rankings, with such rankings being a key driver of international student recruitment.

### 1.3 Impact

#### 1.3.1 Administrative burden

**The Government is burdened with administering two complex and inefficient funding schemes for systemic costs of research, each with a different and complicated funding formula, and requiring substantial reporting requirements.** Having two systems effectively duplicates the administrative work involved in managing the distribution of systemic costs of research. This is a waste of funding that could be better used to support research.

#### 1.3.2 Reduced productivity of the research sector

**Medical research institutes are burdened with trying to navigate to their best financial advantage a complicated mix of inefficient and unnecessarily restrictive funding schemes for systemic costs of research.** They must frequently reassess whether to use the NHMRC IRIISS option for systemic costs of research or strike a deal with a university to have them administer their grants. When they choose the latter approach, they must spend considerable resources negotiating a satisfactory deal with a university.

#### 1.3.3 Undervaluing and underreporting the contribution of medical research institutes

**The strong research output of medical research institutes is less visible within a funding system where institutes have to remove their name from their grants and put that of a university in its place to help them achieve a better level of support for the systemic costs of research.** In the current system, success rates of institutes within grant programs cannot be easily tracked and the contribution of research organisations in the sector is not properly understood by government reporting mechanisms. For example, the NHMRC publishes the proportion of funding given to universities, medical research institutes and hospitals, but these figures only relate to the administering institute of the grant, and not the institute undertaking the research. As success in competitive funding schemes is directly linked to successful research outputs and research excellence of the organisation, this lack of visibility masks the true contribution of medical research institutes to medical research. This can be confusing for potential donors and result in lost philanthropic donations, a significant source of research funding at medical research institutes.

#### 1.3.4 Hampering innovative research within our hospitals

**Research is being driven out of our hospitals because no systemic research cost funding is available to hospitals for Commonwealth Government research grants.** This acts as a severe disincentive for hospitals to be involved in research and restricts patient access to new innovative treatment options through clinical trials, registries and other studies. This problem was acknowledged in the McKeon review which found that “hospitals will have a major disincentive to win research projects, particularly those facing cost pressures...”<sup>vii</sup>

## Recommendation

1. The level of support provided for systemic costs of research should be the same irrespective whether a university, hospital or medical research institute is undertaking the research.
2. Funding for systemic costs of research should be pooled and allocated by one central government agency across all research disciplines, schemes and organisation types to ensure a consistent, efficient and streamlined approach.

## 2 Insufficient levels of funding for systemic costs of research

### 2.1 Issue

The level of financial support provided for systemic costs of research is inadequate and falls short of the level of support provided by other comparable research nations (See Appendix B). The gap between support provided for systemic costs of research and the costs incurred leaves research organisations with a financial black hole and hampers our international competitiveness. **This creates a perverse system which effectively punishes excellence as the more successful a research organisation is at receiving competitive peer reviewed grants, the greater the gap they must bridge each year.**

### 2.2 Background

#### 2.2.1 Gap between support provided for the systemic costs of research and the costs incurred in supporting research

Funding the gap between support provided for the systemic costs of research and the actual costs incurred is financially challenging, and the more successful an institute is within competitive grant rounds, the greater the challenge. As shown in Figure 3 the costs incurred for the medical research institute sector alone are substantial at \$430 million per year, and government support (Commonwealth and State) is currently only covering \$187 million (43%) of the costs incurred. This substantial gap of \$243 million each year must be met from three main funding sources: philanthropy, commercial income (such as from licencing, royalties and industry-research partnerships) and spending down reserves.

