Review to strengthen Independent Medical Research Institutes

Final Report

Health Care

PATIENT

Education

Research

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Dear Minister

I am pleased to provide the final report of the Panel appointed by your predecessor, the Hon Peter Dutton MP, in October 2014 to undertake a review of independent Medical Research Institutes (iMRIs) in Australia.

In fulfilment of our Terms of Reference, the Panel has consulted widely, including with iMRIs, universities, hospitals and health services, State and Territory health departments, relevant Commonwealth departments, and leading research administrators from the UK and US. We have also undertaken focused analysis of written material available on Australian iMRIs, the Australian and international health and medical research sectors, and a range of related topics.

The submissions received in response to the Issues Paper published in November 2014 and the Discussion Paper released in February 2015 have been carefully analysed. We have also given close consideration to other input including that obtained from informal conversations with stakeholders, and from presentations and discussions at the one-day invitation-only workshop we convened in early March 2015.

The Panel has been impressed by the commitment and focus of the iMRIs, and readily acknowledges the important role they play in Australia’s overall efforts on health and medical research.

Our recommendations have been framed in recognition of the value of iMRIs, and with a view to assisting them to maintain and strengthen their contribution and their competitiveness in an environment of increasing pressure on finite health and research resources.

Yours sincerely

Professor Graeme Samuel AC
Chair
Introduction
Foreword

The overarching goal of health and medical research (HMR) in Australia is to achieve better health for all Australians. Independent Medical Research Institutes (iMRIs) are a vital component of the HMR sector and have made a substantial contribution to advances in HMR that have led to Australians overall enjoying longer and healthier lives than ever before. The Australian community, our health care system and the wider economy have all benefited from the important work undertaken by iMRIs since the first such institutes were established in the early 1900s.

The overall research excellence of the over fifty iMRIs now in the sector is convincingly demonstrated by their production of around 20% of Australia’s medical research publications. iMRIs’ publications represent an important subset of the impressive Australian contribution (3%) to international medical research publications.

The Panel recognises that Australia’s iMRIs focus on a wide range of health issues, including cardiovascular research, preventative health, chronic diseases, mental health, Indigenous health and improved health services. Their research ranges from fundamental biomedical discovery through to clinical research and the translation of research findings to patient care, health policy and population, and public health.

It is the Panel’s view that there is no “one size fits all” best-practice model for iMRIs and the diverse business models employed by iMRIs reflect the breadth and complexity of the research environment. Many enjoy mutually beneficial relationships with hospitals and other health service providers, and tertiary educational institutions, as well as valuable support from the community and business sector.

At the same time, iMRIs are generally heavily reliant on government funding to undertake research (including in recent years through substantial capital funding of new buildings), and long-term financial sustainability is intrinsically linked to the ability of an iMRI to both win competitive grants and attract income from diversified sources. Over half of the revenue required by iMRIs to conduct research is currently sourced from a combination of Commonwealth and State funding.

As a matter of principle, it is reasonable to expect that taxpayers’ funds will be used efficiently, and that entities receiving government funding will be accountable for its use.

There is increasing competition for research funding, irrespective of the source of funds. An increase in National Health and Medical Research Council (NHMRC) five-year grant applications (a 3.5 fold increase between 2012 (130 applications) and 2014 (484 applications)) and an increase in the average budget of grants are together anticipated to lead to a reduction in the number of grants funded in forward years, which will further impact on the funding certainty for individual iMRIs. While those who are successful in winning grants will have greater certainty

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1 McKeon, S, Alexander, E, Brodaty, H, Ferris, B, Frazer, I, Little, M; Strategic Review of Health and Medical Research in Australia – Better Health Through Research (“McKeon Report”); 2013; p:1
2 Universities contribute to around 75% of all publication; hospitals contribute to around 25% - National Health and Medical Research Council; Measuring Up; 2013; Canberra: NHMRC; p: 33
3 Research Australia; Shaping Up: Trends and Statistics in Funding Health and Medical Research; 2011; Occasional Paper Series: Two, Melbourne; p: 7
4 Confirmed by the National Health and Medical Research Council, as 8 April 2015.
of funding, the reduction in the total number of grants allocated is contributing to the growing financial pressures being felt by some iMRIs, and particularly those more heavily reliant on government funding for their viability. In its Terms of Reference (ToR), the Panel was charged with identifying strategies to improve the efficiency and collaboration of iMRIs in order to strengthen the sector in the context of the tight fiscal environment and growing competition for finite public funds.

It is clear from the submissions made to the Panel throughout the review, and from discussions at the Panel’s targeted workshop on 2 March 2015, that the iMRI sector is made up of committed researchers and administrators who have a genuine interest in helping to ensure that the nation’s health system is able to respond effectively to the medical and financial demands of a growing and ageing population, and a changing burden of disease profile.

Actions taken by individual iMRIs to confirm and strengthen their business efficiency, corporate sustainability, collaborative research relationships and translational impact will serve to strengthen their role and contribution as a vital part of Australia’s vibrant and innovative health and medical research sector.

Acknowledgements

The Panel acknowledges the individuals and organisations that have contributed their time and ideas to the iMRI review. The Panel would like to thank:

• Individuals and organisations that made written submissions on the Issues Paper and Discussion Paper in short timeframes, and those who attended the targeted workshop in March 2015.

• Presenters and panel participants at the targeted workshop, including:
  - Professor Sir Robert Lechler, Vice-Principal and Executive Director, King’s Health Partners, London, UK
  - Professor Dermot Kelleher, Dean of the Faculty of Medicine, Imperial College London, UK
  - Ms Anne O’Neill, Associate Director, NSW Office of Health and Medical Research
  - Professor Jim McCluskey, Deputy Vice-Chancellor (Research), University of Melbourne
  - Dr Michael Walsh, Chief Executive, Cabrini Health
  - Professor Steve Wesselingh, Executive Director, South Australian Health and Medical Research Institute
  - Professor Brendan Crabb AC, CEO and Executive Director, Burnet Institute, and former President, Association of Australian Medical Research Institutes
  - Mr Jon Evans, Department of Health Victoria and Dr Antonio Penna, Director, NSW Office of Health and Medical Research (NSW Ministry of Health), for their ongoing assistance with the Review process.

The Panel would also like to thank Mr Tony Stephenson and Mr Greg Anderson from O’Connell Advisory for their expert advice on the Review.

Finally, the Panel would like to acknowledge the members of the secretariat for supporting the Panel throughout the process of the Review.
The review

On 29 October 2014, the then Commonwealth Minister for Health, the Hon Peter Dutton MP, announced a review of iMRIs, to be undertaken by a four-person Panel (the Panel) chaired by Professor Graeme Samuel AC, and including Mr Matthew Grounds, Professor Warwick Anderson AM, and Mr Alastair Lucas AM.

The overarching objective of this review was to identify what is required to ensure that iMRIs can continue to make a strong contribution to a vibrant, collaborative, and innovative health and medical research sector in Australia. Specifically, the review was required to consider and make recommendations on options for improving the viability and competitiveness of Australian iMRIs, with a particular focus on increasing efficiency and collaboration. The Panel’s ToR were to:

1. Review the major types of business models used by Australian iMRIs, including sources and application of funds, capital and asset models, corporate and research infrastructure platforms, translational impact and make recommendations for improved efficiency.

2. Considering iMRIs’ existing research effort, review their research links, alliances and partnerships, identify gaps and potential synergies, and make recommendations for improved collaboration both within and outside the research sector (including with public and private hospitals, other clinical settings, universities, pharmaceutical and biotechnology companies, private equity, philanthropic bodies).

In its early deliberations, the Panel determined that the focus for the review should be on four issues to address the ToR. The four issues are: business efficiency, corporate sustainability, collaborative research relationships, and translational impact. These are considered to be the key measures of the value of investment in the health and medical research sector, and therefore the measures in which the government has a legitimate interest as a major investor in HMR in Australia.

Business efficiency – is the principle of generating maximum value from the resources input. The Panel considers that the large investment that both the Commonwealth Government and State and Territory Governments make in the iMRI sector should be subject to measures of efficiency to allow the analysis and demonstration of value for public money invested.

Corporate sustainability – is a business approach that ensures an organisation’s mission and strategies can be maintained and achieved in the long-term, taking into account current and future resources, health policy research drivers and staffing. The Panel considers that sustainability is important to ensure that public investment in health and medical research (HMR) will lead to beneficial health outcomes, and that a research project receiving public funds will progress through its milestones to achieve a valued result for that investment. Ensuring corporate sustainability is one of the core responsibilities of iMRI Boards.

Collaborative research relationships – collaboration largely occurs on two levels - research collaboration between individual researchers, and cooperation on specific strategies, activities and services between institutions. Collaboration in research underpins innovation and enables researchers to contribute to the global research effort by sharing knowledge and skills in Australia and by leveraging funding, resources and risks. There are opportunities for iMRIs to produce...
increasingly innovative research, more efficient business practices through the sharing of equipment and facilities, and greater translational health outcomes through mutually beneficial collaborations, with a particular focus on clinical engagement.

**Translational impact** – translation is the realisation of research and the outcome that justifies the continued substantial public and private investment in HMR. Research priorities should be aligned with the identification of public health needs, and this “line of sight” is imperative for effective translational outcomes. This ensures that patients will benefit from investments in HMR. This also encompasses commercial translation as an opportunity to transform patient health care and improve health outcomes, and also reinvest money into the health and medical research sector.

These four key domains of performance informed the focus of the Panel’s research and consultation throughout the process of the review.

**The review consultation process**

On 18 November 2014, the Panel released an Issues Paper and Business Model Template as part of the review’s consultation strategy. Submissions were invited from independent and other medical research institutes, universities, State and Territory Governments, hospitals, clinical researchers, health professionals and private contributors.

Submissions on the Issues Paper offered a number of key insights, highlighting the diversity of the iMRI sector in terms of size, staffing arrangements, business models and finances, and collaborative approaches.

Submissions received in response to the Issues Paper were used to inform a Discussion Paper which was released on 5 February 2015. The purpose of the Discussion Paper was to stimulate conversation, and encourage the iMRI sector to discuss and debate the key themes being explored by the Panel in the process of the Review.

Issues raised in submissions on the Discussion Paper and the Issues Paper contributed to the context and content of topics discussed at the Panel’s Targeted Workshop, held in Melbourne on 2 March 2015. The Workshop, attended by approximately 100 representatives from invited iMRIs, universities, State and Territory Governments and other relevant stakeholders, focused on the core themes of efficiency, collaboration and research translation. Participants were given an opportunity to express their views to the Panel in response to a number of presentations and through facilitated roundtable discussions.

Organisations and individuals who provided submissions to the review are listed in Appendix A.
Executive summary

This report provides a summary of the findings of the review to strengthen iMRIs. The review was established to identify what is required to ensure that iMRIs can continue to make a strong contribution to a vibrant, collaborative, and innovative health and medical research sector in Australia. Specifically, the Panel appointed to undertake the review was asked to make recommendations for improving the viability and competitiveness of Australian iMRIs with a particular focus on improved efficiency and collaboration in the sector.

iMRIs are a vital component of Australia’s health and medical research system. Given their heavy reliance on government funding to undertake research, their individual long-term financial sustainability is intrinsically linked to their ability to win competitive government grants, attract income from diversified sources and operate leanly and efficiently. Over half of the revenue required by iMRIs to conduct research is currently sourced from a combination of Commonwealth and State funding. As a matter of principle, the Panel considers that it is reasonable to expect the efficient use of taxpayers’ funds, and to ensure accountability for this use.

In its early deliberations, the Panel determined that the review should focus on four key issues to address its ToR: business efficiency, corporate sustainability, collaborative research relationships and translational impact. An iMRI’s results in these areas are key indications of the value of investment in that iMRI, and are therefore matters of strong interest to the government in its role as a major investor in health and medical research in Australia.

To investigate these key areas, the Panel has undertaken wide-ranging research and consultation with independent and other medical research institutes, universities, hospitals, clinical researchers, health professionals, private contributors, State and Territory Governments, and Commonwealth agencies. This has included inviting submissions in response to an Issues Paper and Discussion Paper. Following analysis of these submissions, a targeted stakeholder Workshop was held to assist the Panel in developing its recommendations.

As a result of its research and consultations, the Panel has determined that:

1. There is no common reporting mechanism that allows the Panel (or any other party) to make a solid judgement of the business efficiency or corporate sustainability of the iMRI sector, or of individual iMRIs;

2. and MRIs have adopted different business models and approaches to collaboration, but the sector is trending towards larger organisations and more collaborative arrangements.

The Panel recommends that a standardised reporting mechanism be introduced for the sector through the establishment of an iMRI Advisory Panel. This will ensure a greater level of accountability for iMRIs and allow the government to fulfil its responsibility to ensure the proper use of public funds. The information collected will be drawn on by the iMRI Advisory Panel to provide expert advice to government funding bodies and to make recommendations to strengthen the sector through an informed assessment of an iMRI’s current activity. The information will also be available for use by iMRIs to assist in benchmarking themselves against peers.
While the Review’s ToR focus on iMRIs, and the Panel’s recommendations therefore apply specifically to iMRIs, the Panel considers that many of its recommendations are relevant for the HMR sector as a whole. The Panel acknowledges that iMRIs operate within a larger research environment densely populated with universities, hospitals and health services. The mission of each institutional type in this environment differs, with different emphases being placed on research, higher education and patient care. Although the concept of a “level playing field” may not be fully applicable in a sector demonstrating such diversity in purpose, organisational context, research priorities and funding sources, the principle of accountability for public funds should underpin governance arrangements across the HMR sector.
Recommendations

The Panel recommends that:

1. In making decisions about the allocation of health and medical research funds to iMRIs, Commonwealth Government funding bodies will take into account expert advice on the business efficiency, corporate sustainability and collaborative research relationships of individual iMRIs. Account will also be taken of iMRIs’ translation of research to outcomes when reliable measures of this have been developed.

2. An iMRI Advisory Panel should be established to provide this expert advice to Commonwealth Government funding bodies.

3. Expert advice prepared by the iMRI Advisory Panel about an iMRI will also be shared with that iMRI, and will also be made available on request to State and Territory funding bodies, and subject to the consent of the iMRI concerned, to other third parties including potential funders.

4. The iMRI Advisory Panel’s advice will be based on its analysis of data and information routinely submitted by iMRIs, as well as consultation with iMRIs.

