MEDICAL RESEARCH FUTURE FUND PRIORITIES 2018-2020

Response to the Discussion Paper

August 2018



ABOUT RESEARCH AUSTRALIA

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

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

Our role:

Engage

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

Connect

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

Influence

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

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TABLE OF CONTENTS

INTRODUCTION	4
SUMMARY OF PROPOSALS	6
RETAINED, AMENDED AND NEW PRIORITIES	13
STRATEGIC AND INTERNATIONAL HORIZONS DATA AND INFRASTRUCTURE HEALTH SERVICES AND SYSTEMS CAPACITY AND COLLABORATION TRIALS AND TRANSLATION COMMERCIALISATION	17 19 24 25
OTHER CONSIDERATIONS	31
AN OBJECTIVE FOR EACH PRIORITY INDICATIVE FUNDING ALLOCATION	
CONCLUSION	32

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RESPONSE TO THE DISCUSSION PAPER

Introduction

Research Australia welcomes the opportunity to make this submission the Australian Medical Research Advisory Board (AMRAB). We acknowledge the significant contribution made by the Board's members since the inception of the Medical Research Future Fund (MRFF), and more recently in the conduct of the most recent round of consultation on the Australian Medical Research and Innovation priorities (the Priorities).

We take this opportunity to express our gratitude to the Board for undertaking this task on behalf of our research sector and the broader community. Establishing new MRFF Priorities is vital not only to the future success of the MRFF, but to the broader objectives of a healthier and more prosperous Australia.

Research Australia is a staunch supporter of the Medical Research Future Fund. We have been involved since the outset, including with the passage of the legislation and, of course, our detailed submissions in respect of the first Strategy and Priorities. We regularly share information about the MRFF and canvass opinions from across our membership in health and medical research and innovation.

Our annual opinion polling, now in its 16th year, gauges public attitudes to health and medical research and its place in the Australian economy. We are pleased to report that the MRFF continues to enjoy wide public support, and expect it to play an increasing role in raising public awareness of the importance of health and medical research in daily life.¹

Research Australia is keen to see the MRFF continue to evolve over the course of the next Priorities and we are working to secure ongoing bipartisan political support for the MRFF's continued existence and development.

¹ Australia Speaks! 2018 Opinion Polling for health and medical research 88% support for the MRFF

Research Australia's response to the consultation has two parts, broadly responding to the questions proposed on page 10 of the Discussion paper.

The first part considers the existing Priorities and the initiatives that have been allocated against them in the Discussion Paper. It seeks to answer two questions for each existing Priority:

- 1. Should the Priority be retained?
- 2. If so, should the Priority be amended in any way?

Further, it considers where new Priorities might be needed.

Research Australia proposes that four Priorities be retained in their current form and that a further seven be retained but amended. We also propose five existing Priorities be discontinued and six new Priorities created.

The second part proposes some matters to be included in each of the Priorities and as part of a methodology for developing priorities (specifically sought in the Discussion Paper).

The following table summarises Research Australia's proposed recommendations for continuing and new Priorities.

Summary of Proposals

Legend:

Retain/ Retain and Amend	Discontinue	New

Strategic & International Horizons	
Priority	Recommendation and existing Government initiatives
Antimicrobial Resistance Investment in this global challenge, consistent with Australia's First National Antimicrobial Resistance Strategy (2015–2019), with a focus on research to bring to market point-of-care solutions.	Retain
Communicable Disease Control Investment in research to support the rapid response to new epidemics, including research into the rapid development and means of deployment of new vaccines; and other research to support Australia's preparedness to respond to future epidemics.	New It is proposed that this Priority replace the existing Priority for Communicable Disease Control (CDC) that is aligned with the Data and Infrastructure Strategic Platform. Creation of a new Priority under the Strategic and International Horizons Strategic Platform provides the opportunity for participation in international collaborative efforts in CDC.
Disruptive Technology Assess the impact of disruptive technologies such as artificial intelligence, wearables, genomic engineering and emerging markets on health service delivery and health training requirements.	Retain
Frontier Technology Support research that seeks to apply frontier technology in new ways to improve health outcomes. Provide funding for significant long term research programs undertaking early stage and proof of concept research in areas where integration of the technology into healthcare has the potential to significantly improve health outcomes.	New Continue to fund the Frontier Health and Medical Research Initiative.
International Collaborative Research Create a reserve for rapid funding of international collaborative work in priority areas of health and medical research, capable of leveraging multiple agency, discipline, national or industry investment. Integrating Genomics into Healthcare	Retain and amend to provide further guidance about what the priority areas are and/or how this should be assessed when the need arises. Further guidance about the mechanism by which applications could be assessed would also be useful.

Strategic & International Horizons	
Priority	Recommendation and existing Government initiatives
There is a rapidly progressing global movement to integrate genomics into every day healthcare. The MRFF can support Australia's participation in this critical innovation in healthcare.	Continue to fund the Genomics Health Futures Mission

Data and Infrastructure	
Priority	Recommendation and existing Government initiatives
Communicable Disease Control	Discontinue
Enhance and coordinate research on national surveillance of and	
response to current and emerging infectious diseases and antimicrobial	(Refer to Strategic and International Horizons)
resistance.	
Clinical Quality Registries	Retain
Provide start-up investment in disease or therapy-focused clinical	Research Australia urges the Board to consider how this Priority should be
registries supported by a national framework to maximise interoperability	re-framed as part of the 2018-2020 Priorities, and which Strategic Platform
and value of research to clinical practice.	it should be aligned with.
National data management study	Discontinue
Study, in collaboration with key agencies, the requirements for	
infrastructure enhancement that expands the use of secure, digitised	
(My Health Record) and linked health and social data and inter-agency	
collaborative research.	
MRFF infrastructure and evaluation	Discontinue
Establish:	
1. a consumer-driven HMR agenda;	
2. a method to guide future MRFF priorities;	
3. the means to measure and report on economic returns from investments.	