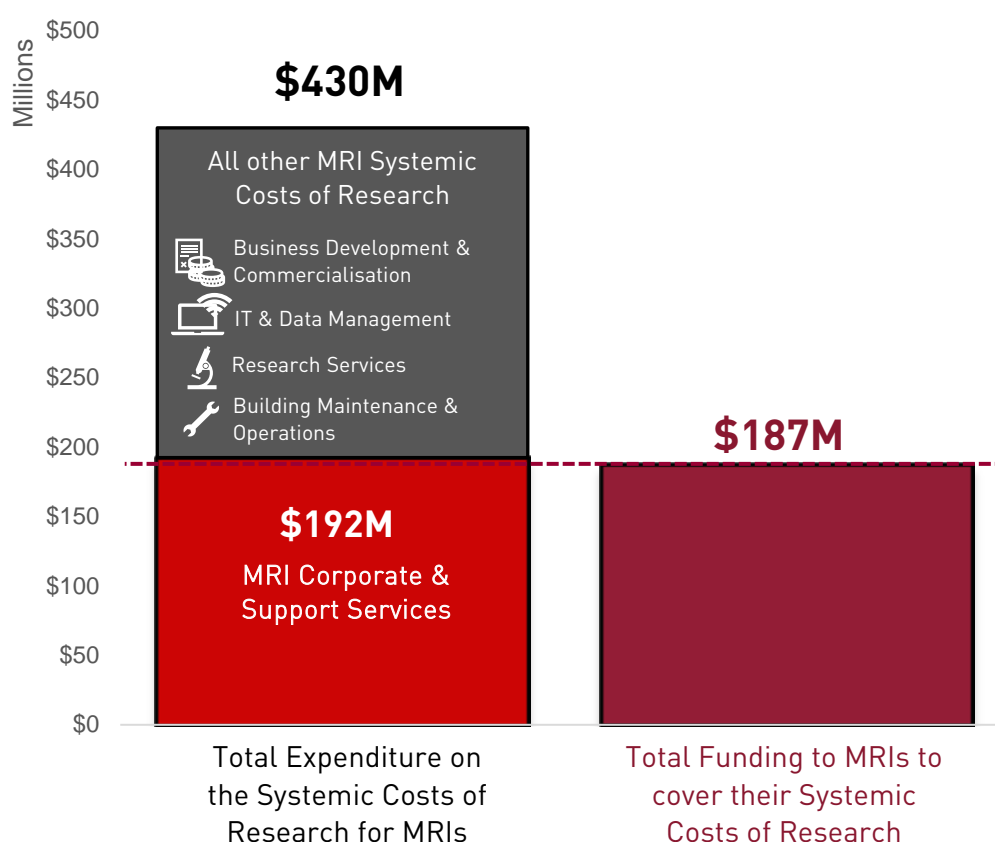


Figure 3. Total medical research institute expenditure and funding support for systemic costs of research – Source: 2018 AAMRI Member Survey.

The \$430 million of systemic costs of research incurred in undertaking research in 2016 at medical research institutes amounted to 54 cents per dollar spent on research activities, which is consistent with a previous study in 2010 which estimated costs to be 60 cents per research dollar<sup>viii</sup>. The total level of government support provided to medical research institutes equates to just 23 cents per dollar of research expenditure, of which just 10 cents is provided by the federal Government (see Figure 4).

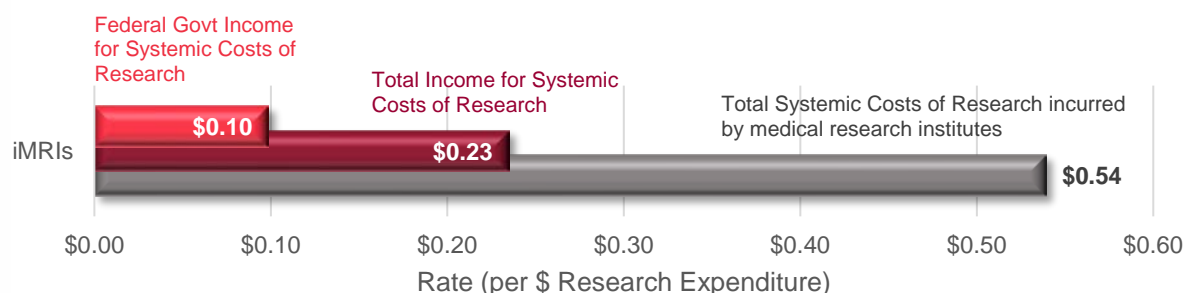


Figure 4. Financial support for systemic costs of research per dollar of research expenditure

For every research grant a medical research institutes receives this financial gap must be bridged, effectively meaning the more successful an institute is at receiving competitive funding, the more difficult financial position it can find itself in.

The use of reserves and drawing on legacy endowments to cover systemic costs of research has been a reluctant but necessary way to cover funding blackholes. Funding for systemic costs of research has never covered the whole cost incurred and has not kept pace with the increasing costs of supporting research. For example, analysis undertaken for AAMRI has shown that data storage requirements are growing by between 20% and 50% per annum in medical research institutes, leading to increased data storage costs. Other examples where costs are increasing are compliance with new legislation and regulations (for example data protection), utilities, and staff on-costs.

Medical research institutes have been forced to dip into their reserves and draw on endowments, which provides only a short-term fix and is not sustainable over the long-term.

## 2.2.2 Declining and unpredictable support for systemic costs of research through NHMRC IRIISS

Every year the research block grants provided by the Department of Education (including the Research Support Program) receive an inflationary increase to assist universities meet the inflationary increases associated with systemic costs of research. Since its inception in 2004 no such corresponding inflationary increase is provided through NHMRC IRIISS, the scheme that provides support for medical research institutes to meet systemic costs of research. The pool of funding available through this scheme is now arbitrarily capped at \$30 million.

This pool of funding is now an unreliable source of funding for systemic costs of research, and in recent times has not met its stated policy objective of providing 20 cents per dollar of NHMRC competitive research income. In 2015 IRIISS provided just 19 cents per dollar of NHMRC research income, and in 2016 it fell further to 18 cents.

## 2.3 Impact

### 2.3.1 Punishing success

As government funding for the systemic costs of research falls short of the costs incurred this means that medical research institutes and other research organisations must fund the gap from other sources. **Effectively this means the more successful each research organisation is each year the greater the funding gap they face.** This is a problematic policy outcome as it discourages success, and financially punishes excellence.