5. This data will be drawn from a national database, to be established, as a national minimum data and information set developed through consultation with the intention of minimising any additional administrative burden.

6. The iMRI Advisory Panel, drawing on the expertise of its members and support staff, its overarching view of the sector, and information collected from iMRIs, will also support iMRI Boards in strengthening the following areas of iMRI operations: business efficiency, collaborative research relationships and translation of research to outcomes.

More details on the proposed iMRI Advisory Panel are at Part C of this Report.
PART B

Review Background and Findings
The Panel was established to identify what is required to ensure that iMRIs can make a strong contribution to a vibrant, collaborative, and innovative HMR sector in Australia. Specifically, the Panel was asked to consider and make recommendations on options for improving the viability and competitiveness of Australian iMRIs, with a particular focus on increasing efficiency and collaboration.

Throughout the review, the Panel has seen that the iMRI sector as a whole is dynamic and diverse. iMRIs present a clear, mission-based focus on HMR with the aim of improved health outcomes. They contribute up to a quarter of Australia’s high quality research. iMRIs are also not immune to the pressures of a tight budgetary environment.

As previously stated, an increase in NHMRC five-year grant applications, in response to the findings of the McKeon Report and the Government’s election promises, as well as an increase in the average budget of grants, are together anticipated to lead to a reduction in the number of grants funded in forward years which will further impact on the funding certainty within individual iMRIs. While those individual researchers who are successful in winning grants will have greater individual certainty of funding, the reduction in the total number of grants allocated is contributing to the growing financial pressures being felt by some iMRIs, and particularly those more heavily reliant on government funding for their viability.

While these pressures are well known, the long-term financial sustainability of an iMRI is intrinsically linked to its ability to win competitive grants, attract income from diversified sources, and effectively manage its resources.

This Panel has focused on strengthening iMRIs’ sustainability, efficiency and collaboration to ensure that they can continue making an important contribution to research output in Australia.

Funding of medical research in Australia

The successes of medical research in Australia can be linked to strong support from the Commonwealth and State and Territory Governments, as well as the generosity of the wider Australian community.

The Commonwealth Government has traditionally provided a strong funding base for HMR in Australia. The NHMRC is a key funder of Australian HMR (although not the only government source) through competitive, peer-reviewed Project Grants. These research grants include: large scale and scope project and program grants, grants for ‘Centres of Clinical Research Excellence’, ‘Centres for Health Services Research Excellence’, translational grants such as ‘Partnerships for Better Health and Development Grants’, and a wide range of fellowships.

In a changing funding landscape nationally and internationally, the NHMRC has moved to more strongly support translational research approaches, in addition to discovery research. Most translational grants, fellowship and the big team Program Grants remain at five years, NHMRC has now moved the default position of discovery project Grants to five years, responding to statements that this allowed both more certainty and more risky research. NHMRC’s continual work to hone and improve peer review has also led to some shifts in long-term patterns of funding to individuals and teams.
The Panel considers that since taxpayers’ funds are involved, it will become even more important for an iMRI to demonstrate that it is financially sustainable for the life of that grant, in order to receive public money.

**Sources and application of funding by Australian iMRIs**

During the course of the review, the Panel received submissions from iMRIs within the sector setting out both their sources and application of funding.

The information received provided a financial snapshot of the sector, indicating a total turnover of more than $1 billion pa, with individual iMRIs’ turnover ranging between $2 million and $120 million pa, and cumulatively representing over $2.2 billion in net assets.

Based on financial information provided by respondents, the following charts break down the sector wide revenue sources and expenditure averaged over the past 3 years.

Note that financial characteristics are not indicative of any one respondent; information is only reflective of the consolidated responses of the iMRI respondents to give an overview of the sector as a whole. The individual iMRI vary considerable in size/scale, for example with respect to 2014 NHMRC funding iMRIs received between $39,623,182 (Walter and Eliza Hall Institute) and $40,057 (Heart Research Institute).

**Figure 1: Funding sources**

![Funding sources chart](chart.png)

*Approximately 20% of Commonwealth Government funding relates to non-recurring capital grants.

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Note: There may be some slight overlap between “Commonwealth Grant funding” and “Donations and fundraising”

The funding profile in Figure 1 indicates that the iMRI sector relies on a number of different income streams to fund its direct, indirect and capital growth requirements. The majority of the ongoing funding within the sector over the past three years has been sourced from the competitive grants processes of the Commonwealth Government and to a lesser extent from State Governments. Other important income sources included donations and fundraising, commercial/industry grants, investment and commercial income.

Whilst government funding remains the largest source of iMRIs’ income, the analysis suggests that it is susceptible to significant changes on a yearly basis. It is apparent that those iMRIs with the stronger financial results showed a tendency towards a more diversified income base. Trends also suggest successful efforts by some iMRIs over the years to further diversify their income sources.

An increase in NHMRC five-year Project Grant applications (a 3.5 fold increase between 2012 (130 applications) and 2014 (484 applications)) and an increase in the average budget of Project Grants (a 38% increase between 2010 and 2014) are together anticipated to lead to a reduction in the number of grants funded in forward years, which will further impact on the funding certainty within individual iMRIs. Those successful in winning grants will attain more certainty in their funding, however with the reduction in actual numbers of grants allocated overall, fewer researchers at the institutes will hold grants thus potentially affecting the ongoing viability of some iMRIs.

Long-term financial sustainability is intrinsically linked to the ability of the iMRI to both win competitive grants and attract income from diversified sources.

Figure 2: Application of funds

- Employee Benefits: 11%
- Research Equipment & Consumables: 9%
- Building Occupancy: 3%
- Marketing and Fund Raising: 5%
- Depreciation and Amortization: 16%
- Other Expenditure: 56%

*Confirmed by the National Health and Medical Research Council, as at 8 April 2015.*
Figure 2 demonstrates that the greatest single ongoing expenditure for iMRIs relates to the costs associated with employing research staff to engage in the core research. Financial information provided by iMRIs indicates that employee benefits comprise more than half of iMRI expenditure across the sector.

The year-on-year movements in competitive grant research funding for iMRIs are variable. In contrast, financial information provided to the Panel by iMRIs indicates a more stable upward growth trend in expenditure (employee benefits, research equipment etc.) from year to year. To alleviate the variable nature of government competitive funding, supplementary and alternative funding sources are important to maintain long-term financial sustainability.

The information received from iMRIs indicates that, in general, the greater the economies of scale, the greater the funds available to fund direct research expenditure. Administrative costs associated with the running of an iMRI are proportionately higher for smaller institutions that do not have the economies of scale.

**Ability to attract research grant income and dependence on grant income**

As presented above, the majority of iMRIs receive funding from either or both Commonwealth and State/Territory Governments which contributes to their overall income. In order to produce an ongoing sustainable business model, which is able to persist in an increasingly competitive funding environment, iMRIs may need to pursue supplementary and/or alternative sources of income including those outlined below.

**Increased philanthropic support**

Philanthropy is an important source of support for HMR. Effective HMR depends on investment from not only government, but also industry and the community. A strong pool of philanthropic dollars for targeted competitive HMR, aligned with the priorities of the community, has the potential to boost the sector’s national capability to address health challenges.

Additionally, a major benefit of philanthropic contributions is in the injection of substantial funds to help create foundations or for capital works which increase the financial strength of iMRIs and improve their long-term sustainability. It is important to note however that there may be financial overheads associated with these new capital works, e.g., increased costs of power and utilities, and employing technical expertise for advanced research equipment.

A study by the Queensland University of Technology found that:

- leading nations have research supported by multiple sources, including government, industry and philanthropy;
- philanthropic funding can address gaps in other funding sources, including high risk investments, rare diseases and global health issues; and
- philanthropic funding generates an increase in funding from government and industry sources. An iMRI with strong reliance on philanthropic sources of funding, however, may be vulnerable to funding uncertainty.

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10 Research Australia; *Lifting the Life Giving Dollar*; report from Queensland University of Technology; 2005; Brisbane; p. 27
to donor fatigue, where individuals or organisations that have previously provided philanthropic support to a cause cease to do so. Causes of donor fatigue may include desensitisation due to repeated messages; a lack of interest in the cause; and no sense of urgency. Donor fatigue may be particularly problematic in areas with a high concentration of iMRIs that are in competition with each other for funding. Strong fundraising expertise is needed in order to mitigate the effects of donor fatigue – this may include updating and tailoring fundraising messages and targeting new supporters.

**Commercial income**

The private sector is a potential major source of funding for iMRIs. In its 2008 report, Access Economics found that between 2000/01 and 2004/05, business investment in health and medical research grew at an even greater rate than the rate of government funding. Industry has the potential to contribute to the work of iMRIs by providing funding in the following areas:

- Research and development – the majority of which is directed to experimental development and applied research
- Biotechnology – mainly in the area of human therapeutics, diagnostics and devices.
- Pharmaceutical industry – a high-technology, knowledge-intensive sector which invests over $1 billion in research and development annually and reportedly around $600 million in clinical trials in Australia.
- Medical technology
- Venture capital and private equity

Organisations that have other sustainable sources of revenue such as fundraising, and investment activities, are not as dependent on competitive grant revenue which may vary greatly on an annual basis.

**Funding of indirect costs of medical research in Australia**

Throughout the consultation process there has been a consistent message to the Panel that there are issues in relation to the varied funding of indirect costs within the sector.

It is apparent that the different approaches taken by different Commonwealth and State funding bodies, characterised by different funding rates and tax concessions depending on the type of organisation conducting the research, and which State Government is responsible for funding the research, is an area of significant concern for iMRIs and the wider sector.

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Adequate funding for indirect research costs is a fundamental precursor for optimal efficiency and long-term sustainability. As previously articulated, current funding arrangements, where there is variation in funding mechanisms across iMRIs, health services, CSIRO and universities do not provide optimal support for collaboration or competitive neutrality.

- Walter and Eliza Hall Institute, Discussion Paper Submission

The McKeon Review summarised the issue of indirect costs in Australia in its 2013 Report, stating "A number of significant problems stem from this complex system where the direct research costs (salaries/consumables) are paid by one agency and the indirect research costs are paid for by another agency (or perhaps several agencies) and, if provided at all, are provided inconsistently across direct cost providers and at a level inadequate to meet the actual indirect cost of the research. These problems have been commented on by most reviews touching the sector over the last decade including the 1998 Wills Review, the 2004 Grant Review, the 2008 Bradley Review, the 2008 Cutler Review, and the 2009 Bennett Report. Despite the many recommendations over the last 15 years (some of which have been implemented, but most of which have not), significant problems still exist with the funding of indirect costs." 12

We believe that the adoption of a transparent funding model for indirect costs will lead to much enhanced efficiency within the sector and is the very issue that the …Panel… should be addressing.

- Victor Chang, Discussion Paper Submission

Whilst the mechanisms and levels of funding are not within the ToR of this review, the Panel acknowledges the concerns relating to the current funding models in Australia. The Panel is of the view that the issue of inconsistent funding of indirect costs of research and the inconsistent treatment of Fringe Benefit taxes, are areas which warrant further exploration by the Commonwealth in conjunction with the States and Territories.

Accountability for public money

The availability of good information on the performance of government funded programmes and projects is crucial to ensuring taxpayer funds are well spent and governments are held to account.¹³

The Commonwealth Grants Rules and Guidelines 2014 charge Commonwealth Departments and entities with responsibility for monitoring payments and progress as an integral part of good governance and risk management.

The NHMRC is also subject to the Public Governance, Performance and Accountability Act 2013 (PGPA Act). The PGPA Act prescribes generally at section 15 that an Accountable Authority (e.g. Chief Executive Officer) must govern a Commonwealth entity (e.g. NHMRC) in a way that:

a. promotes the proper use and management of public resources for which the authority is responsible;

b. promotes the achievement of the purposes of the entity; and

c. promotes the financial sustainability of the entity.

In making decisions pertaining to its purpose, the Accountable Authority must take into account the effect of those decisions on public resources generally. “Proper use” means that resources (in the case of iMRIs – Commonwealth funds) are used in an efficient, effective, economical and ethical manner.

Demonstrating efficient, economical, effective, ethical and appropriate use of public funds

Efficient use relates to the achievement of the maximum output or value for the resources used. Economical relates to minimising cost. It emphasises the requirement to avoid waste and sharpens the focus on the level of resources that are applied to achieve outcomes.

Under the Commonwealth Grants Rules and Guidelines 2014, all grant recipients should focus on outcomes and outputs for beneficiaries, while seeking the most efficient and effective use of inputs.¹⁴ In this case, it implies that, iMRIs receiving funding from the Commonwealth should focus on producing research outputs and health outcomes for the betterment of Australia, in the most efficient manner possible.

Effective use relates to the extent to which intended outcomes or results are achieved. It concerns the immediate characteristics, especially price, quality and quantity, and the degree to which these contribute to specified outcomes.

Commonwealth Departments are responsible for providing a measure of assurance that relevant money allocated to grant recipients has been spent for its intended purposes. iMRIs too have a responsibility to ensure that the taxpayers’ money they receive from the Commonwealth is being used to directly contribute to research.

¹³ National Commission of Audit; Towards Responsible Government: Phase Two; 2014; Canberra; p.56
¹⁴ Department of Finance; Commonwealth Grants Rules and Guidelines; 2014; Canberra; p. 25
Jurisdictional strategies for health and medical research

As described in the ‘Funding of indirect costs of medical research in Australia’ section (page 18), States and Territory Governments represent a significant source of funds for iMRIs. The majority of iMRIs are located in either NSW or Victoria, which have existing strategic jurisdictional approaches to their local health and medical research sectors and administer grants to iMRIs. Over recent years, both NSW and Victoria have reviewed their policies regarding the reporting of financial information to ensure accountability for public funds.

Other jurisdictions with smaller iMRI sectors have also begun to adopt a more strategic approach to health and medical research. For example, following the recommendations of a review of health and medical research in South Australia in 2008, SA Health helped to establish the South Australian Health and Medical Research Institute (SAHMRI). SAHMRI represents a significant investment by the SA Government and Commonwealth Government, with a view to creating a single, large, collaborative flagship medical research institute, linked strongly to the health sector and all three South Australian universities.

Standardised financial and operational reporting is an avenue that the Victorian Department of Health and the NSW Office of Health and Medical Research have introduced to address financial transparency and comparability. Through standardised annual financial and operational reporting there is now a level of scrutiny that helps the State funding bodies gain a greater understanding of how iMRIs are functioning, and ultimately work towards ensuring the effective and efficient use of the funds provided by the State for research.