Health Services and Systems	
Priority	Recommendation and existing Government initiatives
Behavioural economics application Support development of research in applied behavioural economics that concentrates on public and preventive health, with an emphasis on early intervention in mental health, healthy eating and physical activity.	Retain and amend to focus on the role of behavioral economics in influencing the engagement by participants (patients, health practitioners) with the health system.
Preventive and Public Health Support research in public and preventive health, with an emphasis on early intervention. Support should be provided for programs that benefit the general community or specific populations, with priority given to programs that also benefit the health system.	New Continue to fund the Boosting Preventative Health Research Initiative
Building evidence in primary care Work alongside the Medicare Benefits Schedule Review Taskforce to identify interventions with limited supporting evidence that are amenable to randomised control trial investigations, and engage the existing workforce to build capacity.	Retain and amend to either remove or clarify the capacity building component.
 Safer, higher quality and more effective care Fund research and innovation that supports the faster adoption of evidence that improves the safety, quality and effectiveness of health care. Fund implementation research for existing proven interventions that have not been widely implemented in Australian health practice, and undertake evaluations to determine if the new interventions are superior. (These may be interventions working overseas or newly developed interventions, including new or significantly amended clinical guidelines.) This could include research and innovation to implement successful clinical trials, thus capitalising on the existing investment by driving adoption in the health system. 	 New Continue to fund the following initiatives: Targeted Health System & Community Organisation Research Keeping Australians Out of Hospital Maternal Health and First 2,000 Days

Research Australia

Health Services and Systems	
Priority	Recommendation and existing Government initiatives
National Institute of Research In partnership with the states and territories, determine the feasibility of establishing a national institute focused on health services, and public and preventive health research to facilitate evidence-based and cost-effective healthcare.	Discontinue
Drug effectiveness and repurposing Invest in post-clinical effectiveness studies of drugs and other health interventions and support pre-clinical proposals that identify new uses for existing drugs.	Retain Research Australia looks forward to the Government providing funding for activities under this Priority.

Capacity and Collaboration	
Priority	Recommendation and existing Government initiatives
Clinical Researcher Fellowships Expand the scope and scale of the existing NHMRC Practitioner Fellowships Scheme to increase engagement of research-focussed clinicians in problem-solving and the translation of research into clinical practice.	Retain and amend to make it clear the Priority is directed at individuals who are principally clinicians, including nursing and allied health disciplines.
Industry Exchange Fellowships Connect industry and academia via PhD and postdoctoral fellowships to enable and encourage talent exchange, with the aim of stimulating entrepreneurial and translation capabilities.	Retain and amend, to identify the specific disciplines and industries to which it is targeted.
National Infrastructure Sharing Scheme Develop and evaluate a national scheme that enables researchers to locate and access existing high cost infrastructure to maximise hardware use and foster research collaboration.	Discontinue
Build capacity to address research skills shortages Build capacity in the areas of skills shortage needed to translate research and reform health services and systems. This includes health services research, health economics and implementation science.	New There is an urgent need to build capacity in a range of disciplines, including health services research, health economics and implementation science.

Trials and Translation	
Priority	Recommendation and existing Government initiatives
Clinical Trial Network Provide infrastructure support for existing and new national clinical trial networks to enhance innovation, collaboration, clinical research capacity	There is a question as to whether this Priority is still needed, and whether further funding for infrastructure support will be required beyond 2018-19.
and patient participation.	Research Australia invites the Board to give further consideration to whether this Priority is needed in the next iteration of Priorities, and how it relates to the <i>Lifting Clinical Trials and Registry Capacity</i> initiative.
Public Good Demonstration Trials Invest in extension of clinical trials of proven therapies with limited opportunity for further commercial sponsorship to at-risk groups including adolescents and young adults, culturally diverse groups, and people with complex co-morbidities.	Retain and amend to also support clinical trials of new drugs that lack commercial sponsorship (but not early stage research to develop these drugs.)
 Targeted Translation topics Work with the NHMRC-accredited Advanced Health Research and Translation Centres to deliver research agendas in primary care, acute and sub-acute settings relating to: clinical pathways and care transition; clinical variation; co-morbidity; and health inequities in Aboriginal and Torres Strait Islander Australians and other vulnerable populations. 	RetainTo date there has been a lack of clarity about how some of the funding allocated under this initiative is to be used, the extent to which it aligns with the specific topics outline in this Priority, and the role for which the AHRTCs are funded now and in the future.Research Australia looks forward to seeing further detail of the specific initiatives funded under this Priority, including their objectives and key measures of success.

Commercialisation	
Priority	Recommendation and existing Government initiatives
Biomedical Translation	Discontinue
Through the Biomedical Translation Fund, seek out matched private capital to invest via licensed fund managers in pre-clinical to early clinical translation of research of commercial value.	
Pre-commercialisation grants	New
Provide grants for early stage and proof of concept research to support progress towards commercialisation, with a focus on products with significant public benefit and/or unmet need.	Continue to fund the Bio/Med-Tech Horizons program administered by MTP Connect.
Research Incubator Hubs Create and evaluate virtual or actual health research incubator hubs that stimulate partnerships across a range of academic, clinician and industry stakeholders to generate early-stage research ideas for diagnostics, devices and molecular therapeutics.	Retain and amend to better reflect the distinct roles of Incubator Hubs and Accelerators. If the Priority is really geared toward a new type of hub, designed to bring groups of individuals together to work collaboratively on specific problems to identify and develop solutions, it needs to articulate this role and purpose more clearly.

Retained, amended and new Priorities

The existing and new Priorities are addressed below, together with the initiatives that have been allocated against them in the 2018-2020 Priorities Consultation Discussion paper. It is also important that Priorities align with the Strategic Platform to which they relate. A brief description of each Strategic Platform and its key elements is provided at the start of each section.

The Discussion Paper notes on page 7 that *'it will be important to revisit the map of initiatives priorities as part of the consultation process to identify priorities worth retaining, extending and/or refining.'* Reference to the existing and proposed initiatives, which is essentially how the Priorities have been applied to date, is a useful way of examining the Priorities. This has helped identify Priorities that should be discontinued, those that should be retained and others that should be amended. Six new Priorities are also proposed.