The McKeon review highlighted its concern about this specific issue in 2013 stating that:

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*“Winning competitive grants will create budget problems for the most successful MRIs and, until indirect costs are fully covered, for the universities.”*

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*McKeon Review (2013, p.98)<sup>vii</sup>*

### 2.3.2 Hampering philanthropy

Covering the systemic research cost funding gap has forced institutes to turn towards philanthropy. Institutes have been successful at growing their philanthropic income, growing it by 60% between 2012 and 2016. It will be difficult for institutes to grow this much further unless they could ensure this funding was being put towards new research projects rather than covering the systemic costs of research associated with government research grants.

The philanthropic landscape is changing, and wealthy donors are becoming more sophisticated about their giving. These donors are interested in their donations making a real tangible difference that they can see. Within medical research this can mean donating to specific research projects. These donors are less interested in making untied donations, and understandably are not particularly interested in making donations to cover systemic costs of research. Having to use philanthropic donations to fund systemic costs of research puts the medical research institute sector at a disadvantage within the broader fund-raising landscape.

### 2.3.3 Lower commercialisation of research outcomes

Efforts in support of the Government’s policy to increase the commercial outcomes of research are being thwarted by inadequate levels of support for systemic costs of research. The National Innovation and Science Agenda has set out a plan for Australia to utilise its innovation, science and research as the source of growth for new economic prosperity<sup>ix</sup>. One of the Agenda’s four pillars is for increased collaboration between researchers and industry, as well as increasing commercial returns from our national research investment.

Medical research institutes are extremely successful at commercialising research and have delivered repeated commercial success from their discoveries. In 2016 alone, medical

research institutes received \$230 million in commercial revenue, \$31 million from licencing their research intellectual property and were engaged in over 400 clinical trials through industry collaboration. This level of commercialisation could be significantly higher with the right investment.

Commercialising research requires investment in an appropriately resourced business development office. The costs of running such an office are not covered by research grants and must be found from funding for the systemic costs of research. As most other systemic costs of research are unavoidable – utilities, salary payments, IT equipment – any cost that is seen as discretionary is lower priority for investment (see Figure 1 for an overview of the differences between research costs and systemic costs of research). The result is that inadequate investments are made in business development as no further funds can be found. Both the research organisation and the nation then miss out on the economic and health benefits that accrue from the translation of research into new treatments, drugs and medical devices.

### **Recommendation**

3. Adequate support must be provided for systemic costs of research as well as the direct costs of research. This should be achieved by increasing the quantum of funding available for systemic costs of research.
4. The arbitrary \$30 million non-indexed cap on support for systemic costs of research through NHMRC IRIISS should be lifted, and the total support available through the scheme provided with inflationary increases.

### 3 Unclear how support will be provided for MRFF systemic costs of research

#### 3.1 Issue

It is unclear how the additional systemic costs of research incurred in undertaking Medical Research Future Fund (MRFF) research will be supported. There will be a significant increase in research funding and this will require additional support for systemic costs of research. All research organisations face a funding blackhole unless this policy and funding issue is appropriately resolved.

#### 3.2 Background

The \$20 billion MRFF is a new sovereign wealth fund that has been established to expand Australia's capacity to undertake additional medical research, and then translate this into improved patient outcomes and increased commercialisation gains. Over the forward estimate period the MRFF will deliver close to \$2 billion in new medical research funding<sup>x</sup>. Once fully established the fund will provide around \$1 billion in additional funding, approximately doubling the Australian Government's annual investment in medical research, a move that is fully supported and welcomed by the medical research community.

The Medical Research Future Fund will significantly increase direct government support for research projects and this will lead to improved health outcomes. **However, with some research funding rounds now being open and significant research funding announcements made in the Budget, there is very little detail available as to how the systemic costs of research associated with MRFF funded projects will be covered.** So far, the only indication that support might be provided is through a non-committal paragraph within the MRFF project guidelines:

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*"The Department may, at its sole discretion, provide infrastructure support to Administering Institutions that are also NHMRC-approved independent medical research institutes (IMRIs). This support will contribute to infrastructure costs associated with the competitively awarded MRFF research grants managed by NHMRC-approved IMRIs. This support is similar to that provided to NHMRC-approved IMRIs under the Independent Research Institute Infrastructure Support Scheme (IRIISS)."*<sup>xi</sup>

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#### 3.3 Impact

Medical research institutes have a strong track record of research success and receive around 38% of all NHMRC research funding. As they work on the full pipeline of research and have a strong focus on improving patient outcomes it is anticipated they will be equally successful in receiving MRFF funding to undertake projects in the national interest. However, increased success in receiving research funding presents new challenges in terms of meeting the additional funding needed for the associated systemic costs of research.

On average, and through all programs, medical research institutes currently receive about 23 cents support for systemic costs of research per research dollar expended. **Without**



additional funding being provided for the systemic costs of research incurred through undertaking MRFF funded projects research institutes would be facing an effective cut in the level of support they receive. For medical research institutes this could see support dropping from 23 cents to as low as 15 cents by 2020-21 (see Figure 5 and Appendix C). Already inadequate levels of support will be stretched further impacting on each research organisation's ability to adequately support research.

While the example given in Figure 5 represents the impact on medical research institutes, this issue will also affect universities and hospitals.