NSW iMRI Sector

The NSW Office for Health and Medical Research (OHMR) is responsible for supporting NSW’s health and medical research efforts. The OHMR works with the health and medical research communities, the higher education sector and business to promote growth and innovation in research to achieve better health and environmental and economic outcomes for the people of NSW.

In 2011, the NSW Government established an expert Panel led by Mr Peter Wills AC, to work with the research community, the health sector, industry representatives and other interested parties to develop a 10-year strategic review for health and medical research in NSW.

The review made a number of recommendations pertaining generally to the medical research sector fostering translation of research to outcomes, and the movement to a collaborative Hub model. Subsequently the NSW strategic plan for health and medical research placed emphasis on the importance of representation of iMRIs, teaching hospitals and universities as a major contributor to successful hubs.

In NSW, iMRIs are supported for indirect costs of research (Medical Research Support Program - MRSP), as members of a Hub (NSW Health and Medical Research Hubs) and through the many other programs and initiatives delivered by the OHMR.

To be eligible for support under the MRSP, iMRIs must meet independence criteria that include:

- a legal structure separate to that of a University, Local Health District, Specialty Network, public or private health care facility
• an institute Board or equivalent governing body which is not legally controlled by a University, Local Health District, Specialty Network and/or public or private health care facility

• liquid assets > operational costs (liquidity ratio 1:0)

• externally audited financial Statements

Only independent medical research institutes are eligible for the MRSP.

In addition to this, an iMRI must have achieved an average of $3 million over the previous three year period in competitive grant funding to enter the Program. Those iMRIs which have achieved between $3 million and less than $10 million in competitive grants are classified as Tier 2 and will receive 30 cents in the dollar for NHMRC grants; iMRIs which have achieved greater than $10 million in competitive grants are classified as Tier 1 and will receive 40 cents in the dollar for NHMRC grants.

One of the aims of the MRSP is to achieve up to 60 cents in the dollar for indirect costs of research from all sources.

**Accountability and Reporting in NSW**

The OHMR requires both operational and financial reporting from iMRIs in NSW. Reports are subject to mid-term review and are monitored for any significant changes that might indicate changes in financial sustainability or efficiency.

The operational reporting requires iMRIs to providing information on the following:

• Researchers, students, administrative and technical staff

• Publications and grants

• Collaboration

• Translation

• Case studies

The template for financial reporting was developed in consultation with iMRIs. The data collected by the OHMR in these templates can be used to identify operational issues, opportunities for efficiencies, for benchmarking purposes and as a means to report financial information both internally (to the iMRIs board) and potentially externally (to investors). The template acts as an important tool to monitor the sustainability of the iMRI, any significant changes that might affect the iMRI in the long run and to track the use of public funds. The OHMR determines the iMRIs financial status by assessing the liquidity ratio, debt level and cash flow of the iMRI.

An important element of the NSW approach to reporting is the high level of consultation with the sector. iMRIs are encouraged to provide feedback on the usefulness and usability of the template and to actively consult with the OHMR regarding its results. The outcomes of the OHMR’s assessment allow for potential sustainability issues to be flagged early and worked on in a collaborative way.
Outcomes of Reporting
As a result of the increased scrutiny and focus on financial sustainability and organisational efficiencies, a number of iMRIs have worked towards organisational mergers and a number of mergers will come to fruition in 2015. The financial templates have assisted iMRIs in their reporting to respective Boards. A three year consolidated report will be developed in 2015 that will include comparative analysis of iMRIs.

Victorian iMRI Sector
The Victorian Government’s Operational Infrastructure Support program provides funding for independent Victorian Medical Research Institutes. The program provides essential funding towards indirect research costs that are not provided for by competitive grants. It contributes to meeting costs associated with infrastructure (physical, technical and/or competency), overheads, support services, commercialisation and clinical exploitation of the institutes’ research endeavours and equipment maintenance essential to grant-funded research.

Only iMRIs are eligible for this program. The eligibility criteria relate to an institute’s primary purpose, independence of function (legally and financially) and its ability to win research funding of at least $1 million per year from peer-reviewed sources based on a running average of the last 3 years. As a general principle, research departments of hospitals, universities and fund-raising organisations are not eligible. The program provided $25.7 million to 13 institutes in 2009/10.

Accountability and Reporting in Victoria
The Victorian Department of Health began requiring iMRIs to report in 2002-03 following the doubling of their program budget to approximately $25 million per annum. The additional funding was provided to create incentives for clinical translation, commercialisation and research capacity-building. To be considered for this funding, iMRIs were required to complete a 60+ question survey of their activities.

In 2013-14, the survey was simplified to 9 questions as a means to reduce the administrative burden on both the iMRIs which provide the information and the government which interprets the input. These 9 questions focus on key output metrics only, and are not used for determining funding allocations.

The Victorian Department of Health requires iMRIs to provide information on the following on an annual basis:

- Governance – to establish eligibility for program.
- Grant income – to validate research income.
- Audited financials – for financial risk assessment (over time track record and projected sustainability status). Audit opinion on government funding expenditure – to validate appropriate use.
- Output survey (9 questions) - to track the performance of the iMRI against research income. These 9 questions focus on the reporting of research output, clinical outputs and outcomes and commercial outputs.
• Annual report – to be informed of MRI activities
• Acknowledgment of funding in publications and annual report
• Board and Senior executives details

The principles that guide the collection of this data include:
• Necessity for administration of program.
• Accountability to Victorian Auditor-General’s Office, to government, to taxpayers
• Performance (useful and transparent) – to inform government of performance of sector and to track performance over time.

Feedback from consultations regarding reporting and accountability

In its 2014 Report ‘Towards Responsible Government’, the National Commission of Audit stated that ‘the reporting of performance with a view to increasing transparency and accountability are the hallmarks of responsible government’. The Panel sees the strengthening of standard reporting requirements for iMRIs receiving government grants as a necessary and responsible way to improve iMRIs’ accountability for public money.

The Discussion Paper released by the Panel on 5 February 2015 detailed the Panel’s view that there was a high degree of variability and resultant obscurity in the publicly available financial information relating to individual iMRIs. The Panel stated that this did not demonstrate a satisfactory level of transparency, considering the significant investments made by both government(s) and private philanthropists.

Submissions on the Discussion Paper generally agreed with the principle of transparency of efficiencies but objected to such measures being a prerequisite for funding.

The Institute supports the importance of monitoring financial sustainability, transparency of financial, operational and scientific efficiencies across the sector and the view that there are opportunities for the health and medical research sector to become more efficient. However, we express our concerns when it comes to the measures for long-term sustainability and efficiencies being used as a precursor for government funding to MRIs and as a basis for increased / new level of reporting.

- The George Institute
Feedback on the Discussion Paper helped to inform discussion around the issue of reporting at the Panel’s targeted stakeholder workshop on 2 March 2015. The view was expressed by some attendees that while iMRIs should have to prove their viability, this reporting should not be made public.

Participants in the workshop proposed that the Panel consider the following feedback to guide the Commonwealth’s approach to reporting by iMRIs:

- Development of any requirements should leverage existing reporting requirements of Commonwealth and State funding bodies and should not impose unnecessary additional red-tape on the sector;
- iMRIs should only be required to provide information directly related to informing the outcome of the Commonwealth’s report;
- A consultative process that engages with the sector and other key stakeholders should be integral to the approach to implementing any reporting requirements;
- Any reports that the Commonwealth develop on an iMRI should be provided to the iMRI, and subsequently, at the discretion of the iMRI, could be made available to other parties (such as investors or philanthropists) upon request;
- Analysis should consider more elements of the iMRI than just financial information. Other useful inputs could include the nature of the iMRI’s research and its objectives, the iMRI’s collaborative relationships, and its current utilisation of assets;
- There would be merit in considering the potential for standardising or harmonising reporting requirements across the HMR sector, i.e. consider a mechanism of combining the iMRI reporting with existing reporting required of universities and other health and medical research institutions.

The Panel has further explored these principles in developing its recommendations.

**Reporting burden**

Responses to the Discussion Paper and at the targeted workshop confirmed that iMRIs already report to various government departments (both State and Commonwealth), and that additional “red-tape” should be avoided as one way of assisting iMRIs to reduce inefficiencies. A detailed list of current reporting requirements is at Appendix B.

In considering the introduction of standardised reporting to the Commonwealth, submissions suggested that any provisions in this regard should leverage existing reporting requirements of Commonwealth and State funding bodies.

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iMRIs already have their financial sustainability assessed by their highly-experienced boards and associated independent auditing. They also submit standardised financial reports to the ACNC and, in many cases, have detailed financial reports audited by State Governments.

- **AAMRI, Discussion Paper submission**
A further argument in favour of consistency of reporting and assessment across the health and medical research sector was based on fairness.

Requiring iMRIs to demonstrate financial sustainability in excess of the requirements of universities or other organisations in receipt of NHMRC funding (or any other government funding for that matter) is at odds with the principle of competitive neutrality.

- AAMRI, Discussion Paper submission

The Panel acknowledges that funding bodies at Commonwealth, State and Territory levels have already undertaken a lot of work on the collection of data within the sector. An approach that considers the purpose, rationale and lessons learnt from these jurisdictions would be invaluable in standardising a national approach.

The approaches taken by NSW in the Medical Research Support Program (MRSP) and by Victoria in the Medical Research Operational Infrastructure Program, have been identified by the Panel as useful examples of the data that should be collected.

In leveraging the work already undertaken by other funding bodies, it is important to have a clear objective in mind for the data collection, and the ways in which the data will be used. This will assist in achieving the best balance between the effort required to define, capture and analyse the necessary data and information elements for each iMRI, and the value of this exercise for improving the quality of funders’ assessments and decisions relating to that iMRI. The aim should be to minimise the effort required for optimum utility.

Similar to other sectors in the Australian economy, the ‘red tape’ burden for individual organisations within the iMRI sector can have an adverse effect on their operational efficiencies. The Panel is in agreement with the sector that it is imperative that any reporting requirements do not add additional onerous workloads in relation to data collection. The proposed reporting should be streamlined, reflecting current requirements where possible, such as State and Territory Government reporting, and reporting to Commonwealth departments and agencies such as ASIC. The reporting should be able to be completed in an efficient and effective process.

While other health and medical research institutions (such as those that operate as part of universities or hospitals) are beyond the remit of this review, the Panel believes there would be merit in considering adoption of a whole of HMR sector approach to reporting and benchmarking on sustainability and efficiency measures as a means of bolstering Australia’s research output as a whole.

It is envisioned that a collaborative approach to data collection involving all jurisdictions could result in a standardised reporting framework which would allow consistent reporting and enable useful comparisons across the HMR sector. Ensuring a national approach, whereby iMRIs
can provide one set of data to the iMRI Advisory Panel (refer Appendix D) which can then be distributed to States and Territories and others would reduce the administrative burden associated with preparing and submitting separate and slightly different reports to multiple agencies.

**Reporting and the Strategic Review of Health and Medical Research**

In 2011, the Strategic Review of Health and Medical Research (McKeon Review) was undertaken to seek a better vision for better health through research. The final report, released in April 2013, made a total of 21 recommendations aimed at significant reform of the HMR sector in Australia. The Abbott Government has taken these recommendations into account in the commitments it has made to date in relation to health and medical research. As stated in the Discussion Paper, the McKeon Review’s recommendations have been a critical point of reflection for the Panel during the development of its own recommendations.

Of particular interest to the Panel is the McKeon Review’s second recommendation, which seeks to “establish Sector Leadership and Governance by establishing and resourcing a leadership body to work with key organisations charged with delivering better health services.”

This leadership body proposed by McKeon would:

- Provide direction, focus, oversight and leadership of the HMR sector.
- Facilitate translation of research into evidence-based healthcare and policy.
- Provide policy advice and drive sector reforms.
- Track and monitor HMR investment and outcomes.

The McKeon Panel was inclined to task a redesigned and expanded NHMRC with this role, noting that the NHMRC did not have the capacity (resources) and capability at that time.

**Measures of efficiency**

The Commonwealth Government is responsible for ensuring that funds distributed to iMRIs represent a good value investment. To determine this, the Commonwealth must confirm that funded entities fulfil the requirement to operate efficiently and ensure that the level of resources that are applied to a project are being used to achieve agreed outcomes.

Under the Commonwealth Grants Rules and Guidelines 2014, all grant recipients should focus on outcomes and outputs for beneficiaries, while seeking the most efficient and effective use of inputs. In this case, iMRIs who receive funding from the Commonwealth should focus on producing health outputs and outcomes for the betterment of Australia, while seeking to do so in the most efficient manner possible.

The Panel suggests that the following represent business strategies that might improve the efficiency of individual iMRIs.

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15 Department of Finance; Commonwealth Grants Rules and Guidelines; p. 25
**Efficient use of facilities**

Proposing new infrastructure projects is popular among research organisations as these can attract one-off additional sources of Government funding and are favoured by philanthropic donors, however infrastructure can often be underutilised.

Organisations may be encountering significant maintenance/servicing costs as a result of maintaining large new facilities, and may not have sufficient staff to fill these facilities. Inadequate use of facilities that have been built with the assistance of government funds represents a potentially avoidable inefficiency.

To counter this problem, these institutes may look to lease excess research space to other research organisations, universities or the private sector (e.g. start-ups, biotech companies) as a means to both utilise the space being inefficiently used, and capitalise on a potential alternative source of income.

Lease arrangements for laboratory space are becoming increasingly popular as a way for smaller research institutions to enter expensive urban centres quickly, cost-effectively, and with more flexibility than building new. Leasing may not only prove more cost effective than new construction, but also enable institutions to more quickly become established in well-regarded research clusters.

**Sharing of back-of-house administration**

Sharing back-of-house services represents a potential saving for research organisations.

In its report, *Community Sector Shared Services, Why consider Shared Services? The advantages, disadvantages and challenges*, the Victorian Government provided an introduction to the benefits of shared services designed for the not-for-profit sector.

The findings of that report can be translated to benefit the IMRI sector. Shared back-of-house services involves two or more IMRIs working together, or in agreement with a university or local health service, to manage or deliver non-research specific services. Back-of-house services include any service that does not directly support the research, e.g. human resources, finance, payroll, information and communications technology (ICT), marketing, procurement, legal advice. Sharing back-of-house services generally offers greater opportunities and fewer hurdles compared with sharing front of house services in the IMRI sector.