Strategic and International Horizons

The Strategic and International Horizons Strategic Platform places an emphasis on Australian participation in, and leadership of, international consortia addressing major global health challenges and threats.

2016-18 Priority	Government initiatives
Antimicrobial Resistance	Tackling Antimicrobial Resistance* (Funded)
Investment in this global challenge, consistent with Australia's First National Antimicrobial Resistance Strategy (2015–2019), with a focus on research to bring to market point-of-care solutions.	'Understanding impact of patient movement on AMR in residential aged care and develop new methods and approaches'

Research Australia recognises that the issue of antimicrobial resistance is a significant and global issue requiring urgent action, including funding for research. Antimicrobial Stewardship is also an area where Australia is a recognised global leader, and can contribute to the fight against antimicrobial resistance in our own region and around the world.

Australia's first National Antimicrobial Resistance Strategy (2015-19) proposes agreement on a national research agenda and the promotion of investment in the discovery and development of new products and approaches to prevent, detect and contain antimicrobial resistance. The approaches identified in the Strategy address the whole pipeline of research and innovation from basic research to community interventions, and are formulated as 'Priority Areas for Action' (PAA).

The current initiative, Tackling Antimicrobial Resistance, addresses one element of the Strategy's PAA 5.1: *Identify current gaps and agree national research and development priorities.*

The Antimicrobial Resistance Priority should be retained and amended to more clearly outline a role for MRFF funding, including by reference to one or more of the specific PAAs under the National Antimicrobial Resistance Strategy.

New 2018-20 Priority	Government initiatives
Communicable Disease Control	National Security Against Pandemic Risk (Funded)
Investment in research to support the rapid response to new epidemics, including research into the rapid development and means of deployment of new vaccines; and other research to support Australia's preparedness to respond to future epidemics.	'Fund critical research and development gaps for pandemic preparedness'

Research Australia recognises that communicable disease control is critical and that there is an urgent need for more research and innovation to help combat this problem.

The existing Communicable Disease Control Priority under the Data and Infrastructure Strategic Platform has a focus on research into Australia's 'national surveillance of and response to current and emerging infectious diseases and antimicrobial resistance.'

The funding provided to date against this Priority is \$2 million over 2 years to the Coalition for Epidemic Preparedness Innovations (CEPI). CEPI is a global initiative that brings together industry, philanthropists and governments to develop safe and effective vaccines to fight infectious diseases of pandemic potential.

'The purpose of this research funding (for National Security against Pandemic Risk) is to:

- develop vital vaccines suitable for humans that are deploy-ready before an epidemic begins
- ensure Australia and the globe is prepared for future epidemics, rather than reacting to them.²

This initiative is not well aligned with the current Priority's focus on surveillance.

Research Australia proposes this new Priority replace the existing Priority for Communicable Disease Control that is aligned with the Data and Infrastructure Strategic Platform.

Creation of a new Priority under the Strategic and International Horizons Strategic Platform provides the opportunity for participation in international collaborative efforts in Communicable Disease Control.

² https://beta.health.gov.au/initiatives-and-programs/national-security-against-pandemic-risk

2016-18 Priority	Government initiatives
Disruptive Technology Assess the impact of disruptive technologies such as artificial intelligence, wearables, genomic engineering and emerging markets on health service delivery and health training requirements.	Frontier Health and Medical Research (Under Development) 'opportunity to develop 'blue sky' thinking ideas'
	Genomics Health Futures Mission (Under Development) 'new flagship studies, clinical trials and advancement in technology'

Research Australia supports this Priority, and recommends that it be retained.

The Priority focuses on 'assessing the impact' of disruptive technologies on health service delivery and health training requirements. Research Australia believes such a forward scan could indeed be beneficial; helping our health system to better adapt to and benefit from disruptive technologies. Undertaking this scan with an eye to international developments and experience will be essential, and there is scope for international collaboration in this effort.

The two initiatives that have been aligned by the Government with this Priority are less about assessing the impact of new technologies and more about promoting the development of, and utilising, new technologies.

These two initiatives, for which multi-year funding has been announced by the Government funding are worthy of support. However, a new Priority is needed which better aligns with these initiatives. It needs to focus on the development and integration of new technologies into healthcare.

New 2018-20 Priority	Government initiatives
Frontier Technology	Frontier Health and Medical
Support research that seeks to apply frontier	Research
technology in new ways to improve health	(Under Development)
outcomes.	
	'opportunity to develop 'blue sky'
This Priority will provide funding for significant	thinking ideas'
long term research programs undertaking	
early stage and proof of concept research in	
areas where integration of the technology into	
healthcare has the potential to significantly	
improve health outcomes.	

Complementing the existing Disruptive Technology Priority, which seeks to assess the impact of disruptive technologies on health service delivery and health training, **Research Australia proposes the creation of a new Frontier Technology Priority.** This Priority seeks to hasten the development and integration of new technologies into the health system.

The focus is on frontier technologies, which have yet to be applied to the delivery of healthcare.

2016-18 Priority	Government initiatives
International Collaborative Research	International Clinical Trial Collaboration (Under Development)
Create a reserve for rapid funding of international collaborative work in priority areas of health and medical research, capable of leveraging multiple agency, discipline, national or industry investment.	'Support international collaboration, increase access for Australians, enhance skills'

Incentivising international collaboration is a well recognised means of supporting world class research, and a pool of funding that enables Australia to respond rapidly to opportunities for international collaboration is a good idea.

Research Australia supports this Priority, and recommends that it be retained. It should be amended to provide further guidance about what the priority areas are and/or how these should be assessed when the need arises. Further guidance about the mechanism by which applications could be assessed would also be useful.

It is currently unclear how the proposed Government initiative, which focuses exclusively on collaboration in international clinical trials, will be implemented. On the information available it appears to align with the Priority.