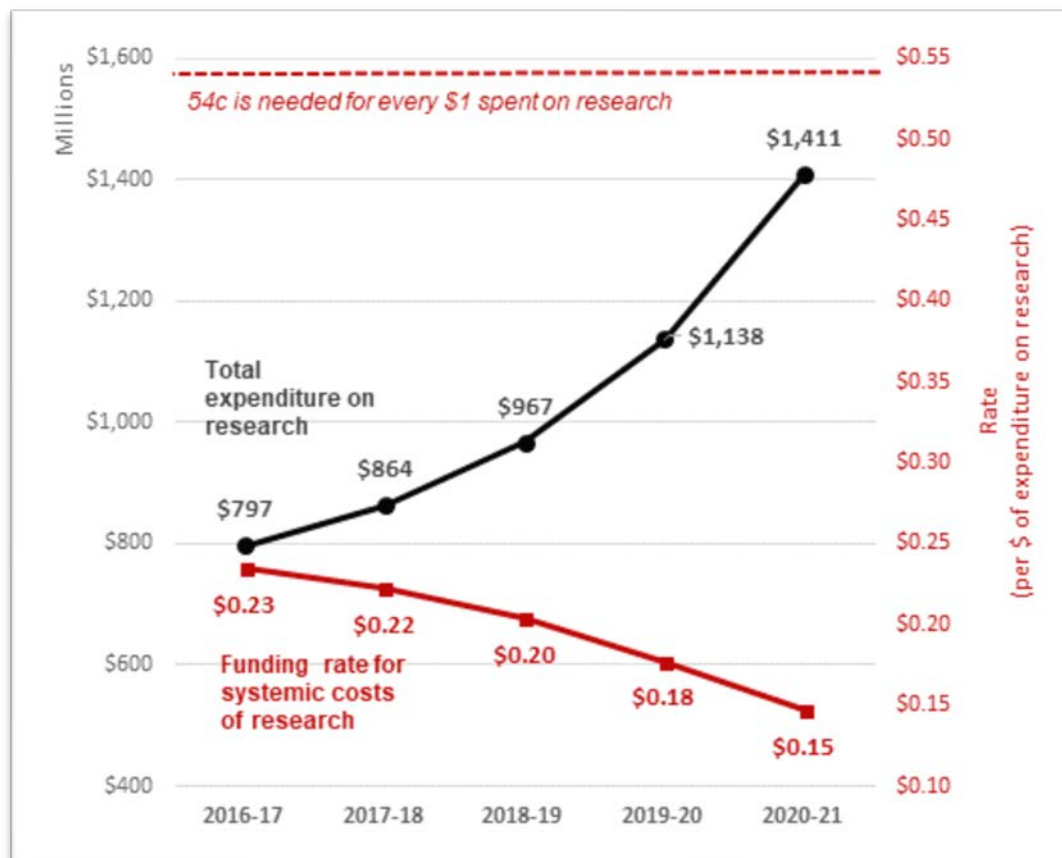


Figure 5 Impact of the MRFF on the funding rate for systemic costs of research at medical research institutes. See Appendix C for details on how these projections were calculated.

## Recommendation

- Support for systemic costs of research associated with MRFF funded research should be provided at a level that is at least the equivalent to that provided for NHMRC funded research.

## PART TWO

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### Ensuring maximum impact and value for money by identifying and funding research excellence

To ensure that the Government investment in medical research achieves maximum impact and the best health outcomes, the highest quality research needs to be funded at all stages of the research and innovation pipeline – from discovery research in the laboratory to commercialising and translating research into real world health outcomes.

Ensuring that the highest quality research is funded is only possible when the research funding system is open and competitive. The highest quality research is done by the highest calibre researchers, so Australia's top medical researchers need to be able to access and apply to the appropriate funding scheme for the type of research they are proposing, regardless of whether their research is conducted at a university, hospital or medical research institute. Decisions about which research proposals are funded should involve rigorous, competitive funding process assessed by expert reviews.

#### 4 Illogical ARC funding program rules are weakening our research effort by excluding some of Australia's top talent

##### 4.1 Issue

Australia's research effort is being undermined by ARC funding rules which are excluding some of Australia's top research talent. This is occurring as eligibility for ARC grants is now being determined not on the basis of the type of research being funded, but on the type of research organisation employing the Chief Investigator and administering the grant.

**Government research funding should be invested on the basis of quality, and not on the basis of arbitrary rules that prioritise one sector over another.**

##### 4.2 Background

The funding rules for ARC programs only permit Higher Education institutions to host ARC funded projects<sup>xii</sup>, and this restriction is excluding some of Australia's best researchers within medical research institutes from undertaking world class science that is in the national interest.

Australia's research council funding system serves the nation well, with the NHMRC responsible for health and medical research, and the ARC responsible for all other areas of research. However, there are increasingly many areas of research that intersect with both ARC and NHMRC responsibilities.

There is also an increased need to undertake multi-disciplinary research to respond to grand research challenges. The ARC recognises this issue with its Medical Research Policy statement and provides clear advice on the areas of research the ARC will support, such as bioengineering, the natural sciences, and observational research.<sup>xiii</sup>

This policy allows university based medical research institutes, departments or schools to host ARC funded research, and there are many examples where this is the case.