Sharing back-of-house services with other IMRIs, universities or health services can be an excellent way for research organisations to reduce cost and improve research efficiency, allowing research staff to focus more on their core mission and less on administrative and support functions. Adopting this model could also serve to strengthen existing relationships with other IMRIs and potentially reduce duplication of research.
Sharing of scientific equipment

Research equipment represents a significant cost to each iMRI. In recent years the cost of purchasing and maintaining core research equipment has placed increased pressure on finite budgets. Logically, if core equipment is shared among multiple researchers in different organisations, it will both be utilised more often and be efficient in terms of cost to each organisation. Sharing capital-intensive core facilities may also allow a larger number of researchers to conduct investigations into a wide range of areas. Economies of scale can mean that equipment is updated on a shorter cycle resulting in researchers accessing state-of-the-art technology more quickly.

In short, a coordinated approach to equipment utilisation can deliver increased financial efficiencies, including reduced opportunity costs, provide more researchers with access to a wider range of equipment and support services, and facilitate collaboration between researchers.

Sharing of equipment need not come at the sacrifice of an organisation’s independence. At the Translational Research Institute in Brisbane, four separate research organisations share a single set of core equipment, while each retain its individual identity.

Scientific efficiency

HMR is central to strengthening Australia’s capacity to address its current and emerging health challenges. It is essential that the research that is supported by the Commonwealth Government makes the most efficient use of the finite resources available.

Building upon financial efficiencies of individual research organisations, it is critical that research is conducted in the most efficient and effective way possible. This requires ensuring that research is being conducted by the best team with the most appropriate resourcing to address the health and medical research needs of Australia.

Duplication of research effort in the Australian HMR sector has been raised as a possible area of inefficiency. The Panel acknowledges that each disease burden or clinical area of focus has a subset of complex and research intensive problems, and that the process of peer review, or replication of research, is a critical step in ensuring that research findings are sound and of high quality. Some level of overlap is therefore an important part of a well-functioning health and medical research sector. However, as suggested in the McKeon Review, the Panel believes that the current system is lacking in national oversight and coordination of research priorities and objectives. 16

This can lead to iMRIs, universities and their embedded institutes, and hospitals undertaking similar research in isolation, rather than pooling resources and working together to accelerate discoveries. This does not make the best use of available resources, and may stem from a competitive rather than collaborative environment. Australia’s public and private investment in medical research will be maximised when unnecessary duplication is reduced, collaboration is promoted and the impact of the research is fully realised. At the level of individual iMRIs, ongoing monitoring of productivity will assist in measuring the progress of the sector. The iMRI sector should consider how they can best combine effort and collaborate to compete with the large scale approaches being

16 McKeon, et al; McKeon Review; p52
increasingly undertaking by our international competitors.

Internationally and in Australia there has been much discussion, but difficulty in obtaining consensus, on how to measure productivity/research effectiveness of medical research generally, particularly given the potential time lag (ranging from as little as 12-18 months up to 20 years) between inputs and outputs/outcomes.

Further detail on potential metrics relating to an assessment of efficiency is at Appendix C.

Improvements in the financial and scientific efficiency of individual iMRIs may in turn have a positive impact on the efficiency of the HMR sector. It is difficult to ascertain the extent of duplication within the sector due to the lack of transparency and standardised reporting in a sector that has developed over decades in an ad hoc manner without a national strategy. As a means to identify and subsequently reduce duplication of research effort to improve the efficiency of the HMR sector, the Panel supports increased government awareness of research being undertaken by funded HMR organisations, at a national level. This role should be exercised through bodies with a deep understanding of the sector, including the NHMRC.

Collaboration

The Panel understands that partnerships between iMRIs, hospitals, universities, health services, industry and community represent Australia’s best chance of finding solutions to the range of complex health issues facing the population.

The need for collaboration has been reflected in the findings of major reviews such as the 1999 Wills Review, the 2009 Zerhouni Review of NHMRC, the 2008 Cutler Review of the nation’s innovation system, the Australian Government’s 2009 Innovation Agenda, Powering Ideas, and most recently, the 2013 McKeon Strategic Review of Health and Medical Research.

The McKeon Review noted that the Australian health care system, and in particular the HMR sector, is a highly fragmented landscape that involves various government departments and agencies at both the Federal and State and Territory level; a large number of stakeholders with different priorities and capabilities; and a range of research disciplines. Collaboration is therefore required not only to form a cohesive system and align research goals, but also to leverage the different skills, knowledge bases and resources of stakeholders; to ensure that research is effectively translated into clinical practice and health service delivery; and for Australia to remain a significant global contributor to health and medical research.

The McKeon Review noted that there are collaborative partnerships between the range of HMR stakeholders in Australia that demonstrate clear excellence. This is supported by the NHMRC’s ‘Measuring Up 2013 Report’ which indicated that collaboration between individual researchers is very common with 95% of all biomedical publications in Australia being multi-authored.

17 McKeon Review / Fisk,N, Wesselingh, S, Belby, J, Glasgow, N, Puddey, I, Robinson, B, Angus, J, Smith, P; Academic health science centres in Australia: let’s get competitive; Medical Journal of Australia; 2011, 194 (2); p. 59
18 McKeon, et al; McKeon Review; p.69
19 NHMRC; Measuring Up; p. 27
Submissions to the Panel and consultation with the sector highlighted that collaboration in research is widely practised by iMRIs. At the same time, there is room for improvement.

While investigator-level collaboration is relatively common in Australia, there is a strong acknowledgement that there are a range of barriers preventing iMRIs from further strengthening their institutional collaborations. This limits the extent to which iMRIs are able to best apply and access resources for national or large-scale research projects, and to better share administrative loads, equipment and facilities. The Workshop phase of consultation highlighted that collaboration with industry is less common, and that there is a pronounced separation between research and industry in Australia. The Panel is aware of the Commonwealth Government’s focus on working to address this through its Industry Innovation and Competitive Agenda.

Barriers to institutional collaboration

The Panel acknowledges that institutional collaboration requires investment of considerable time and resources. It can also reduce the control that an organisation has over its own operations, research, individual recognition, and introduce additional layers of administration, reporting and management. 20A number of other barriers have been cited through the review’s consultation process. While some of these barriers are outside the Panel’s remit to explore, it is important to acknowledge the range of structural, institutional and other factors that may prevent iMRIs from further strengthening their collaborative partnerships.

A range of stakeholders have suggested that inequitable indirect funding arrangements act as a barrier to iMRIs collaborating with other organisations. Differences in levels of support available to the range of stakeholders, for example universities, iMRIs and health services, have created an environment that is considered to be more competitive than collaborative.

Equitable and adequate Commonwealth funding for indirect research costs is a fundamental precursor for the optimal efficiency, collaboration, research translation and long-term sustainability of iMRIs. The current arrangements discriminate between research organisations, reduce efficiency and impede genuine collaboration across the sector.

- Victorian Government

In addition to this, inconsistent policies appear to act as a barrier to collaboration both within and across State and Territories. Information available to the Panel indicates that organisations and

20 NSW Ministry of Health. *NSW Health and Medical Research Strategic Review*; 2012; Sydney; p. 32.
collaborative clusters in some States may face issues with processes around indemnity, data and tissue sharing, clinical trials and ethics arrangements, although these issues are not applicable across the board.

Further, while closer links to health services and universities are crucial in strengthening institutional collaborations, the priorities and resources of stakeholders are not always well aligned. The relative emphasis placed on research, education, and patient care differs markedly between iMRIs, universities and hospitals.

The competing priorities of universities and hospitals is one of the key reasons why iMRIs exist as separate legal entities, so that research and its translation is at the absolute core of the purpose of the iMRIs, unencumbered by priorities around teaching and health service provision.

- AAMRI

Models of cooperation

One of the issues with the Australian HMR sector is that it operates across a number of distinct sectors; research takes place in research institutes, universities, hospitals and health services, private enterprises and government. The models of cooperation detailed in this section do not pertain to individual researcher-to-researcher collaboration, but rather to collaboration between institutions. While the value of institutional collaboration is widely acknowledged, there are different perspectives on how collaborative partnerships between iMRIs and other organisations should be structured, and whether there should be incentives or disincentives to support greater inter-institute engagement within the sector.

The Panel recognises that governance, location and research priorities of iMRIs can influence the collaborative opportunities available to them and that there is no one model that can or should be considered for the whole sector. However, the sector should consider international trends and actions in our competitor countries. Outlined below are the various models operating in the sector, and the operational considerations associated with these models.

Merged

Mergers between iMRIs have taken place in recent years. Typically, these occur when iMRIs conduct research into similar or complementary areas, and/or operate in close geographic proximity to each other.

For example the MIMR-PHI Institute of Medical Research (now known as the Hudson Institute of Medical Research) was a merger of the Monash University based Monash Institute of Medical
Research and Prince Henry’s Institute. This merger allowed two iMRIs to come together to create a larger institute of expertise.

While there is no particular number of staff that the Panel has identified as representing the ‘best practice standard’ for an iMRI, the Panel agrees with submissions indicating that critical mass or ‘economies of scale’ are critical to remaining viable organisations. Internationally, there are trends towards bringing together organisations to create larger organisations that contribute a range of expertise to health and medical research. The merger of iMRIs could enable iMRIs to maintain the benefits of an independent profile and governance structure if that were desired, whilst reaching or maintaining critical mass in terms of staffing, infrastructure and resources. Mergers may also increase the sustainability of iMRIs, without potentially needing to take on additional layers of administration through integration into a university or health service.

The Panel understands that in order for two or more iMRIs to merge, there are many, and potentially complex, issues to be considered and addressed. These include financial, governance, administrative issues, vision and objectives alignment, as well as scientific considerations.

Examples of issues to be considered include:

- Appropriate governance structure to maintain a strong focus on the organisations’ long-term strategy and implementation of the research objectives
- Maintenance of the organisations’ identity/brand recognition to assist ongoing fundraising capability
- Name and branding of the entity
- Location of corporate headquarters

While working through these considerations may be difficult and time-consuming, they must be weighed against the potential benefits. The increasing movement towards the consolidation or clustering of collaborative and cooperative organisations, both domestically and internationally has been shown to create opportunities for significant cost-savings and strengthening of translational links, resulting in greater value for public money and investment.

Informal agreements

It is clear from consultation and previous reviews that collaboration between iMRIs and third parties such as universities, health services and industry is taking place in Australia. However, there are a range of approaches to collaboration, varying from informal, ad-hoc linkages to more formalised approaches, and these vary in their effectiveness.

The Panel is aware that some iMRIs have developed informal, low visibility, collaborative linkages which are not the subject of formal legal arrangements, and may have developed organically and around current priorities.

Informal agreements allow organisations to maintain their independence, branding and set their own strategic direction. Many iMRIs argue that the flexibility of this approach appears to outweigh the potential benefits of a more formalised, integrated approach to collaboration. However, informal agreements may leave iMRIs open to a range of risks, including sudden changes to the
costs or governance of one or both parties, outside agreements of either party impacting on the current agreement, and misuse of data or other proprietary items. iMRIs need to balance these benefits and risks when making decisions around collaborative relationships.

In general these [collaborative arrangements] are more useful when they have been institutionalised and formalised, so as to facilitate joint appointment of clinical/research staff, joint development of research agendas based on identified clinical need, and facilitation of clinical trials etc.  

-Baker IDI

Contractual Affiliation

Many iMRIs in Australia have contractual affiliations with other iMRIs, universities, hospitals or health services. This allows both organisations to formalise their partnership but maintain independence as distinct legal entities. For example, a university will often formally recognise an iMRI within its organisational structure as a school within a faculty, and provide lead iMRI researchers with partial co-appointments or adjunct type appointments. The affiliations can also provide iMRI-based researchers with access to university resources and facilities, research students and teaching opportunities. In return, the university is generally able to claim the research outputs of the iMRI as university outputs, thereby enhancing the university’s international reputation and ranking.

Such arrangements are generally covered by formal legal agreements which seek to promote genuine research collaboration. The agreements usually also include an agreed distribution of university research block grant funding to iMRIs based on the amount of additional block grant funding a university generates by claiming iMRI generated (but university managed) competitive research income; usually competitive grants won through the NHMRC. However, the potential financial incentives provided through these arrangements (to both iMRIs and universities) run the risk of creating artificial arrangements in the system whereby agreements are entered into primarily for financial gain rather than for genuine research collaboration purposes. This is viewed by some organisations as a cost-shifting technique that is not aligned with the rules or policy intent of block grant funding.

While contractual affiliations have the benefit of formalising a collaborative link between iMRIs and third parties, careful attention is also required to managing a potential risk of losing financial independence. Evidence of a bona fide relationship would include the existence of a formal legal agreement encompassing factors such as the extent to which:

1. strategic research directions are jointly determined, and day-to-day research activities are conducted and controlled through joint governance arrangements or committee structures
2. research facilities, equipment and resources are jointly accessible and shared
3. lead researcher employment and academic appointments (paid and unpaid) are jointly determined
4. research training is conducted jointly
5. iMRI employees are provided with teaching opportunities
6. ethical responsibility frameworks are jointly determined and managed
7. academic outputs and outcomes are jointly recognised
8. back-of-office functions are shared.

**Integration**

Partial or full integration into universities, hospitals and Local Hospital Networks (LHNs) represents the most collaborative and potentially least independent model on the spectrum.

There are currently over 200 HMR institutes or centres located in universities in Australia, and many different models of institutes within large, research intensive universities worldwide. These institutes, in an Australian context, are strong recipients of competitive grants and have high levels of research activity, comparable to iMRIs.

Integration into a university or health service allows institutes to share the financial burdens associated with HMR. The much larger financial support and resources of universities and health services would provide iMRIs with a greater buffer against the unpredictability of grant cycles, and opportunities for costs to be subsidised within the larger organisation. Integration may also advantage universities or health services through access to, and participation in, research undertaken by iMRIs. In particular, strong links to diverse, multidisciplinary teams and access to disciplines such as engineering, ICT and the social sciences through universities, or to clinical practice and health services research through health services, are of benefit to the research of iMRIs. There are opportunities for iMRIs who choose to explore partial/full integration into universities, hospitals or LHNs to gain access to and co-invest in expensive research platforms which will enable more and better research to be undertaken, and will facilitate the translation of research to practice.