New 2018-20 Priority	Government initiatives
Integrating Genomics into Healthcare	Genomics Health Futures Mission
There is a rapidly progressing global	(Under Development)
movement to integrate genomics into every	
day healthcare. The MRFF can support	'new flagship studies, clinical trials and
Australia's participation in this revolution in	advancement in technology'
healthcare.	

Australia has the opportunity to build on its key research facilities in this field and its world-class health system to ensure Australian patients are at the forefront of this global movement. **Research Australia proposes a new Priority for the integration of Genomics into healthcare.**

Data and Infrastructure

This Strategic Platform calls for the MRFF to fund research that enables the planning and implementation of 'an integrated national health data framework that supports healthcare delivery, service improvement and best practice adoption'. This includes 'research in the interoperability of existing and future datasets for basic science and health services research'. Finally, 'The MRFF, noting the National Research Infrastructure Roadmap, must help build research infrastructure capacity, specifically as it relates to health and medicine. This can best be done by sharing new and existing infrastructure and by enhancing user expertise.'

2016-18 Priority	Government initiatives
Communicable Disease Control	National Security Against Pandemic Risk (Funded)
Enhance and coordinate research on national surveillance of and response to current and emerging infectious diseases and antimicrobial resistance.	'Fund critical research and development gaps for pandemic preparedness'

As noted earlier, Research Australia recognises that communicable disease control is critical and that there is an urgent need for more research and innovation to help combat this problem.

While the National Security Against Pandemic Risk initiative is valuable, it has little connection to this Priority or to the Data and Infrastructure Strategic Platform.

This Priority should not be continued. A new Priority for Communicative Disease Control, with a broader remit, should be created and aligned with the Strategic and International Horizons Strategic Platform. This would complement the existing Antimicrobial Resistance Priority. (See above.)

2016-18 Priority	Government initiatives
Clinical Quality Registries	'Captured in part under support for Clinical Trial Activity and Networks'
Provide start-up investment in disease or therapy- focussed clinical registries supported by a national framework to maximise interoperability and value of research to clinical practice.	

The title of this Priority refers specifically to Clinical Quality Registries (CQRs) but the text refers to 'disease or therapy- focused clinical registries', which potentially encompasses registries other than CQRs. The Priority also refers to registries that are 'supported by a national framework'. It is not clear if the intention is that the Priority would help fund this national framework or if the framework is a prerequisite to funding from the MRFF for clinical registries.

Patient registries serve a range of different purposes, from supporting quality improvement in hospitals and monitoring disease outbreaks, to serving as lists of potential clinical trial recruits. They also help to formulate and address research questions about the prevalence, causes, diagnosis and treatment of different diseases.

The fact that registries have a role beyond medical research and medical innovation (the dual focus of the MRFF) means that identifying an appropriate MRFF Priority can be difficult. Any such Priority needs to be considered against the backdrop of other initiatives occurring in

relation to registries, including the current work being undertaken on a framework for CQRs under the auspices of the Council of Australian Governments.

Research Australia submits that there is a role for the MRFF in supporting patient registries and the research that relies on, and is derived from, registries. This includes building capacity in a range of skills and disciplines required to better utilise registries as a resource for researchers.

Research Australia urges the Board to consider how this Priority should be re-framed as part of the 2018-2020 Priorities to take account of further developments in relation to registries, and the Strategic Platform with which research funding should be aligned.

2016-18 Priority	Government initiatives
National data management study Study, in collaboration with key agencies, the requirements for infrastructure enhancement that expands the use of secure, digitised (My Health Record) and linked health and social data and inter-agency collaborative research.	'Associated work will occur under the data and analytics stream of the Genomics Health Futures Mission and ongoing work by the Australian Digital Health Agency.'

This Priority should not be continued.

2016-18 Priority	Government initiatives
MRFF infrastructure and evaluation	'Addressed outside of the MRFF with the
Establish:	Government's commitment of \$20 million over four years to support AMRAB activities
1. a consumer-driven HMR agenda;	and program oversight.'
2. a method to guide future MRFF priorities;	
3. the means to measure and report on	
economic returns from investments.	

This Priority should not be continued. It is not required as this work is to be undertaken with funding allocated from outside the MRFF.

Relative to the other Strategic Platforms, Data and Infrastructure has few Priorities and has attracted very little funding to date. This does not mean that the importance of data to research has been underestimated, or that data frameworks and capabilities are not important. On the contrary, data and the capacity to analyse it are so essential to health and medical research and so ubiquitous that it can be difficult to draw it out from the background as a distinct Priority.

A key element to this challenge is the physical and digital infrastructure- the facilities with the necessary software, systems, storage capacity and processing power.

Research Australia is cognisant of the long-standing tension in the publicly funded research sector between what is 'research' and what is 'research infrastructure', and the respective funding schemes for each. In the case of the MRFF we understand that there are concerns about where something ceases to be 'medical research' or 'medical innovation' and instead becomes 'research infrastructure' and thus can't be funded by the MRFF. There is also a further tension between what is health system infrastructure with an incidental value for

research and infrastructure that exists primarily for research purposes. (See the previous comment about Clinical Quality Registries.)

We encourage the Board to consider how infrastructure should be treated in the context of delivering the overall strategic intent of the MRFF.

The other challenge with data lies in our capacity to collect, collate, manipulate and analyse it. This challenge crystalises in a shortage of suitably skilled and trained people, and this aspect can perhaps be best addressed within the Capacity and Collaboration Strategic Platform.

Health Services and Systems

This Strategic Platform is focused on 'bolstering Australia's capacity in health services and systems research'. It has a focus on efficiency and cost-effectiveness, to 'deliver new methods that avoid wasteful interventions, adopt best practice and foster information exchange'.

This requires a focus on the local environments and systems, and in particular the way healthcare is provided in Aboriginal and Torres Strait Islander communities. Finally, it notes a role for the MRFF in building 'adequate numbers of health professionals with training in clinical research.