Unfortunately, the exclusion of medical research institutes within the ARC funding rules prevents many of Australia's most exceptional researchers from pursuing research opportunities that fall within the ARC's area of funding responsibility.

**There are medical researchers at universities who hold both ARC and NHMRC grants concurrently in the following areas: immunology, reproductive biology, neuroscience, vascular biology, genomics, stem cell research, and public health research.**

**Researchers at medical research institutes are unable to do this just because they have chosen to work at a medical research institute rather than a university.**

This outcome is making medical research institutes less competitive in a very competitive environment. This has led to researchers either abandoning or not participating in ARC funded projects or has forced some institutes and researchers to enter into convoluted employment arrangements whereby researchers are seconded to universities to allow them to work on ARC funded projects.

### 4.3 Impact

Our national research effort is undermined when we effectively exclude some of the world's best researchers from Australian Research Council programs. Progress in fields such as immunology, reproductive biology, neuroscience, vascular biology, genomics and stem cell research will inevitably be slower and multi-disciplinary collaborations will be harder to pursue.

### Recommendation

AAMRI is not seeking any change in policy to the types of research funded by the ARC. However, it is seeking to widen the current restriction that only permits Higher Education institutions from hosting ARC grants.

6. Researchers at medical research institutes should be allowed to compete for ARC funding on the basis of excellence, rather than be held back by arbitrary rules.

## 5 Industry collaboration, the commercialisation of research and improved patient outcomes are being hampered by Cooperative Research Centre program rules

### 5.1 Issue

An administrative anomaly within the Cooperative Research Centre Program (CRC) rules is preventing MRIs from collaborating with industry partners on projects in the national interest. Medical research institutes are being inadvertently excluded from the CRC program as the funding rules are not recognising them as a publicly funded research organisation. There is a lack of coherency in these rules as MRIs are publicly funded and undertake research. The result is that many collaborative projects between researchers and industry cannot proceed, meaning that the substantial economic and health benefits that flow from collaboration are not being realised.

### 5.2 Background

The CRC program provides opportunities to support industry-led and outcome-focused collaborative research partnerships between industry, researchers and the community. Since the program's inception medical research institutes have been members of some of the most successful CRC partnerships (for example the Cell Therapy Manufacturing CRC, Hearing CRC, Vision CRC, Autism CRC, Mental Health CRC, Lowitja Institute CRC, and the Cancer Therapeutics CRC). Fifteen of AAMRI's members are currently involved in seven CRCs.

The rules state that for a CRC or CRC-P bid to be considered it must include at least one Research Organisation among its participants.<sup>xiv</sup>

The definition of a Research Organisation within the program rules is stated as a "*Publicly Funded Research Organisation*". Unhelpfully, the following definition is used to define a Publicly Funded Research Organisation:

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*"Publicly Funded Research Organisation means all higher education providers listed at Table A and Table B of the Higher Education Support Act 2003 as well as Federal, State and Territory Government departments or agencies which undertake publicly funded research. This includes, but is not limited to, Commonwealth Scientific and Industrial Research Organisation, Defence Science and Technology Organisation, Australian Institute of Marine Science and Australian Nuclear Science and Technology Organisation."*<sup>xiv</sup>

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This definition does not include medical research institutes – despite them being both publicly funded and a research organisation. Queries to the Department of Industry, Innovation and Science have not provided any reassurance or clarity on this matter. This definition is contrary to that used for most other government funding programs and makes no policy sense, and effectively locks-out one-third of Australia's medical research capacity from participating in the CRC programme.

The only way medical research institutes can develop a CRC or CRC-P bid is by enlisting onto the project application a university, government department, or government agency. While on many occasions this would not be an issue, there have been multiple occasions over the last year where a medical research institute or consortium of medical research institutes have wanted to develop an application with commercial and community partners without partnering with a university, government department, or government agency.

This issue is particularly relevant given the successful launch of the new CRC-P stream. These smaller projects are ideally suited to medical research institutes and would provide excellent opportunities to work with industry to develop new technologies, products and services.

### 5.3 Impact

This policy anomaly is getting in the way of industry collaboration and thereby preventing commercial and health benefits of research from being realised. There have been multiple occasions where a medical research institute has wanted to pursue a CRC-P application with an industry partner, only having to abandon this because of uncertainty over eligibility for the program.

This administrative barrier is preventing research-industry collaborations which is contrary to the government's commitments to increase the commercialisation of research, as articulated in the *National Innovation and Science Agenda*, and the recently announce *National Health and Medical Industry Growth Plan*. The impact will be evident in the applied areas of research such as commercialisation and translation, resulting in reduced economic and health gains.

### Recommendation

7. An administrative change to the CRC Program rules should be made to allow medical research institutes to be recognised as an eligible publicly funded research organisation.