UNSW considers that the smaller iMRIs may be able to make a more valuable and impactful contribution to medical research and health outcomes if they align/consolidate with each another or with universities or other major institutes, to achieve critical mass, take advantage of economies of scale and to reduce administrative overheads.

- The University of New South Wales

However, there are concerns in the sector that integration of institutes and other organisations may not be mutually beneficial.
While universities gain reputation, rankings and esteem (among other benefits) through closer affiliations with iMRIs, consultation with the sector suggests that the benefits to iMRIs are not always clear to the iMRIs themselves – or do not outweigh, for many, the added bureaucracy of university back-of-house services.

Embedding MRIs in universities also has issues, given the expensive and cumbersome administrative structures of universities, which are likely to reduce the proportion of awarded funds available to the frontline researchers.

- Austin Health

Feedback from AAMRI members that have experienced an MRI integrated into a university as well as those working in iMRIs is that the disadvantages of assimilating iMRIs into universities far outweigh the perceived advantages, and that this approach is an absolute last resort. Members provided case studies showing that such integration increases reporting and bureaucracy, results in important conflicts of interest in relation to teaching, prevents long-term strategic decisions at the institute level, and reduces efficiency and flexibility.

- AAMRI

Those iMRIs that have integrated fully into universities, hospitals or LHNs may have had to consider the following:

- Potential risks to philanthropic donations.
- The level of independence and control that they might have with regard to research priorities.
- Impact on iMRI staff and university students.
- Strong and clear contractual arrangements which outline the expectations and responsibilities of each party.
• Clear arrangement regarding the use of joint equipment.
• A single process for obtaining ethics approval.
• Clear lines of communication between research staff and university administration.
• Intellectual Property arrangements.

Concerns raised by iMRIs regarding the loss in autonomy and independence, and additional administrative burden imposed by universities, may be offset by enhanced security and other opportunities associated with larger universities. Careful consideration of the governance structures is central to ensuring a positive outcome.

**Cluster**

There is clear acknowledgement that the sector is already moving towards further collaboration, for example through the National Health and Medical Research Council’s Advanced Health Research and Translation Centres, in New South Wales through the Health Ministry’s Research Hubs, and in Victoria through the Academic Health Science Centres. This model brings together independent organisations in the health services, health research and health education sectors, and has been generally supported by the sector.

**The possible formation of “Academic Health Centres” or “Advanced Health Centres” has been proposed for many years. These could be vehicles to generate a larger critical mass of research activity, coordinate research activity and the translation of research into health care and to provide some sustained stability for the medical research workforce.**

*Australian Academy of Science*

**The NHMRC’s development of Advanced Health Research and Translation Centres (AHRTC) and in NSW research hubs are strong examples of collaborations that will lead to solutions to the range of complex health issues facing the population.**

*The Centenary Institute*
Like any collaborative arrangement, there are some barriers to establishing and maintaining an effective “cluster” of organisations. Each component of a cluster relates to a different sector – research, education and health care – that has different governance arrangements, as well as funding sources, missions, priorities, operational frameworks and employment conditions.

In addition to this, consultation has raised a number of key issues that need to be considered in setting a strategic direction for collaboration, particularly in relation to clusters. Clusters have developed as a result of government/sector policies to bring together the range of organisations involved in health and medical research. This has included deliberate policies in South Australia, which resulted in the establishment of SAHMRI; the NSW Hub Strategy; Academic Health Science Centres in Victoria; and a move to establish clusters in both Western Australian and Queensland.

In general clusters afford member organisations a high level of autonomy and flexibility, allowing them to set their own strategic direction and develop around local research priorities. This has resulted in a variety of different arrangements. There are examples of clusters that have been highly effective in driving strategic direction and others where the cluster has been loosely symbolic and collaboration has not translated into practice. Questions have been raised about whether clusters need to be legal entities in order to maximise operational efficiency.

Creating a legal entity for a cluster may give rise to the risk of adding a layer of bureaucracy for participating organisations, but also has the potential to significantly strengthen the collaboration. As noted by the McKeon Review, governance structures are crucial to the operation of clusters. They ensure joint and equal input from all collaborative partners, as well as having administrative functions to assign funding to specific projects. Other issues that need to be considered in moving towards clusters are the profile of the cluster itself, KPIs, monitoring and reporting arrangements and requirements.

**NHMRC’s Advanced Health Research Translation Centres**

Advanced Health Research Translation Centres (AHRTCs) are a recent NHMRC initiative, designed to recognise and encourage leadership in research translation. AHRTCs are also positioned as highly collaborative, with centres needing to demonstrate clear excellence across the areas of research, translation, health care and training. Centres are expected to share a vision, strategy, and clarity of purpose. On 28 March 2015, the NHMRC announced that the four successful Advanced Health Research and Translation Centres are:

- Alfred Health and Monash Health and Partners Advanced Health Research and Translation Centre
- Melbourne Health Care Partners Advanced Health Research and Translation Centre
- South Australian Advanced Health Research and Translation Centre
- Sydney Health Partners Advanced Health Research and Translation Centre.

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21 Fisk, et al.; *Academic health science centres in Australia: let’s get competitive*; p. 59
22 McKeon, S, et al; *McKeon Review*; p. 68
**NSW Research Hubs**

Following the NSW Health and Medical Research Strategic Review 2012, the NSW Government established a ten year strategic plan for health and medical research. With respect to collaboration, it was acknowledged that “although there are good examples of research collaboration between universities, medical research institutes and health services in NSW, discrete silos and competitive practices remain.”

As part of this plan, NSW established a Hub strategy, in order to bring together “research enterprises… that are, generally, closely related by geography where facilities can be shared and ideas traded to stimulate new and health-relevant research.” The plan acknowledges the international reputation of a cluster model of collaboration, with benefits such as:

- making the best of a highly skilled workforce
- the stimulation of creativity through the exposure of researchers, program administrators, clinicians, commercialisation proponents and policy makers to all of the different aspects of research
- an enhanced capacity to catalyse developments across the research continuum
- promoting the relevance and uptake of research in clinical practice
- facilitating large scale and/or complex studies that are outside the capacity of any single institution to undertake.

**Academic Health Science Centres**

The Academic Health Science Centres (AHSC) model brings together universities, clinical research institutions and health care providers, with the aim of ensuring that research discoveries directly translate into clinical benefits for patients.

AHSCs developed in the United States, and are now well established internationally, with centres in Canada, Holland, Sweden, the United Kingdom and Singapore. High profile examples include the Mayo Clinic (US), John Hopkins Medicine (US), King’s Health Partners (UK), Imperial College Healthcare (UK) and Karolinska Institute (Sweden).

In Australia however, it is only in the last few years that the model has been applied, with no centres in existence prior to 2011. Current examples include:

- The Health-Science Alliance, Sydney (2011)
- Diamantina Health Partners, now Brisbane Diamantina Health Partners, Brisbane (2011)
- Monash Partners Academic Health Science Centre, Melbourne (2012)
- Melbourne Academic Health Research Centre, Melbourne (2013)
- Western Alliance, Victoria (2014)

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23 NSW Ministry of Health; NSW Health and Medical Research Strategic Review; p. 31
24 NSW Ministry of Health; NSW Health and Medical Research Hub Strategy 2014-2019; p. 4
**The Francis Crick Institute (UK)**

The Francis Crick Institute is an interdisciplinary medical research institute bringing together scientists from all disciplines in a new purpose-built venue, aimed at keeping the UK at the forefront of innovation in medical research, attracting high-value investment and strengthening the economy.

The Francis Crick Institute is a consortium of six of the UK’s scientific and academic organisations:

- The Medical Research Council (MRC),
- Cancer Research UK (CRUK),
- the Wellcome Trust,
- UCL (University College London),
- Imperial College London, and
- King’s College London.

By combining the specialist knowledge, expertise and resources from each of these organisations, the Francis Crick Institute seeks to encourage ground-breaking research across a range of scientific disciplines, ensuring that laboratory discoveries are turned into treatments as quickly as possible.

**Translation of research to outcomes**

Translation is the realisation of research; the outcome that justifies the continued substantial public and private investment. The Panel considers translation to be an iterative process, where discoveries in basic research become further knowledge, leading to sound policy, new drug options, devices and more effective treatments for patients. The benefits of translation include not only improved health outcomes, but also economic, strategic and other non-quantifiable benefits, such as reputation.

To achieve these benefits, research findings must be translated through the health system into better individual and population health outcomes. The publication of research findings in academic journals is just the beginning of research translation, and there are many activities between publication of research results and the benefits that are ultimately derived by health consumers.²⁵

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²⁵ McKeon, et al; McKeon Review; p114
Khoury, et al (2010) identified the phases of translational research as:

- **T0** - scientific discovery research;
- **T1** - translational research from discovery to candidate application;
- **T2** - translational research from candidate application to evidence-based recommendation or policy;
- **T3** - translational research from recommendation to practice and control programs; and
- **T4** - translational research from practice to population health impact.  

While it is not always possible to predict the outcome of T0 research, with iMRIs operating in an increasingly tight fiscal environment it is critical that research is able to demonstrate a commitment to "line of sight" to improved patient care even though this may be in many cases some distance off.

**Non-commercial outcomes**

Research can produce strong, evidence-based guidelines, policies and models of care. Examples of these are used every day in primary and acute care, and even more are trialled in clinical settings across Australia and around the world, being refined and tested until they come into common use. These outcomes can increase the efficiency of the health sector, and the effectiveness of the care provided to patients.

There can be some misalignment between the research undertaken by institutes, and the most significant gaps in health policy and the evidence base. Linking research to Australia’s health priority areas can create valuable cost savings, as well as improved health outcomes, where researchers, clinicians and policy makers are able to collaborate. For example, a team of Australian researchers showed that using cheaper saline solutions to replenish fluids in intensive care was at least as effective, and possibly safer, than more expensive albumin solutions. While the two treatments were clinically equivalent, the same could not be said for the cost of each treatment – albumin costing $332 a litre, and saline $1.60 a litre.

Institutes ... undertake research which ultimately saves public funding by reducing lengths of stays in hospitals and producing better models of care. Most of this applied and clinical research produces outcomes are not 'commercialisable' but reduce health care costs and provide cost efficiencies.

-NARI, Discussion Paper Submission.

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26 Khoury, Muin J., Gwinn, Marta, Ioannidis, John P.A.; The Emergence of Translational Epidemiology: From Scientific Discovery to Population Health Impact; American Journal of Epidemiology; 172: 5, 2010; pp 517-524; [http://aje.oxfordjournals.org/content/172/5/517.full.pdf](http://aje.oxfordjournals.org/content/172/5/517.full.pdf)

27 McKeon, et al; McKeon Review – Executive Summary; p.39


Commercial outcomes

As depicted in Figure 3, successful commercial translation is an opportunity to transform patient health care and improve health outcomes, and also reinvest money into the HMR sector.

Figure 3: The ‘Virtuous Cycle’

There are three main funding stages in the research process towards commercialisation: preclinical, early clinical and late clinical (see Figure 4). The first two are colloquially known as ‘valleys of death’ due to a significant shortfall in funding at these points. There is more private equity support for the late clinical stage of research, primarily from investors such as the pharmaceutical industry. While Australia has built a capacity in venture capital and private equity that fund a small number of projects to emerge from these ‘valleys of death’, additional support is required to generate an increased flow of investable projects.  

Source: NHMRC Strategic Plan 2013-2015

McKeon, et al; McKeon Review – Executive Summary; p.41
The Australian Government is currently implementing a range of initiatives to support better translation of research into commercial outcomes and help drive innovation in Australia through Boosting Commercial Returns from Research, part of the broader Industry Innovation and Competitiveness Agenda. Through the additional injection of funding into the medical research sector through the Medical Research Future Fund, further opportunities are likely to become available to improve productivity and economic growth by supporting translation and commercialisation.

Given the relative scarcity of commercialisation skills in the medical research sector, there is a need to encourage scale and leveraging of larger commercialisation resources with the breadth and depth of expertise required, rather than have each small institution attempting to build an end-to-end commercialisation capability.

Figure 4: Continuum of Translation of Research to Outcomes.

Adapted from presentation to the Department of Health by Noel Chambers, CEO, National Foundation for Medical Research and Innovation (2014)
Strengthening translation

Due to the wide range of skills required, researchers may not have an appreciation of the full scope of the work required to take T0 or T1 research through to adoption (T4) – whether that is a policy or guideline, or creating a product to commercialise. Encouraging or enabling institutes to form exchanges between researchers, clinicians and the biotech, pharmaceutical and investment industries will help embed a commercialisation culture across the research sector.

Submissions to the Review indicated that some iMRIs have had great success in strengthening the culture of “line of sight” in their institutes, and that strong collaboration between the institutes, health services and universities has helped in cementing these ideas.

[The institute] is a very successful model of an independent medical research institute collocated with a hospital and a major University. This collocation has resulted in major discoveries… In addition, our access to large patient cohorts combined with an investment in new technologies has allowed us to translate our discoveries very quickly into diagnostic tests.

- MCRI, Discussion Paper Submission

There are public and private sources of funding that are directed towards the support of translation of research. Around 25% of NHMRC funding supports the acceleration of translation, including two specifically targeted schemes (Development grants for commercial translation, and Partnerships for Better Health for research aimed at improving health services). In most NHMRC schemes, funding advantage through its defined Selection Criteria is given to those who can demonstrate clinical, public health, health service or commercial translation.

The Cancer Institute NSW developed a successful funding model to promote translational outcomes from cancer research, by requiring membership of research hubs comprised of basic and clinical researchers to receive funds, and specifically funding translational research programs.

- Garvan Institute, Discussion Paper Submission
Despite the focus on translational outcomes in Australia, the McKeon Review noted that there is still a tendency towards under-investment in translation due to the lack of economic return.

The McKeon Report recommended that increased “line of sight” visibility should be encouraged through inclusion of commercialisation as one of the measures for research evaluation, institutional rankings, and for industry awards.  

The Prime Minister’s Prize for the Commercial Application of Science was announced as a new prize in 2014 to recognise excellence in Australian research commercialisation resulting from the translational impact of applied science. Awarded for the first time in 2015, the Prize aims to promote the building of better links between researchers and industry and encourage entrepreneurial spirit in the business and research communities.

**Reporting on translation**

There are no agreed measures of translation. There is work occurring at many levels across Australia and internationally to increase the translational effectiveness of research. This work has identified many potential measures that need to be further refined. As the measures become refined and agreed around the research sector internationally, the scope of reporting on translation for iMRIs can be revisited. Consultation with stakeholders including iMRIs, State and Territory Governments and funding bodies will assist in ensuring that the measures are valid and useful.