2016-18 Priority	Government initiatives
Behavioural economics application	Boosting Preventative Health Research (Funded)
Support development of research in applied behavioural economics that concentrates on public and preventive health, with an emphasis on early intervention in mental health, healthy eating and physical activity.	'to help promote good health practice, prevent disease and keep people out of hospital'

Research Australia recognises that there is a useful role for behavioral economics in influencing how the public engages with the health system and how practitioners such as GPs interact with it.

There is also a useful role for health economics in public and preventive health. However, this typically involves activities outside the health service and health system; suggesting this Priority, in its current form, does not align entirely with this Strategic Platform.

The Government Initiative *Boosting Preventive Health Research* has allocated \$10 million in funding to The Australian Prevention Partnership Centre. The Centre has published information on its website about the six projects it is currently undertaking using this funding, to address chronic disease.³

Research Australia submits that the focus on behavioral economics in the absence of any other Priority addressing public and preventive health measures is too narrow.

Research Australia proposes that this Priority be retained, but that it be refocused to the role of behavioural economics in influencing engagement by participants (patients, health practitioners) with the health system. A separate Priority should be created with a

³ https://preventioncentre.org.au/news-and-events/prevention-centre-news/boosting-prevention-new-projects-underway/

focus on Preventive and Public Health research. This doesn't mean that behavioural economics research should be excluded, but rather enable it to have a role in both Priorities in line with their respective targets i.e the health system and population.

New 2018-20 Priority	Government initiatives
Preventive and Public Health Support research and innovation in public and preventive health, with an emphasis on early intervention. Support should be provided for programs that benefit the general community or specific populations, especially vulnerable communities.	Boosting Preventative Health Research (Funded) 'to help promote good health practice, prevent disease and keep people out of hospital'
Priority should be given to given to programs that also benefit the health system and/or improve equity of health outcomes.	

There is not currently a Strategic Platform centrally addressing preventive and public health although this is currently sitting somewhat awkwardly in the Health Services and Systems Strategic Platform. (Creating a separate Strategic Platform for Preventive and Public Health should be actively considered when the MRFF Strategy is reviewed.)

The proposed Priority links preventive and public health outcomes to beneficial outcomes for the health system, such as fewer hospital admissions, faster recoveries, and reduced complications from co-morbidities. In this way it relates more directly to the Strategic Platform.

It is proposed that the existing Government Initiative, *Boosting Preventative Health Research* be aligned with this new Priority.

2016-18 Priority	Government initiatives
Building evidence in primary care	Targeted Health System & Community Organisation Research
Work alongside the Medicare Benefits	(Under Development)
Schedule Review Taskforce to identify	focus on the comparative effectiveness of
interventions with limited supporting	health services, address areas of practice with
evidence that are amenable to randomised	low or insubstantial evidence and provide
control trial investigations, and engage the	opportunities for exploring consumer-driven
existing workforce to build capacity.	research.'
	Keeping Australians Out of Hospital
	(Under Development)
	'support preventive health, behavioral
	economics and implementation science to
	reduce avoidable hospitalisations'
	Maternal Health and First 2,000 Days
	(Under Development)
	'link researchers, institutions policy makers and
	professional associations to develop
	interventions'

Research Australia believes that working with the MBS Taskforce to use the MRFF to evaluate the evidence base for interventions is worthwhile, and has been a proponent of this measure. We look forward to the Government utilising the MRFF in this way.

The intent of '...engage the existing workforce to build capacity' is less clear. Is this about building the capacity of the research workforce or the health workforce, and their capacity in what?

The Discussion Paper has also identified three initiatives which it aligns with this Priority. Of the three, only one involves the MBS taskforce in identifying research targets, and it is only one component of this initiative.

What links all three interventions is their capacity to improve health services and systems.

Research Australia proposes retaining the existing Priority and amending it to remove the capacity building component. The capacity building component can be covered under the Capacity and Collaboration Strategic Platform.

This Priority should be complemented by a new and somewhat broader Priority, supporting the role of research (including in health services research, health economics and implementation science) in improving health services and systems. (See below.)

New 2018-20 Priority	Government initiatives
Safer, higher quality and more effective care	Targeted Health System & Community Organisation Research (Under Development)
Fund research and innovation that supports the faster adoption of evidence that improves the safety, quality and effectiveness of health care.	'focus on the comparative effectiveness of health services, address areas of practice with low or insubstantial evidence and provide opportunities for exploring consumer-driven research.'
Fund implementation research for existing proven interventions that have not been widely implemented in Australian health practice, and undertake evaluations to determine if the new interventions are superior. (These may be interventions working overseas or newly	Keeping Australians Out of Hospital (Under Development) 'support preventive health, behavioral economics and implementation science to reduce avoidable hospitalisations'
developed interventions, including new or significantly amended clinical guidelines.) This could include research and innovation to implement successful clinical trials, thus capitalising on the existing investment by driving adoption in the health system.	Maternal Health and First 2,000 Days (Under Development) 'link researchers, institutions policy makers and professional associations to develop interventions'

Research and innovation for safer, higher quality and more effective healthcare should be a central element of the MRFF, and is well aligned with the Strategic Platform of Health Services and Systems.

While *Commercialisation* has its own Strategic Platform and another, *Trials and Translation*, focuses on supporting non-commercial clinical trials and building capacity, these are not enough to ensure that evidence based interventions make their way into our hospitals and clinics.

Many investigator led clinical trials successfully demonstrate a model for better care and health system savings but are not implemented. The next step is getting these new non-commercial interventions adopted into practice. This requires a different set of research skills to those required to conduct a clinical trial, with a focus on working with and modifying the health system to embed new research in practice. This type of innovation is the realm of health services research and specifically the emerging discipline of implementation science.

Implementation research focuses on the health system, identifying the barriers to adoption of new practices and developing and testing strategies and plans to overcome them. It is about adapting the intervention to the health system and adapting the health system to new innovations.

In addition to existing Government initiatives above, there is scope for specific funding to identify new evidence based interventions, including those developed with support from the MRFF and elsewhere in the world, and to support their implementation into health practice in Australia. Equally important (and often neglected) is the subsequent evaluation of the new intervention's performance in delivering safer, higher quality and more effective care.