## 6 Competition and the use of expert reviews must continue to be used to ensure best value from our research investment

### 6.1 Issue

Competitive grant programs involving rigorous expert review processes used to make research investment decisions (such as those used by the ARC and NHMRC) are at the heart of ensuring maximum value for money from our research investment, as well as maintaining research excellence. Sometimes these processes can be unfairly criticised for the time they take to complete and for the resources they require. It is competition that makes the Australian research system strong, internationally competitive and ensures research funding is invested well. **As important new funding programs are set to be developed with funding from the MRFF, it is essential to ensure that where appropriate these programs also deliver on their full potential by making use of competitive processes and independent expert reviews.**

### 6.2 Background

Achieving maximum returns from our investment in research requires our investment to be made in only the very best and most promising research projects. It can be tempting to bypass competitive processes and award funding through a “captain’s pick” to popular projects whose proponents promise will deliver great returns. However, the most effective approach is to award funding to proposals that have been reviewed by experts. Experts in the area of the proposed research are best placed to see through hype and bluster and identify which research has potential for delivering high quality and impactful outcomes. The ARC and the NHMRC both have rigorous expert review processes to award research funding.

The major criticism of established expert review in competitive grant processes is the considerable amount of researchers’ time that is taken to develop and review research proposals. The whole process takes around takes about nine months from start to end and only about one in five proposals are successful. For the remaining 80% of proposals that are not funded, the preparation and review time can, unfairly, be seen as a waste of resources.

Responding to these pressures the NHMRC has undertaken a comprehensive review of its grant application and review processes used to award research funding. While expert review continues to be at the heart of the new application and review processes, reducing the time burden for applicants and reviewers has been a strong focus. **The restructured NHMRC grant program commencing in 2019 presents an excellent opportunity to learn how to improve processes in other granting programs.**

### 6.3 Impact

**The expert review process is still the best way to award research funding: it leads to research that delivers more patents and more highly cited papers, two key metrics of research impact.<sup>xv</sup>** The resources used in expert review processes are relatively small compared to the amount of wasted resources that would result if a rigorous process was not in place. The ARC and NHMRC processes are used to determine how to invest a significant sum of research funding, nearly \$1.35 billion annually.<sup>xvi</sup> Ensuring research investment is only made in high quality projects will keep the research system strong, and competitive

processes such as those used by the ARC and NHMRC should continue to be used. For the new MRFF appropriate competitive expert review processes will also need to be developed.

The MRFF provides an opportunity to make strategic research funding interventions that will help use research to tackle disease burden. It provides a new opportunity to supplement the largely investigator led NHMRC funded research through large mission driven strategic research programs. How funding decisions will be made from the MRFF for specific projects is still being determined for many schemes, and different processes will likely be used for different programs. As far as possible, competitive processes that utilise expert reviews should guide MRFF funding decisions, and it is good to see that NHMRC processes have already been utilised for some MRFF schemes.

The processes that will be most appropriate for MRFF funding programs will not necessarily be identical to the expert review processes used by the ARC or NHMRC, but they should be competitive, informed by independent external experts, and fund research on the basis of excellence and its potential impact.

### **Recommendation**

8. Expert review processes should continue to be used to inform research funding decisions within the ARC and NHMRC programs.
9. Appropriate competitive processes that utilise expert review mechanisms should be used to guide research funding decisions within the MRFF.



## 7 Appendix A – Calculating the funding rate for systemic costs of research received by medical research institutes (relative to research income)

Medical research institutes received funding for the systemic costs of research at a rate of 19c for every \$1 research income in 2016.

The rate of funding for the systemic costs of research per dollar of research income is calculated as follows:

$$\text{Funding rate for systemic costs of research at medical research institutes} = \frac{\text{total funding received for systemic costs of research}}{\text{total research income}}$$

As data on research income for medical research institutes was not available, this amount was estimated based on available data (2016) as follows:

$$\text{Research Income for medical research institutes} = \left[ \text{Income without restrictions for direct research costs or systemic research costs} \times \text{Proportion of income that is spent on research activities} \right] + \left[ \text{Income that can only be spent on research activities} \right]$$

Source of income		Income for medical research institutes in 2016 <sup>1</sup>	Estimate of the proportion of income spent on research	Research income <sup>3</sup>
Income only for Research Activities (Direct Costs Only)	Competitive Research Grants	\$494,889,247	100%	\$600,651,923
	Non-competitive Research Grants	\$105,762,676		
Income that cannot be spent on research activities	Income for Systemic Costs of Research	\$185,583,631	0%	-
	Capital income	\$20,681,262		
Income with few or no restrictions on category of spending (research or systemic costs of research)	Commercial Income	\$229,556,844	65% <sup>2</sup>	\$401,094,525
	Fundraising & Philanthropy	\$254,556,110		
	Investment Income	\$59,270,062		
	Other revenue	\$74,302,553		
TOTAL RESEARCH INCOME				\$1,001,746,448
TOTAL FUNDING FOR SYSTEMIC COSTS OF RESEARCH <sup>1</sup>				\$187,322,586
FUNDING RATE				\$0.19

<sup>1</sup> Data collected as part of the 2018 AAMRI Survey which includes 36 institutes.

<sup>2</sup> Systemic costs of research are incurred at a rate of 54c for every \$1 spent on research, therefore, the proportion of the full costs attributable to research activities is \$1 of every \$1.54 (= 65%).

<sup>3</sup> "Research Income" excludes medical research institute income that cannot be spent on research activities such as Federal and State Government support for the systemic costs of research, non-government support for the systemic costs of research and capital income.