A familiar method of assessing research and outputs is to consider the number of papers produced by an institution and the number of citations of these papers. The number of new patents and patents under licence are also measures that can indicate the translation success of an institute.

The San Francisco Declaration on Research Assessment created by the American Society for Cell Biology (ASCB) in 2012 noted that there is “a pressing need to improve the ways in which the output of scientific research is evaluated by funding agencies, academic institutions, and other parties.” Signatories to the Declaration, including NHMRC, have ceased use of the Journal Impact Factor as a primary parameter with which to compare scientific output of individuals and institutions.

NHMRC, like many national and international funding bodies, has been considering and developing new methods to capture research outputs and outcomes, and ultimately its long-term impacts. Changes to the NHMRC’s Research Grants Management System (RGMS) are enabling the linkage by researchers of a variety of research outputs, such as publications, patents & IP, and translation into policy and practice, with specific grants. This builds upon the analyses already undertaken by NHMRC with respect to publications, such as the Measuring Up series of reports.

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31 McKeon, et al; McKeon Review; p.222
33 American Society for Cell Biology; San Francisco Declaration on Research Assessment; 2012; [http://www.ascb.org/dora-old/files/SFDeclarationFINAL.pdf](http://www.ascb.org/dora-old/files/SFDeclarationFINAL.pdf); accessed 11 November 2014
and the recent NHMRC-supported publications: An institutional and sectoral analysis. The UK Research Excellence Framework (REF) assesses the quality of research in publicly funded UK higher education institutions and aims to provide accountability for public investment in research and produces evidence of the benefits of this investment. For the first time in 2014 the assessment included impact. For the purposes of REF, “impact” is any effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.”

A similar approach was trialled in 12 Australian universities in a joint study by the Australian Technology Network of universities (ATN) and the Group of Eight (Go8), Excellence in Innovation Research impacting our nation’s future – assessing the benefits. More complex analyses to determine the health benefits of research, such as those being conducted by RAND Europe and the Health Economics Research Group from Brunel University, offer insights into long-term opportunities for capturing and analysing the linkages between publicly funded research and health outcomes.

Although, commercialisation is an important measure of translational research, [the University] believes that other measures of research impact that have strong economic impact (for example cost savings to health providers) should be included.

- University of Newcastle, Discussion Paper

Submissions to the review indicated that there was a need to provide more than just metrics when giving a view of translation from an institute and the Panel agrees. It was suggested that qualitative measures providing a narrative context, alongside the quantitative measures, was the most effective way to establish a complete picture of translation from an institute.

The Panel does not wish to place unnecessary reporting burden on institutes, so any future addition of translation reporting measure(s) should recognise the best measures internationally that provide a complete picture. The NHMRC and other experts can provide advice on the progress of domestic and international effort in producing these measures, and their application to the Australian iMRI sector.

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35 National Health and Medical Research Council; NHMRC-supported publications: An institutional and sectoral analysis, 2014; Canberra
36 Higher Education Funding Council for England; Scottish Funding Council; Higher Education Funding Council for Wales; Department for Employment and Learning, Northern Ireland; Impact pilot exercise, 2015; [http://www.ref.ac.uk/about/background/pilot/](http://www.ref.ac.uk/about/background/pilot/); accessed 12 March 2015
39 Wooding, S, Hanney, S, Pollitt, A, Buxton, M, Grant, J; RAND Europe; Project Retrosight: Understanding the returns from cardiovascular and stroke research, 2011; RAND Monograph Series: 1079
PART C

Review Conclusions and Panel Recommendations
Conclusion

The overarching objective of this review is to strengthen iMRIs in Australia, by identifying what is required to ensure that iMRIs can continue to make a strong contribution to a vibrant, collaborative, and innovative HMR sector in Australia. Specifically, the review is required to consider and make recommendations on options for improving the viability and competitiveness of Australian iMRIs, with a particular focus on increasing efficiency and collaboration.

In its early deliberations, the Panel determined that it would address the ToR by focusing on and examining four issues relating to iMRIs:

• Business efficiency;
• Corporate sustainability;
• Collaborative research relationships; and
• Translational impact.

These are considered to be the key measures of the value of investment in the HMR sector, and the measures that the Government has a legitimate interest in as the major investor in HMR in Australia.

Each of the key measures was explored on both an individual iMRI level and at the sectoral level throughout the consultation process in order to ascertain the current level of efficiency and collaboration, and identify common strategies for improvement. Barriers to ascertaining the current level of efficiency and collaboration at a sectoral level included:

• There is no standard, uniform reporting mechanism that allowed the Panel to make a solid judgement on the business efficiency, or corporate sustainability of the iMRI sector, or individual iMRIs, and;
• Each iMRI has a business model and approach to collaborative research relationships that in part reflects its origins and history, physical location, funding sources, leadership, researchers and research foci, and also changes in these factors over time.

These challenges prevented the Panel from undertaking a robust, detailed comparative analysis of the business efficiency, corporate sustainability, collaborative research relationships, and translational impact across iMRIs.

iMRIs already put effort into reporting to a number of different Commonwealth Departments and agencies, State and Territory Government agencies, and to their Boards, each of which requires different metrics. For example, the data provided to the NHMRC as part of reporting requirements is different from that provided to the Australian Charities and Not-for-profits Commission, and to States and Territories.

The Commonwealth and the States have the ability to consolidate their reporting requirements as a means to minimise the administrative burden on iMRIs. Reducing this burden, and providing iMRIs with a richer source of performance information in the form of benchmarks, expert analysis and advice, will provide a stronger foundation for Boards required to make important business
decisions for their iMRI, and for governments required to make important funding decisions affecting iMRIs.

In a sector that receives over $1 billion in funding annually, even a 1% increase in efficiency generated through the advice of the iMRI Advisory Panel could see an extra $10 million being available to be directed to research in Australia each year.

The Panel is of the view that as independent organisations, iMRIs and their Boards have responsibility for strengthening their business efficiency, corporate sustainability, collaborative research relationships, and translational impact. However doing so is made more difficult by the lack of information available that could be used to inform strategic decision making.

It is anticipated that implementing a common streamlined reporting mechanism between the Commonwealth and the States will serve to bring more accountability to the sector, enable the Commonwealth to fulfil its responsibility to ensure the proper use of public funds, and provide iMRIs with more information regarding how their iMRI is performing in comparison to the sector while minimising their reporting burden.

**Recommendations**

The Panel’s recommendations have been developed through a combination of independent research, advice, analysis and consultation with the sector and stakeholders. While the Review’s ToR focus on iMRIs, and the Panel’s recommendations therefore apply specifically to iMRIs, the Panel considers that many of its recommendations are broadly applicable to the larger health and medical research sector.

**RECOMMENDATION 1**

In making decisions about the allocation of health and medical research funds to iMRIs, Commonwealth Government funding bodies will take into account expert advice on the business efficiency, corporate sustainability and collaborative research relationships of individual iMRIs. Account will also be taken of iMRIs’ translation of research to outcomes when reliable measures of this have been developed.

Evidence of business efficiency, corporate sustainability, collaborative research relationships, and translational impact are considered to be key measures of the value of investment in the HMR sector. The Panel therefore recommends that a report should be prepared and provided to Commonwealth Government funding bodies with advice on how an iMRI performs against these key measures.
These reports are intended to assist Commonwealth Government funding bodies to assess iMRIs against their peers, and will be taken into account in the allocation of HMR funds. As the major investor in HMR in Australia, the Commonwealth Government has a responsibility to ensure that recipients of funds are accountable to the public and that the highest value of investment is achieved.

As it stands, there are currently no agreed measures of translation. There is however, work occurring at many levels across Australia and internationally to increase the translational effectiveness of research. Expert advice will be sought from the NHMRC, the wider HMR sector and other relevant stakeholders on progress in developing standardised, internationally agreed measures of translational impact, with a view to incorporating these in advice when available. As the measures become refined and agreed around the research sector internationally, the scope of reporting on translation for iMRIs can be revisited.

**RECOMMENDATION 2**

An iMRI Advisory Panel should be established to provide this expert advice to Commonwealth Government funding bodies.

The iMRI Advisory Panel will provide leadership in the iMRI sector through:

- the streamlining of data reporting requirements across jurisdictions to minimise the reporting burden on iMRIs;
- the collection of quantitative and qualitative data to fulfil governments’ accountability requirements;
- provision of analysis to support the consideration of, and advice to (a) government funding bodies, and (b) individual iMRIs, about the sustainability, efficiency and collaboration of individual iMRIs;
- working with individual iMRIs to assist them in strengthening their sustainability, efficiency and collaboration, supported by a searchable electronic database built to enable individual iMRIs to benchmark themselves against similar iMRIs; and
- working with the HMR sector and higher education sector to further develop and apply measures of translational impact and outcomes.

Further detail on the proposed operational structure and implementation of the iMRI Advisory Panel is at Appendix D.
RECOMMENDATION 3

Expert advice prepared by the iMRI Advisory Panel about an iMRI will also be shared with that iMRI, and will also be made available on request to State and Territory funding bodies, and subject to the consent of the iMRI concerned, to other third parties including potential funders.

The expert advice prepared by the iMRI Advisory Panel will not only be provided to Commonwealth Government funding bodies, but is designed to be shared with iMRIs. The iMRI Advisory Panel will advise and support iMRIs to strengthen their business efficiency, corporate sustainability, collaborative research relationships and translational impact.

A collaborative approach in relation to the draft advice prepared by the iMRI Advisory Panel is a critical part of the process. Any advice prepared for government funding bodies will be shared with, and discussed with, the iMRI before it is finalised. Any matters on which there is a difference of opinion that cannot be resolved through discussion will be noted in the iMRI Advisory Panel’s final advice to the funding bodies.

A copy of the final advice will be provided to the iMRI, with the intention that the advice is used by iMRI Boards for benchmarking, and to inform strategic decision with regard to business efficiency and collaborative research relationships.

Final advice prepared by the iMRI Advisory Panel will also be made available to State and Territory funding bodies and, subject to the consent of iMRIs, to other potential funders.

RECOMMENDATION 4

The iMRI Advisory Panel’s advice will be based on its analysis of data and information routinely submitted by iMRIs, as well as consultation with iMRIs.

In order to support its functions, the iMRI Advisory Panel requires reliable and comparable information from the iMRI sector. The iMRI Advisory Panel will collect and analyse a combination of qualitative and quantitative data from iMRIs.

This data will be collected via a template. iMRIs will need to submit this template to be considered for Commonwealth Government funding.

The approaches adopted by the New South Wales and Victorian Governments in their funding of iMRIs have been identified as templates that can be adapted for use by the iMRI Advisory Panel. Cooperation with these States in being able to leverage their work, and refining it for use at a Commonwealth level, will help ensure an effective and efficient outcome.

It is important that the iMRI Advisory Panel maintains contact with each iMRI throughout the
process of preparing advice to ensure that its analysis and conclusions fairly consider the data and information available on the iMRI. This includes the qualitative information available, which can assist in developing a more refined assessment of an iMRI’s operations. The iMRI should be provided every opportunity to participate in the analytical process.

RECOMMENDATION 5

This data will be drawn from a national database, to be established as a national minimum data and information set developed through consultation with the intention of minimising any additional administrative burden.

The iMRI Advisory Panel will develop its advice based on a national database. The database will ensure the comparability of data provided by iMRIs and contribute to more robust analysis, as well as minimise additional administrative burdens on iMRIs.

The national database will be designed around an agreed national minimum data and information set that is supported by agreed definitions and specifications. The database will be populated and regularly updated via the annual submission of templates by iMRIs. Development of the database and national minimum data and information set should be guided by the following principles:

1. To require only information that is useful, and does not increase onerous “red tape”

It is important to have a clear objective for data collection and how it will be used to support strategic decision making and advice. The minimum data/information set to be developed in consultation with the sector must capture the key financial and operational data and information while having minimal impact on the iMRIs’ resources. The proposed reporting should be streamlined into current requirements where possible, and completed in an efficient and effective process.

2. To consider the diverse nature of the medical research sector

The diverse nature of individual organisations within the medical research sector will require the collection of both a qualitative description of institutes’ operations, and quantitative financial and operational data to be able to make assessments within the sector.

Examples of the information parameters that will need to be explored include:

- Research stage difference – research activity occurs in various stages of a research cycle and has differing impact on the costs and revenues generated within an institute. Further, the measures that define success vary between the stages, for which the template must account.

- Clinical or public health area of research – institutes may focus their research within particular clinical areas that have differing cost variables such as requiring specific work area requirements, or staff skills. These differences must be captured to conduct an equitable analysis of the institute’s Size/Structure of the institute – The critical mass, governing structure and the relationship of the institute to universities, other organisations and any influence on health
policy through advocacy will impact the operational structure and key drivers of cost and revenues within the institute.

3. To not duplicate effort

The data and information template will, to the extent possible, be aligned with States’ existing reporting templates designed for the same/similar purposes, in order to minimise the administrative burden.

It is critical to acknowledge the information that is already collect and reported on by iMRIs to ensure that the iMRI Advisory Panel does not impose significant additional reporting burdens. Where possible, the iMRI Advisory Panel should use this existing data.

4. To foster a consultative process

In developing a national minimum data and information set, it is important to acknowledge the efforts already undertaken within the sector to improve corporate sustainability, business efficiency, collaborative research relationships and translation of research to outcomes.

The development of the national minimum data and information set will be the subject of consultation. Input will be sought from NHMRC, iMRIs, AAMRI, all nine jurisdictional departments of health, hospitals and health services, universities, relevant Commonwealth Departments (including: Education and Training, Industry and Science, Foreign Affairs and Trade, Defence, and Veterans’ Affairs), and the Australian Research Council. A collaborative approach that considers the purpose, rationale and lessons learnt from stakeholders is invaluable in standardising a national approach.

RECOMMENDATION 6

The iMRI Advisory Panel, drawing on the expertise of its members and support staff, its overarching view of the sector, and information collected from iMRIs, will also support iMRI Boards in strengthening the following areas of iMRI operations: business efficiency, collaborative research relationships, and translation of research to outcomes.

In addition to providing informed advice to government funding bodies, this process is designed to allow the iMRI Advisory Panel to work with iMRIs to strengthen the following areas:

Business efficiency
The iMRI Advisory Panel will provide advice directly to iMRIs, as appropriate, regarding potential strategies for efficiency. This advice may include identifying opportunities for shared back-of-house services, more efficient use of research space and more efficient utilisation of research equipment.