2016-18 Priority	Government initiatives
National Institute of Research	
In partnership with the states and territories, determine the feasibility of establishing a national institute focused on health services, and public and preventive health research to facilitate evidence-based and cost-effective healthcare.	

Research Australia does not support the use of MRFF funds to investigate the feasibility of establishing a national institute for health services research. In the consultation on the initial Priorities, Research Australia proposed the creation of a virtual National Institute for Health Services Research with the objective of building Australia's capacity in this discipline. Research Australia is of the view that this objective can be met under the Capacity and Collaboration Strategic Platform (see below).

Research Australia recommends that this Priority not be continued.

2016-18 Priority	Government initiatives
Drug effectiveness and repurposing	
Invest in post-clinical effectiveness studies of drugs and other health interventions and support pre-clinical proposals that identify new uses for existing drugs.	

Research Australia supports this Priority, and recommends that it be retained. Ensuring that interventions are (and remain) cost effective, and utilising existing drugs for new purposes can improve the efficiency of our health system and lead to better health outcomes. We look forward to the Government providing funding to support these activities.

2016-18 Priority	Government initiatives
Clinical Researcher Fellowships	Next Generation Clinical Researchers (Open)
Expand the scope and scale of the existing NHMRC Practitioner Fellowships Scheme to increase engagement of research-focused clinicians in problem-solving and the translation of research into clinical practice.	'Ensure next generation have the capacity to make and progress great medical discoveries'

The Fellowships announced in a press release by the Health Minister dated 18 January 2018, listed 21 recipients, included several well established researchers who are principally researchers rather than clinicians. The focus seemed to be on clinical research rather than research focused clinicians.

The Government has announced recurring funding for the Next Generation Clinical Researchers Program through to 2021-22. The initiative should be continued but with revised guidelines.

The Clinical Researcher Fellowships Priority should be retained. The Priority needs to be amended to be more explicit about the criteria to be met to be eligible for a Fellowship to ensure that that it is directed to individuals who are health professionals with a focus on clinical research and the translation of that research into practice. It should also make it explicit that it is open to health professionals in a range of health disciplines including nursing and allied health.

Capacity and Collaboration

This Strategic Framework seeks to 'encourage increased interchange between academia, service delivery and industry with research practice and solutions in mind'. It also aims to increase collaborative and interdisciplinary research, and broaden the range of disciplines that participate in medical research. It seeks to do this by building the skills needed to work in these ways.

2016-18 Priority	Government initiatives
Industry Exchange Fellowships	Industry Researcher Exchange and Training (Under Development)
Connect industry and academia via PhD and postdoctoral fellowships to enable and encourage talent exchange, with the aim of stimulating entrepreneurial and translation capabilities.	'to foster collaboration between academia and industry with focus on needs of patients'

Research Australia notes that the Industry Researcher Exchange and Training Initiative is still under development and the Government has announced recurring funding for it through to 2021-22. While information about the initiative is scant, it will be important the initiative's guidelines are consistent with the Priority- i.e. that it funds PhD and Postdoctoral Fellowships with the aim of stimulating entrepreneurial and translation capabilities.

This Priority should be retained but amended to be more specific, including identifying industries and/or disciplines the Program should target over the two years of the Priority.

2016-18 Priority	Government initiatives
National Infrastructure Sharing Scheme	'Not funded- may be covered in Infrastructure Roadmap'
Develop and evaluate a national scheme that enables researchers to locate and access existing high cost infrastructure to maximise hardware use and foster research collaboration.	

As there appears to be a decision by the Government that this cannot or will not be funded from the MRFF **this Priority should not be continued.**

New 2018-20 Priority	Government initiatives
Build capacity to address research and innovation skills shortages	
Build capacity in the areas of skills shortage needed to undertake and translate research and to reform health services and systems. This includes health services research, health economics, bioinformatics and implementation science.	

Research Australia proposes this new Priority. There is an urgent need to build capacity in a range of disciplines, including health services research, health economics and implementation science. This includes developing Fellowships in Health Services Research for early to mid-career researchers to develop the necessary interdisciplinary skills. These could include a period embedded in a service organisation (health service, NGO, community organisation) nominated in the application and a specific project/task that will enable the identified skills and experience to be developed. This would be a similar model to the *Industry Researcher Exchange and Training* Initiative, which is currently under development.

Research Australia would support a targeted review of the research and innovation workforce to identify current specific shortages and the anticipated needs of a future workforce. The review could be used to guide initiatives under this Strategic Platform, while recognising that some existing related initiatives are already covered under the Priorities 'Industry Exchange Fellowships' and 'Clinical Researcher Fellowships'. Research Australia does not necessarily suggest this review should be funded by the MRFF.

Trials and Translation

This Strategic Platform recognises the 'MRFF has an important role to play in facilitating noncommercial clinical trials of potential significance.' More broadly, 'MRFF support of clinical trial networking' can benefit commercial and non-commercial clinical trials. This Strategic Platform also proposes support of the 'collaborative and transformative' research undertaken by Advanced Heath Research Translation Centres.

2016-18 Priority	Government initiatives
Clinical Trial Network Provide infrastructure support for existing and new national clinical trial networks to enhance innovation, collaboration, clinical research capacity and patient participation.	Clinical Trial Network Capacity (Funded) 'national alliance partner to provide highly specialised leadership and support for CTNs.'

This is a Priority with a specific focus on infrastructure support for clinical trials.

In June 2017, ACTA received \$5 million over four years to enable existing and newly formed CTNs to reach a level of maturity and achieve their potential to drive an improved and more cost-effective health care system.

While Research Australia believes further and ongoing funding will be required to extend and maintain this work, Research Australia is uncertain as to whether further funding will be

required in the term of the next Priorities, to 2020. It is also unclear whether some or all of the further required work could be undertaken within the *Lifting Clinical Trial and Registry Capacity* initiative, under the Public Good Demonstration Trials Priority (see below.)