## 8 Appendix B – Comparison of support levels provided by other research systems

Country	Funding body	Applicant	Amount Indirect Costs Funded
Sweden	Swedish Research Council and Formas	Individual	100% of calculated indirect research costs <sup>1,2</sup>
UK	Research Councils	Individual	80% of calculated indirect research costs <sup>3</sup>
Finland	Academy of Finland and Finnish Funding Agency for Innovation	Individual	70% of calculated indirect research costs <sup>4,5</sup>
Canada	Research Support Fund	Organisation	First \$100,000 - 80% Next \$900,000 - 50% Next \$6 million - 40% Balance - % of remaining RSF <sup>6</sup>
US	US Department of Health and Human Services, Office of Naval Research	Organisation	Negotiated as a percentage of calculated indirect costs but in 2017 the funded base rate for NIH grants was 52% of the total systemic cost of research incurred <sup>7</sup>
Ireland	Health Research Board, Science Foundation Ireland and other State Bodies	Individual	\$0.30 per funded research \$1 - laboratory and clinical research \$0.25 per funded research \$1 - desk studies <sup>8,9</sup>
European Union	Horizon 2020	Individual	\$0.25 per funded research \$1 <sup>10</sup>
Germany	German Research Foundation	Individual	\$0.22 per funded research \$1 <sup>11</sup>

<sup>1</sup> <https://www.vr.se/utlysningar-och-beslut/villkor-for-bidrag/generella-bidragsvillkor.html>

<sup>2</sup> <http://www.formas.se/en/Financing/General-instructions/>

<sup>3</sup> <https://www.ukri.org/files/legacy/documents/fecfaq-pdf/>

<sup>4</sup> Academy of Finland General Conditions and Guidelines for Funding 2016–2017

<sup>5</sup> <https://www.businessfinland.fi/en/for-finnish-customers/services/funding/research-organizations/in-brief/>

<sup>6</sup> <http://www.rsf-fsr.gc.ca/apply-demande/calculations-eng.aspx#method>

<sup>7</sup> <https://oalm.od.nih.gov/IndirectCostsFAQ> & <http://www.sciencemag.org/news/2017/06/nih-plan-reduce-overhead-payments-draws-fire>

<sup>8</sup> Policy on Usage of HRB Overheads (December 2015)

<sup>9</sup> SFI Grant Budget Policy Version: July 2016

<sup>10</sup> <https://ec.europa.eu/research/participants/portal/desktop/en/support/faqs/faq-3084.html>

<sup>11</sup> <https://www.bmbf.de/de/dfg-programmpauschale-513.html>

## 9 Appendix C – Projecting the impact of MRFF funded research on the rate of support for the systemic costs of research

	2016-17	2017-18	2018-19	2019-20	2020-21
Projected medical research institute research income from MRFF <sup>1</sup>	-	\$46,194,700	\$81,666,940	\$146,821,740	\$244,296,680
Medical research institute income for systemic costs of research <sup>2</sup>	\$187,322,586	\$192,005,651	\$196,805,792	\$201,725,937	\$206,769,086
Medical research institute Research Expenditure <sup>3</sup>	\$797,424,244	\$863,554,550	\$966,810,354	\$1,137,802,353	\$1,410,544,092
<b>Medical research institute funding rate for the systemic costs of research<sup>4</sup></b> (medical research institute systemic costs of research per \$ of research expenditure)	<b>\$0.23</b>	<b>\$0.22</b>	<b>\$0.20</b>	<b>\$0.18</b>	<b>\$0.15</b>

<sup>1</sup> MRFF research income to medical research institutes was estimated to be 38% of the total projected value of MRFF disbursements<sup>xvii</sup>. The medical research institute share of MRFF funds was estimated based on AAMRI data demonstrating that medical research institutes received 38% of total NHMRC expenditure in 2016.

<sup>2</sup> Medical research institute income for systemic costs of research in 2016-17 includes income from Federal Government, State Government and other sources that has been specifically awarded to cover the systemic costs of research (AAMRI data set). Projected income for 2017-18 to 2020-21 is based on an assumed indexation of 2.5%, which is the rate applied to payments into the MREA (outlined in the Federal Budget 2018-19)<sup>xviii</sup>.

<sup>3</sup> Medical research institute Research Expenditure in 2016-17 (AAMRI data set) includes expenditure on research activities only (excludes systemic costs of research and any other non-research expenditure by the institute). Projected Research Expenditure (2017-18 to 2020-21) was estimated by applying the same 2.5% indexation as above, then adding the projected research income from the MRFF. The forward estimates of research expenditure assumes that MRFF research expenditure will be equal to MRFF research income, however, this is likely to be a conservative estimate of the additional research expenditure attributable to the increase in MRFF research funding.