Collaborative research relationships
The iMRI Advisory Panel, through its own expertise and accessing external expertise, will act as an advisory resource for iMRIs by identifying opportunities and providing guidance in relation to the
establishment and maintenance of collaborative linkages in the sector. Mechanisms to further strengthen collaboration between iMRIs, other research organisations and industry, such as sector-wide expos, should be considered.

Translation of research to outcomes

The iMRI Advisory Panel will seek expert advice from NHMRC, the wider HMR sector and other relevant stakeholders on progress in developing standardised, internationally agreed measures of translational impact, with a view to incorporating these in its analyses and advice when available.

Transition

The work performed by the iMRI Advisory Panel will be important to the whole HMR sector in Australia and to policy makers in research and health. It is anticipated that there will be a significant transitional phase for iMRIs and that the development of reliable and robust data will take time. The Panel therefore recommends the following phased approach:

• The iMRI Advisory Panel should be established as soon as possible to commence the development of the data and information template and collection and analysis of data.

• The national Minimum Data and Information Set and the contents of the data template should be finalised by December 2015.

• The deadline for submission of the completed templates from all iMRIs will be agreed through consultation with the sector, with the proposed date for the first submission being in February/March 2016 (for the 2014-15 financial year).

• The proposed date for the first advice being provided to government and to iMRIs will be October 2017, following the collection of two financial years of information templates.

To assist iMRIs in the transition towards standardised reporting, the Commonwealth Government, through the iMRI Advisory Panel, should provide support and training to iMRIs, and consider possible incentives for iMRIs to complete and submit their initial template.
Appendix A
Submissions Received

Submissions on the Issues Paper
On 18 November 2014, the Panel released an Issues Paper and Business Model template as part of the review’s consultation strategy. Submissions closed at midnight on 7 December 2014. The Panel received submissions from a total of 54 different stakeholders. Overall, these 54 stakeholders provided:

• 48 submissions on the Issues Paper, and
• 29 completed Business Model templates.

A total of 23 submitting stakeholders provided both a submission and a Business Model template. Of the remaining stakeholders, 25 provided a submission only, and six provided a Business Model template only.

Ten of the submitting stakeholders asked for their submissions to remain confidential. Of the remaining 44 stakeholders, 29 were iMRIs, five were peak bodies, six were universities, two were other bodies, one was an individual, and one was a State Government department.

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</table>
Submissions on the Discussion Paper

The Discussion Paper was released on 7 February 2015. Submissions closed at midnight on 22 February 2015, at which time a total of 42 submissions had been received. Three of these submissions were confidential. Of the remaining 39 submissions, 23 submissions were received from iMRIs, seven from peak bodies, four from universities, and one from a State Government department. Four submissions were received from other bodies, including collaborative research clusters and health services, think tanks and industry.

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<tbody>
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<td>1.</td>
<td>The Grattan Institute</td>
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<td>2.</td>
<td>Victor Chang Cardiac Research Institute</td>
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<td>3.</td>
<td>Austin Health</td>
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<td>4.</td>
<td>Rare Voices</td>
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<td>7.</td>
<td>Victorian Government</td>
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<td>8.</td>
<td>Baker IDI Heart and Diabetes Institute</td>
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<td>9.</td>
<td>Group of 8</td>
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<td>15.</td>
<td>Olivia Newton John Cancer Research Institute</td>
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<td>16.</td>
<td>Parent-Infant Research Institute</td>
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<td>17.</td>
<td>Australian Academy of Health and Medical Sciences</td>
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<td>18.</td>
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<td>Walter and Eliza Hall Institute</td>
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<td>20.</td>
<td>National Ageing Research Institute</td>
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<td>22.</td>
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<td>26.</td>
<td>St Vincent’s Institute of Medical Research</td>
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<td>27.</td>
<td>University of New South Wales</td>
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<td>28.</td>
<td>Mater Medical Research</td>
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<tr>
<td>29.</td>
<td>Florey Institute of Neuroscience and Mental Health</td>
</tr>
<tr>
<td>30.</td>
<td>Medical Technology Association of Australia</td>
</tr>
<tr>
<td>31.</td>
<td>Joint submission - WA Institutes of Health</td>
</tr>
<tr>
<td>32.</td>
<td>University of Melbourne</td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
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<td>33.</td>
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<td>34.</td>
<td>Heart Research Institute</td>
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<td>35.</td>
<td>Australian Academy of Science</td>
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<td>36.</td>
<td>Australian Association of Medical Research Institutes</td>
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<td>37.</td>
<td>The George Institute</td>
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<td>University of Newcastle</td>
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<td>39.</td>
<td>The Black Dog Institute</td>
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<td>40.</td>
<td>University of Sydney</td>
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<td>41.</td>
<td>Australian Research Council</td>
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<td>42.</td>
<td>St Vincent’s Health</td>
</tr>
</tbody>
</table>
Appendix B
Current Reporting Requirements

Data and reporting requirements in iMRIs

The National Health and Medical Research Council

In 2011 the NHMRC established its current Administering Institution Policy which outlines the criteria an organisation needs to address in order to be recognised as an Administering Institution (AI) and administer NHMRC grant funds. An objective of this policy is to ensure that NHMRC funds are used effectively and efficiently for the purposes granted in a manner consistent with good administration of public money.

Information collected from MRIs at application to be an AI includes:

• Legal entity (e.g. ABN and/or ACN, physical site in Australia where research conducted)
• Audited annual account including Statement of solvency and financial viability
• Membership of the governing body
• Research governance:
  - organisational structure demonstrating reporting responsibilities and roles
  - employment contracts demonstrating institutions ability to exert influence over researcher
  - policy/procedures to ensure NHMRC reporting requirements met
  - process to identify & manage conflicts of interest
  - Formal Agreement with Participating Institutions as per Funding Agreement clause 5.1-5.7
• Policies and procedures for:
  - Research integrity
  - Compliance with the Code for the Responsible Conduct of Research
  - Human ethics
  - Animal ethics
  - Financial management (including insurance)

As this information is not collected annually, the ongoing scrutiny of the effective and efficient use of public funds and the ongoing financial and operational position of the institution is difficult to track throughout the grant lifecycle. Also the process currently available for the collection and analysis of financial information was not created to allow the analysis of the long-term sustainability or efficiency of individual iMRIs.
Australian Charities and Not-for-profits Commission

The Australian Charities and Not-for-profits Commission (ACNC) is the independent national regulator of charities. The ACNC has been set up to achieve the following objectives:

- maintain, protect and enhance public trust and confidence in the sector through increased accountability and transparency
- support and sustain a robust, vibrant, independent and innovative not-for-profit sector
- promote the reduction of unnecessary regulatory obligations on the sector.

The ACNC was set up in 2012 in response to the Productivity Commissions call for an independent regulator of charitable organisations and not-for-profit entities.

Annually charities are required to lodge an Annual Information Statement to ACNC. This Statement is used to confirm the organisation as a charitable entity for taxation purposes, and not to monitor the financial viability of an organisation. The form sets out governance requirements as well as financial information. The financial information consists of profit and loss and balance sheet information from the organisations audited financial statements. Organisations are also required to submit their audited annual financial statements.

Importantly, the form that collects the information from charities was designed with a specific focus in mind (confirming charitable status), and to be applicable against all charity types, not only medical research institutes. The sophistication of the information collected by the ACNC would not be sufficient to adequately assess the health of an iMRIs business.

Legislation to repeal the ACNC is before Parliament for consideration. The regulatory responsibilities would return to ASIC and the ATO if the commission was abolished.

NSW Office of Health and Medical Research.

In NSW, iMRIs are supported for indirect costs of research (Medical Research Support Program - MRSP) and as members of a Hub (NSW Health and Medical Research Hubs) by the Office for Health and Medical Research (OHMR).

The MRSP is a two-tiered system that provides funding to meet the indirect costs of research of iMRIs. The Aim of the MRSP is to achieve 60 cents in the dollar for indirect costs of research from all sources.

To be eligible for support under the MRSP, iMRIs must meet independence criterion that include:

- a legal structure separate to that of a University, Local Health District, Specialty Network, public or private health care facility
- an institute Board or equivalent governing body which is not legally controlled by a University, Local Health District, Specialty Network and/or public or private health care facility
- liquid assets > operational costs (liquidity ratio 1:0)
-Externally audited financial Statements
The OHMR requires both operational and financial reporting from iMRIs in NSW. Reports are subject to mid-term review and are monitored for any significant changes that might indicate changes in financial sustainability or efficiency.

The operational reporting requires iMRIs to providing information on the following:

- Researchers, students, administrative and technical staff
- Publications and grants
- Collaboration
- Translation
- Case studies

The template for financial reporting was developed in consultation with iMRIs. The data collected by the OHMR in these templates can be used to identify operational issues, opportunities for efficiencies, for benchmarking purposes and as a means to report financial information both internally (to the iMRIs board) and potentially externally (to investors). The template acts as an important tool to monitor the sustainability of the iMRI, any significant changes that might affect the iMRI in the long run and to track the use of public funds. The OHMR determines the iMRIs financial status by assessing the liquidity ratio, debt level and cashflow of the iMRI.

An important element of NSW’s approach to reporting is the high level of consultation with the Sector. iMRIs are encouraged to provide feedback on the usefulness and usability of the template and to actively consult with the OHMR regarding its results. The outcomes of the OHMR’s assessment allow for potential sustainability issues to be flagged early and worked on in a collaborative way.

**Victorian Department of Health**

The Victorian Department of Health began requiring iMRIs to report in 2002-03 following the doubling of their program budget doubled to approximately $25 million per annum. The additional funding was provided to create incentives for clinical translation, commercialisation and research capacity-building. To be considered for this funding iMRIs were required to complete a 60+ question survey of their activities.

In 2013-14 the survey simplified to 9 questions as a means to reduce the administrative burden on both the iMRIs who provide the information and the government who interprets the data. These 9 questions focus on key output metrics only, and are not used for determining funding allocations.

The Victorian Department of Health require iMRIs to provide information on the following on an annual basis:

- Governance – to establish eligibility for program.
- Grant income – to validate research income.
- Audited financials – for financial risk assessment (over time track record and projected sustainability status). Audit opinion on government funding expenditure – to validate appropriate use.
• Output survey (9 questions) - to track the performance of the iMRI against research income. These 9 questions focus on the reporting of research output, clinical outputs and outcomes and commercial outputs.

• Annual report – to be informed of MRI activities

• Acknowledgment of funding in publications and annual report

• Board and Senior executives details

The Principles that guide the collection of this data include:

• Necessity for administration of program.

• Accountability to Victorian Auditor-General’s Office, to government, to tax-payers

• Performance (useful and transparent) – to inform government of performance of sector and to track performance over time.

**Boards**

In addition to assisting funding bodies, individual iMRIs are also able to benefit from standardised information that would allow them to consider their own long-term sustainability and operational efficiencies.

The lack of consistency as to how information is currently collected and analysed makes it particularly difficult for any board to compare the efficiency of one iMRI to another.

**Current reporting requirements of iMRIs compared to universities**

Table 1 summarises the key current reporting that aligns with the key areas of reporting proposed for iMRIs in this Report. Additional Commonwealth reporting requirements for universities and iMRIs are provided in Table 2. Additional reporting requirements do exist at the State and Territory level for universities and iMRIs, such as scheme specific reporting for infrastructure or operational funding, but these have not been included in this current summary.

**Key Findings:**

• Universities currently undertake a substantial amount of reporting to a variety of agencies;

• Current university reporting includes information that addresses the key components of the iMRI reporting proposed in the iMRI Panel’s Discussion paper

• There are gaps in current iMRI reporting relative to the reporting proposed in the iMRI Panel’s Discussion paper
### Table B1: Key Efficiency and Sustainability Data Requirements for universities and iMRIs (Preliminary Analysis on Publicly Available Information)\(^{40}\)

<table>
<thead>
<tr>
<th>Reporting/Data Requirement</th>
<th>Existing University Reporting Requirements</th>
<th>Existing iMRI Reporting Requirements</th>
<th>Proposed iMRI Reporting Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Data</td>
<td>Higher Education Student Data Collection – DET</td>
<td>Annual Information Statement (Section C) [No. of Staff Paid &amp; Unpaid] - ACNC</td>
<td>Post-graduate Student Data</td>
</tr>
<tr>
<td>Staff Data</td>
<td>Higher Education Staff Data Collection – DET</td>
<td>ACNC Annual Information Statement (Section E) + Annual Financial Report(^ {41} ) - ACNC</td>
<td>Staff Data (more detailed information)</td>
</tr>
<tr>
<td>Financial Statement</td>
<td>Financial Statements &amp; assessment – TEQSA Higher Education Research Data Collection - DET</td>
<td></td>
<td>Financial Data (more detailed information)</td>
</tr>
<tr>
<td>Research (Output) Data</td>
<td>Higher Education Research Data Collection(^ {42} ) – DET</td>
<td></td>
<td>Efficiency Data</td>
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<tr>
<td>Reporting on Commercialisation</td>
<td>National Survey of Research Commercialisation(^ {43} ) – DIS</td>
<td>National Survey of Research Commercialisation(^ {44} ) – DIS</td>
<td>Efficiency Data</td>
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<tr>
<td>Research (Output + Outcome) Data</td>
<td>ERA Data Requirements(^ {45}, {46} ) – ARC • Eligible Researcher Data • Research Outputs • Research Income • Applied Measures • Esteem Measures</td>
<td></td>
<td>Efficiency Data</td>
</tr>
</tbody>
</table>

\(^{40}\) University reporting requirements based on a list compiled during DISRTE’s 2012 Review of Reporting Requirements for universities; several different agencies are now responsible for these data sets (as indicated).

\(^{41}\) Annual Financial Report: Medium Charities (Revenue $250,000 - $999,999) submit Annual Financial Report that is Reviewed or Audited; Large Charities (Revenue $1 Million or greater) submit Annual Report that is Audited.

\(^{42}\) Opportunities to combine the HERDC and ERA data collections are currently being scoped.