Research Australia invites the Board to give further consideration to whether this Priority is needed in the next iteration of Priorities, and how it relates to the *Lifting Clinical Trials and Registry Capacity* initiative.

2016-18 Priority	Government initiatives
Public Good Demonstration Trials Invest in extension of clinical trials of proven therapies with limited opportunity for further commercial sponsorship to at-risk groups including adolescents and young adults, culturally diverse groups, and people with complex co-morbidities.	Clinical Trials Activity: Rare Cancer, Rare Diseases & Unmet need (Open) 'Applications to this grant opportunity must propose a clinical trial that addresses an 'unmet medical need' by improving the health outcomes for members of the Australian community living with serious health conditions whose diagnosis or treatment is not adequately addressed by existing options. The grant opportunity will also be used to fund clinical trials in brain cancer under the Australian Brain Cancer Mission.' Accelerated Research Investment (Open) 'to support emerging priorities and fill gaps in research effort.' \$5 m. to CanTeen; \$4 m. to Cure4MND Foundation; \$2 m. to Australian Epilepsy Research Fund; and \$2.5 m. to Jean Hailes Foundation for research under the
	National action Plan for Endometriosis. Million Minds Mental Health Research Mission (Under Development) Assist a million people to participate in mental health research and CTs'
	Brain Cancer Mission (Under Development) 'seeking to double brain cancer survival rates and improve quality of life over next decade'
	Lifting Clinical Trial and Registry Capacity* (Funded) 'build capacity of new and existing CT networks and improve treatments for rare cancers, disease, unmet need'.

The initiatives allocated against this Priority in the consultation paper go beyond its specific scope to 'invest in extension of clinical trials of proven therapies with limited opportunity for further commercial sponsorship to at-risk groups...'.

For example, the *CTA: Rare Diseases and Unmet Need Progra*m supports clinical trials of new drugs and treatments, not just re-purposing, although it focuses on things that aren't commercially viable. The Epilepsy Research funding is for research to 'investigate genetic and other causes of epilepsy including the mutation of the Syngap gene, a rare neurological

condition which can lead to epilepsy.' There is no indication this is restricted to Public Good Clinical Trials, and it appears to include early stage research.

Research Australia supports this Priority, and recommends that it be retained. It should be amended to also explicitly support clinical trials of new drugs and therapies that lack commercial sponsorship.

2016-18 Priority	Government initiatives
 Targeted Translation topics Work with the NHMRC-accredited Advanced Health Research and Translation Centres to deliver research agendas in primary care, acute and sub-acute settings relating to: clinical pathways and care transition; clinical variation; co-morbidity; and health inequities in Aboriginal and Torres Strait Islander Australians and other vulnerable populations. 	Rapid Applied Research Translation* (Funded) Support research that delivers solutions to health service problems that directly benefit patients (to AHRTCs and CIRHs)

The Rapid Applied Research Translation initiative aligns well with this Priority. **The Priority should be continued.**

In the consultation on the initial Priorities, Research Australia proposed that funding from the MRFF be made available to the Advanced Health Research Translation Centres, not least of all because they were existing channels with the capacity to fund health research translation. To date there has been a lack of clarity about how some of the funding allocated under this initiative is to be used, the extent to which it aligns with the specific topics outline in this Priority, and the role for which the AHRTCs are being funded.

Research Australia looks forward to seeing further detail of the specific initiatives funded under this Priority, including their objectives and key measures of success.

Commercialisation

'Australia has a relatively underdeveloped culture for biomedical and biotechnology commercialisation, resulting in limited knowledge and skills among the broader research community'. Challenges to the commercialisation of research discoveries include lack of funding for proof-of-concept and early stage clinical research...' This Strategic Platform expresses support for the Biomedical Translation Fund, and for supporting translational research with limited potential for profit but significant public benefit.

A role for the MRFF is identified in supporting 'the creation and brokerage of linkages between researchers and industry' and encouraging 'adoption of the requirements needed for successful commercialisation in both the academic and business environment.'

2016-18 Priority	Government initiatives
Biomedical Translation Through the Biomedical Translation Fund,	Bio/Med-Tech Horizons (Funded, continuing) 'support researchers and entrepreneurs to
seek out matched private capital to invest via licensed fund managers in pre-clinical to early clinical translation of research of commercial value.	turn their medical discoveries into viable treatments

This Priority relates to the Biomedical Translation Fund (BTF). Created with capital diverted from the MRFF in its first two financial years, the BTF essentially operates independently of the MRFF. This Priority is not required for the continued operation of the BTF and should not be continued.

The BioMedTech Horizons program is an initiative that is quite distinct from the BTF. It provides grants rather than investment and is focused at earlier stage R&D:

'Delivered by MTPConnect, the Australian Government's \$35 million BioMedTech Horizons program is an initiative to support innovative collaborative health technologies, drive discoveries towards proof-of-concept and commercialisation that address key health challenges as well as maximise entrepreneurship and idea potential. This funding is being delivered via the Medical Research Future Fund, and administered by MTPConnect, the Medical Technology and Pharmaceutical Industry Growth Centre. Investments from the program will be focused on funding proof-of-concept to commercial development of biomedical and medical technologies (biomedtech).⁴

The Government has announced recurring funding for the BioMedTech Horizons program through to 2020-21. If the initiative is to continue it requires a new and more relevant **Priority.**

2016-18 Priority	Government initiatives
Research Incubator Hubs Create and evaluate virtual or actual health research incubator hubs that stimulate partnerships across a range of academic, clinician and industry stakeholders to generate early-stage research ideas for diagnostics, devices and molecular therapeutics.	Targeted Translation Research Accelerator (Under Development) 'to support early stage research discoveries to reach proof of concept and progress to human clinical trials'.
	Biomedical Translation Bridge (Under Development) 'nurture and progress promising early stage research to successful outcomes.

The Priority specifically relates to incubator hubs to 'generate early stage research ideas.'