<sup>4</sup> The rate of funding for medical research institutes to cover their indirect costs of research expressed per dollar of research expenditure. Funding rate = (medical research institute income for systemic costs of research)/(medical research institute Research Expenditure)

## 10 References

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- <sup>ii</sup> Watt, I. (2015) Review of Research Policy and Funding Arrangements. Available at: <https://docs.education.gov.au/node/38976>
- <sup>iii</sup> See the Australian Competitive Grants Register for a full list of competitive Commonwealth grants - Department of Education and Training (2018) *Australian Competitive Grants Register*. Available at: [https://docs.education.gov.au/system/files/doc/other/2018\\_acgr\\_listing\\_final.pdf](https://docs.education.gov.au/system/files/doc/other/2018_acgr_listing_final.pdf)
- <sup>iv</sup> The ARC estimated these costs to be 60 cents per research dollar (See Cutler (2008) *Venturous Australia*. Available at: <https://industry.gov.au/innovation/InnovationPolicy/Documents/Policy/NISReport.pdf>); AAMRI found them to be 54 cents in medical research institutes (AAMRI (2018) AAMRI Members Report, forthcoming July 2018).
- <sup>v</sup> In 2016 MRIs incurred direct research expenditure of \$797 million and received systemic research cost support of \$187 million. This equates to 23 cents of systemic research cost support per research dollar. See Appendix A for further details.
- <sup>vi</sup> In 2016 approximately \$41 million was passed on by universities from research block grants for systemic research support for the grants they administer on behalf of MRIs.
- <sup>vii</sup> McKeon, S. et al (2013) *Strategic Review of Health and Medical Research*. Final Report, February 2013.
- <sup>viii</sup> See LEK Consulting (2010) *Costing Medical Research to Reform Health Outcomes: The Case for increased indirect cost funding for Australian accredited MRIs*. Available: [https://aamri.org.au/wp-content/uploads/2014/05/LEK\\_Report\\_Australian\\_MRI\\_indirect\\_cost\\_funding\\_JAN2010.pdf](https://aamri.org.au/wp-content/uploads/2014/05/LEK_Report_Australian_MRI_indirect_cost_funding_JAN2010.pdf)
- <sup>ix</sup> Australian Government (2015) *National Innovation and Science Agenda Report*. Available at: <https://www.innovation.gov.au/page/national-innovation-and-science-agenda-report>
- <sup>x</sup> Department of Finance (2018) *Portfolio Budget Statement 2018-19 Budget Related Paper No. 1.7. Finance Portfolio*. Available at: [https://www.finance.gov.au/sites/default/files/2018-19-pbs-full\\_2.pdf?v=0](https://www.finance.gov.au/sites/default/files/2018-19-pbs-full_2.pdf?v=0)
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- <sup>xii</sup> Australian Research Council (2017) *Funding Rules for schemes under the Discovery Program (2017 edition)*. Available at: [http://www.arc.gov.au/sites/default/files/filedepot/Public/NCGP/DECRA19/Discovery\\_Program\\_Funding\\_Rules\\_2017\\_edition.pdf](http://www.arc.gov.au/sites/default/files/filedepot/Public/NCGP/DECRA19/Discovery_Program_Funding_Rules_2017_edition.pdf)
- <sup>xiii</sup> Australian Research Council (2018) *ARC Medical Research Policy* [http://www.arc.gov.au/sites/default/files/filedepot/Public/Policy%20&%20Strategy/ARC%20Medical%20Research%20Policy/Version%202017.1/ARC\\_Medical\\_Research\\_Policy\\_Version\\_2017.1.pdf](http://www.arc.gov.au/sites/default/files/filedepot/Public/Policy%20&%20Strategy/ARC%20Medical%20Research%20Policy/Version%202017.1/ARC_Medical_Research_Policy_Version_2017.1.pdf)
- <sup>xiv</sup> Department of Industry, Innovation and Science (2017) *Cooperative Research Centre Guidelines*. Available at: <https://www.business.gov.au/Assistance/Cooperative-Research-Centres-Programme/Cooperative-Research-Centres-CRCs-Grants#key-documents>
- <sup>xv</sup> Li, D. & Agha, L. (2015) 'Research funding. Big names or big ideas: do peer-review panels select the best science proposals?'. *Science*, 348(6233):434-438.
- <sup>xvi</sup> Department of Industry, Innovation and Science (2017) *Science, Research and Innovation Budget Tables Snapshot 2017-18*. Available at: <https://industry.gov.au/innovation/reportsandstudies/Documents/2017-18-SRI-Budget-Tables-Snapshot.PDF>

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<sup>xvii</sup> MRFF disbursements as stated in Department of Finance (2018) *Portfolio Budget Statement 2018-19 Budget Related Paper No. 1.7. Finance Portfolio*. Available at: [https://www.finance.gov.au/sites/default/files/2018-19-pbs-full\\_2.pdf?v=0](https://www.finance.gov.au/sites/default/files/2018-19-pbs-full_2.pdf?v=0)

<sup>xviii</sup> Department of Health (2018) *Australian Government 2017-18 Health Portfolio Budget Statements*. Available at: [http://www.health.gov.au/internet/budget/publishing.nsf/Content/2017-2018\\_Health\\_PBS\\_sup4/\\$File/2017-18\\_Health\\_PBS\\_Complete.pdf](http://www.health.gov.au/internet/budget/publishing.nsf/Content/2017-2018_Health_PBS_sup4/$File/2017-18_Health_PBS_Complete.pdf)