\(^{43}\) NSRC currently under review (http://www.industry.gov.au/innovation/reportsandstudies/NSRCReview/Pages/Terms-of-Reference.aspx)

\(^{44}\) See Reference 43

\(^{45}\) Where possible ERA draws upon existing data

\(^{46}\) See Reference 42
Table B2 Additional Reporting and Data Requirements for universities and iMRIs (Preliminary Analysis on Publicly Available Information)

<table>
<thead>
<tr>
<th>Additional Reporting Required For universities</th>
<th>Additional Reporting Required For iMRIs</th>
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<tbody>
<tr>
<td>• Higher Education Applications &amp; Offers Data Collection - DET</td>
<td>• ASIC reporting requirements (Corporations Act)</td>
</tr>
<tr>
<td>• PRISMS Data Collection (International Student Enrolment Data) – Australian Trade Commission</td>
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<tr>
<td>• CRICOS Data Collection (Provider &amp; Course details for courses offered to international students – ESOS Act) – TEQSA</td>
<td></td>
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<tr>
<td>• Commonwealth Grant Scheme &amp; HELP Estimates - DET</td>
<td></td>
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<tr>
<td>• Schedule of Student contributions &amp; tuition fees (HESA requirement)</td>
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<td>• AusLIST</td>
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<tr>
<td>• Provider Information Request – TEQSA</td>
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<td>• Compact &amp; Institutional Performance Portfolios</td>
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<td>- Mission-based compacts</td>
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<td>- Capital Asset Management Survey</td>
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<td>- IPPIC</td>
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<td>• DIISRTE Special Purpose Program</td>
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<tr>
<td>- Higher Education Participation and Partnership Program</td>
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<td>- Commonwealth Scholarships Program</td>
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<td>- Indigenous Support Program</td>
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<td>- Indigenous Tutorial Assistance Scheme</td>
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<td>- Disability Support Program</td>
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<td>• Sustainable Research Excellence Data</td>
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<td>- Staff hours Survey data</td>
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<td>- Indirect costs data</td>
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<tr>
<td>- HERDC Category 1 Grant data (see above)</td>
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<tr>
<td>- ERA data (see above)</td>
<td></td>
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</tbody>
</table>

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47 Data from 2011 and 2012, respectively, were re-used for calculating 2015 SRE Threshold
2 TC allocations, to reduce burden on the research community
48 Several Sections of the Corporations Act no longer apply to charities registered and reporting via ACNC
Appendix C
Suggested Reporting Methodologies

Financial reporting

Overview
The key areas of focus through the capture of financial and operational data from the institutes would be sustainability, transparency, and use of grant funding. The standardised template might capture the following information:

Financial
• debt schedule – interest/non-interest bearing debt, specific purpose/general debt, short term/long-term debt.
• application of funding to infrastructure/capital expenditure.

Operational
• workforce information relating to – FTE mix (research staff, operational staff, students), FTE composition (directly employed, associated staff).
• research groups within the institute.
• meterage of operations (m2).

This information could be used to develop a financial evaluation template which includes the financial inputs generating various financial and operational indicators and ratios. The financial ratios may be grouped within the following key groups and provide a performance benchmark:
• financial viability.
• revenue performance.
• growth ratios - current performance and capacity for future growth.
• profitability.
• liquidity.
• cash flow dynamics.
• debt servicing capacity.

In addition the operational performance could be analysed based on indicators to measure:
• asset efficiency and performance.
key expense margins.
- revenue per FTE.
- staff mix ratios, etc.

**Operating reporting**

In addition to the annual financial milestone reporting, annual operations reporting might also be considered. The collection of this operating information would also be through a standardised template, as well as other documents including a copy of the Asset Register and the grantee institute’s Annual Report.

iMRIs might provide the following data through a standardised operating template:

- workforce: employment structure and organisation.
- collaboration: shared grants (e.g. with research hub partners), publications, international students and hub engagement.
- translation: how the institution plans to translate the research into health outcomes and/or health policy.
- strategic Plan: demonstration of the institute’s plans to improve research grant successes, leverage funds from other sources, publications, achievements, commercialisation and internationalisation.

**Workforce**

The information would provide an overview of the iMRIs workforce in relation to:

- research staff employed – research, tech support, admin/management.
- affiliated Research Staff – on site, off site.
- research students supervised by staff at the institute – on site, off site.
  - number of Students.
  - number of students supported by MRSP.
  - average Lab hours per week.

**Collaborations**

*Research & Publications*

The information would provide an overview of the institute’s research capacity and publications within the reporting time period, including collaboration with domestic and international partners and the use of this research, through citations by the HMR community. The data collected could include:

- title of Publication.
- full Name of Journal Publication.
- publication Type (peer reviewed, non peer reviewed, etc.).
• number of citations.
• publication budget.
• collaboration (if any) – National or International.
• translation category (bench, translation to humans, etc.).
• corresponding research project (if the publication directly related to a research project which is being provided a grant from the NHMRC).

Commercialisation

This information would provide an overview of the current commercial activity at the institute, and its ability to do so in the future. The data collected may include:
• Commercialisation Office (existence/liaise with).
• Estimated total expenditure of the Institute on Intellectual Property protection.
  - Patent applications.
  - Copyright prosecution.
• Securing background IP.
• Commercialisation of Intellectual Property (Current period).
  - number of patent agreements.
  - number of collaborative patent agreements.
  - number of applications.
  - number of disclosures.
• Patent Income.
  - Institute’s Patents.
  - Collaborative Patents.
• Number of patents filed.
  - Australia.
  - International.

Translation

The information would provide an overview of the institute’s ability to translate the research into health outcomes and/or health policy. The information to be collected could be used to analyse the level of translation of research policy into practice and how the institute is fostering translation and innovation from research. The data collected for the current research being conducted under the direction of the grantee institute may include:
• Number of research projects currently in various translation categories (bench, translation to humans, etc.).
• Projected amount of research projects in this stage at the end of next reporting period.
Financial and operational indicators

There are various indicators that are useful to evaluate the financial sustainability and operating efficiency. The below sections provide a synopsis of some of the key indicators and how they might be utilised.

Financial sustainability indicators

The financial sustainability indicators would measure:

- current financial performance (based on the Statement of Comprehensive Income)
- financial position of the institute (based on the Statement of Financial Position), and
- cash flow sustainability (based on the Statement of Cash flows).

The following table identifies potential outcome measures and the key Financial Sustainability indicators:

Table C1: Outcome measures and financial sustainability key indicators

<table>
<thead>
<tr>
<th>Outcome measures</th>
<th>Financial sustainability key indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Ability to attract research grant income, and dependence on grant income</td>
<td>• Operating Grant Income - % of Operating Revenue</td>
</tr>
<tr>
<td></td>
<td>• Growth in Operating Revenue (Net of Capital Grants)</td>
</tr>
<tr>
<td>b. Operating Profitability of the institute (net of capital grants)</td>
<td>• EBITDA Margin (Net of Capital Grants)</td>
</tr>
<tr>
<td></td>
<td>• EBITDA (Net of Capital Grants)</td>
</tr>
<tr>
<td>c. Financial strength at the institute and its ability to meet operating/funding</td>
<td>• Working Capital Ratio</td>
</tr>
<tr>
<td>commitments</td>
<td>• Expense Cover Ratio (Incl. Cash &amp; Investments)</td>
</tr>
<tr>
<td></td>
<td>• Growth in Total Assets</td>
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<tr>
<td>d. Cash flow adequacy at the institute and the management of its cash balance</td>
<td>• Operating Cash Adequacy Ratio (Net of Capital Grants)</td>
</tr>
<tr>
<td></td>
<td>• Cash Flows from Operations (Net of Capital Grants)</td>
</tr>
<tr>
<td></td>
<td>• Creditor Days</td>
</tr>
</tbody>
</table>

Examples of graphs for each indicator are provided at Appendix C1
The above financial sustainability indicators can be utilised to analyse the following for example:
- compare the performance of the institutes for each specific indicator,
- measure variance of an institute’s performance to the others, and
- to measure the performance of the institutes within the groupings based on the principles as outlined earlier.

Operating efficiency indicators

The operating efficiency indicators would measure:
- utilisation of the grant revenue within the research function.
- staff establishment at the institute.
- costs associated with the staff establishment at the institute.

The following table identifies the outcome measures and the key Operating Efficiency indicators:

<table>
<thead>
<tr>
<th>Outcome measures</th>
<th>Operating efficiency key indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Effective utilisation of the grant revenue within</td>
<td>• Grant Revenue per Research FTE</td>
</tr>
<tr>
<td>the research function</td>
<td></td>
</tr>
<tr>
<td>b. Optimal staff mix</td>
<td>• Administration FTEs - % of Total FTE</td>
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<tr>
<td></td>
<td>• Ratio - Students to Research Group Head</td>
</tr>
<tr>
<td>c. Staff costs at the institute</td>
<td>• Staff Costs - % of Total Expenses</td>
</tr>
<tr>
<td></td>
<td>• Staff Costs per Type of FTE</td>
</tr>
</tbody>
</table>

Examples of graphs for each indicator are provided at Appendix C2

The operating efficiency indicators in Table B2 can be utilised to analyse the following for example:
- compare the performance of the institutes for each specific indicator,
- measure variance of an institute’s performance to the others, and
- to measure the performance of the institutes within the groupings based on the principles as outlined earlier.
**Productivity – research effectiveness indicators**

Internationally and in Australia there is difficulty in obtaining consensus on how to measure productivity – research effectiveness of medical research institutes, particularly due to the time lag relating to inputs and outputs and outcome that can take up to 20 years to eventuate. Often different researchers will be responsible for the inputs, compared to those producing the outputs and evaluating the ultimate impacts and outcomes of the research.

The table below highlights the critical outcome measures and some key performance indicators.

*Table C3: Outcome measures and key performance indicators for MRIs*

<table>
<thead>
<tr>
<th>Outcome measures</th>
<th>Key performance indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Attracting &amp; maintaining high quality researchers</td>
<td>• Staff retention (%)</td>
</tr>
<tr>
<td></td>
<td>• Staff turnover (%)</td>
</tr>
<tr>
<td>b. Knowledge production</td>
<td>• No. articles in peer reviewed journals</td>
</tr>
<tr>
<td>c. Research targets &amp; capacity building</td>
<td>• No. PhD degrees</td>
</tr>
<tr>
<td></td>
<td>• No. post-doctoral positions</td>
</tr>
<tr>
<td></td>
<td>• No. citations</td>
</tr>
<tr>
<td></td>
<td>• Development of new models, new techniques, new delivery systems</td>
</tr>
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<td></td>
<td>• Collaboration with others</td>
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<td></td>
<td>• Potential usefulness for clinical development</td>
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<tr>
<td>d. Informing policy &amp; product development</td>
<td>• Assay development, drug development – including feeding into drug development, clinical guideline development</td>
</tr>
<tr>
<td>e. Commercialisation</td>
<td>• Licensing returns - $ spent on licensing patents held by research organisation</td>
</tr>
<tr>
<td>f. External funding</td>
<td>• External $ brought in</td>
</tr>
</tbody>
</table>
Appendix C1 – Graphs for financial sustainability indicators

Please note that the information in the tables below is for illustrative purposes only. In no way does it reflect the financial performance of any iMRI.

Operating Grant Income - % of Operating Revenue

Growth in Operating Revenue (Net of Capital Grants)

EBITDA (Net of Capital Grants)
EBITDA Margin (Net of Capital Grants)

Working Capital Ratio

Expense Cover Ratio (Incl. Cash & Investments)
Growth in Total Assets

Operating Cash Adequacy Ratio (Net of Capital Grants)

Cash Flows from Operations (Net of Capital Grants)
Appendix C2 – Graphs for operating efficiency indicators

Grant Revenue per Research FTE

Administration FTEs - % of Total FTEs
Appendix D
Operations of iMRI Advisory Panel

iMRI Advisory Panel

The key remit of the iMRI Advisory Panel is to provide leadership in the iMRI sector through:

• the streamlining of data reporting requirements across jurisdictions to minimise the reporting burden on iMRIs;
• the collection of quantitative and qualitative data to fulfil governments’ accountability requirements;
• provision of analysis and advice to (a) government funding bodies, and (b) individual iMRIs, about the sustainability, efficiency and collaboration of individual iMRIs;
• working with individual iMRIs to assist them in strengthening their sustainability, efficiency and collaboration, supported by a searchable electronic database built to enable individual iMRIs to benchmark themselves against similar iMRIs;
• working with the Sector to further develop and apply measures of translational impact and outcomes.

It is recommended that the iMRI Advisory Panel should comprise:

• Chair with significant experience in business / investment banking
• Individual with expertise in health and medical research
• Expert in corporate strategies (investment banker)
• Senior lawyer – with experience in facilitating relationships between companies, organisations etc.
• Senior financial analyst/ accountant

The key principles guiding the iMRI Advisory Panel’s work will include:

• All analysis and assessment is done in consultation with the iMRI so that all data provided can be viewed in context.
• The Panel will provide objective, unbiased advice on the sustainability, efficiency and collaborative business strategies of an iMRI to both the iMRI and the funding bodies.
• The Panel’s advice will be a compulsory element of any grants assessment process conducted by Commonwealth funding bodies.

The functions of the iMRI Advisory Panel will be supported by the following:
**Data Alignment Working Group**

The Data Alignment Working Group (DAWG) will be an inter-sectoral, multi-jurisdictional advisory group, created to streamline reporting requirements and data collection across jurisdictions, Commonwealth Departments, and moving towards aligning reporting across the entire health and medical research sector.

The Terms of Reference for the DAWG will include the following:

- Work to minimise the reporting burden of the iMRIs
- Establish the national minimum data and information set in consultation with all relevant stakeholders, feeding into an iMRI Reporting Framework
- Focus on ongoing work in streamlining reporting across sectors
- Foster whole of sector view by actively working with representatives from the iMRI, university and health service sectors.

**iMRI Analysis Team**

The iMRI Advisory Panel and DAWG will be supported by a small team of skilled staff.

**Register of Technical Experts**

To assist in undertaking its functions, the iMRI Advisory Panel may need to access external expert advice. This expert advice may be sought by the Panel to support its analysis of data provided by iMRIs, or if requested by an iMRI, to provide technical, objective advice to that iMRI on how they might strengthen their efficiency, collaboration and translational impact.

External expert advice may also be useful in contributing to the work of DAWG in developing potential indicators for research impact, and translation of research to outcomes, with a view to their incorporation in the iMRI Reporting Framework.

An option for streamlining access to this expert external advice would be to approach the market with the intention of establishing a register of experts comprising identified external contractors with particular technical expertise.