Research Incubators are normally used to validate and develop early stage research ideas for translation, rather than to generate research ideas per se. They provide early stage support to entrepreneurs to help them develop and test an initial idea, including providing workspaces and mentoring. While this distinction might seem pedantic it is important, as the typical incubator's

⁴ https://www.mtpconnect.org.au/biomedtechhorizons

primary target audience is people with an idea they are trying to progress, and attracts other participants to assist them in this task.

While the terminology can be indistinct, Accelerators are generally accepted as being at a later stage in the development path than Incubators. Accelerators often provide a seed investment as well as strategic advice and support, and have a fixed timetable to develop a business idea.

The Department of Industry reports that 'Australia already has over 30 incubators and accelerators, with many of them located in capital cities or focused on information and communications technology. This compares to 1250 incubators in the United States, around 130 in Europe and 24 in Israel.'⁵ The Department of Industry and Innovation is also operating an Incubator Support Program.⁶

The first Government initiative tied to this priority is Targeted Translation Research Accelerator. It is currently under development, and to be funded with \$31.5 million over multiple years to 2021-22, and a total of \$125 million over 9 years. It will focus on chronic conditions, particularly diabetes and heart disease, and will:

- support early stage health and medical research discoveries to reach proof-of-concept and progress to human clinical trials
- establish philanthropic and business co-invest arrangements to support increased efforts.⁷

There is a mismatch between this Priority and the proposed Targeted Translation Research Accelerator. This initiative, which has similarities to the BioMedTech Horizons Program, would align better with a new Priority focused on early stage commercialisation (see below).

The second initiative, also under development, and to be funded with \$22.3 million over multiple years to 2021-22 is the Biomedical Translation Bridge. This Program *'will provide mentoring* and networking capabilities to aid in the development of (selected) ventures, including helping to establish development milestones that are commercially relevant, solicit and secure relevant and appropriate philanthropic donations and third party sponsorship or co-investment and then provide this to the selected ventures to aid in their development.⁸

The Biomedical Translation Bridge also has some elements of an incubator and an accelerator. If this Priority is to be retained it needs to be amended to better reflect the distinct roles of Research Incubator Hubs and/or Accelerators. If the Priority is really geared toward a new type of hub, designed to bring groups of individuals together to work collaboratively on specific problems to identify and develop solutions, it needs to articulate this role and purpose more clearly.

If the Priority was to be amended in this way, the Biomedical Translation Bridge could be readily aligned with the Capacity and Collaboration Priority.

⁵ https://www.industry.gov.au/case-studies/key-role-of-incubators-in-startup-success

⁶ https://www.business.gov.au/Assistance/Entrepreneurs-Programme/Incubator-Support-New-and-Existing-Incubators

⁷ https://beta.health.gov.au/initiatives-and-programs/targeted-translation-research-accelerator-chronic-conditions-diabetes-and

⁸ https://www.business.gov.au/Assistance/Biomedical-Translation-Bridge

New 2018-20 Priority	Government initiatives
Pre-commercialisation grants Provide grants for early stage and proof of concept research to support progress towards commercialisation, with a focus on products with significant public benefit and/or unmet need.	Bio/Med-Tech Horizons (Funded, continuing) 'support researchers and entrepreneurs to turn their medical discoveries into viable treatments
	Targeted Translation Research Accelerator (Under Development) 'to support early stage research discoveries to reach proof of concept and progress to human clinical trials'.

This proposed new Priority meets the need for support for early stage commercialisation of ideas that have progressed beyond research findings but have yet to establish commercial proof of concept.

It is a stage or two before the Biomedical Translation Fund, and a point at which support is till best provided by grants rather than commercial investment. The focus is on the idea rather than the person, with skills and knowledge gained along the way through the process of taking the research findings to the patient. The existing BioMedTech Horizons Fund would align well with this new initiative, as would the Targeted Translation Research Accelerator.

Other considerations

An objective for each Priority

Research Australia believes that explicitly stating an objective for each Priority would be useful. By specifying the outcome and/or change the Priority is intended to achieve, it would provide additional guidance to the Minister and the Department when developing new funding initiatives under the Priority.

The initiative's intended outcome could be tested against delivery of the Priority's objective as well as its general alignment with the Priority.

An objective would also help guide applicants for funding and support the assessment of applications.

An objective would also assist the subsequent evaluation of the success of each Priority and its related initiatives, and importantly, enhance transparency and accountability across the whole program.

Indicative Funding Allocation

Australia notes that committed funds to 2021-22 total \$1.28 billion, and that the amount currently unallocated over this period is \$792.4 million. (This figure is dependent on the net investment returns achieving the investment mandate and the MRFF being fully capitalised in accordance with the current timetable.)

The new Priorities will cover the period from 2018-2020. While the financial years to which the Priorities relate has not been explicitly stated, it appears that the financial years 2019-20 and 2020-21 are the most relevant. Over these two financial years, just over \$1 billion has already been committed, and \$368.6 million remains unallocated.⁹

Analysis of current funding commitments indicates that, including the 'out years', 45.9% of all funding is allocated to initiatives aligned with the Strategic and International Horizons Strategic Framework and a further 31.4% is allocated to initiatives aligned with Trials and Translation.¹⁰

With an estimated \$368.6 million available to be allocated over the term of the next Priorities, Research Australia believes the Board could provide useful further guidance to the Minister about how this funding should be allocated. Research Australia does not propose that the Board nominate specific dollar amounts to each Strategic Platform or Priority; it could however usefully nominate a range of funding it believes appropriate. This range could be provided at the Strategic Platform and/or Priority level.

While Research Australia does not propose that the Strategic Platforms should all be funded proportionately, a continued imbalance in funding between the Strategic Platforms has the potential to undermine the overall success and effectiveness of the Australian Medical Research and Innovation Strategy. The Board is ideally placed to indicate how further funds should be distributed over the next two years to give the greatest effect to the overall MRFF Strategy. This will also promote transparency and ensure that the overall MRFF Strategy remains intact and as intended.

⁹ Australian Government, Medical Research Future Fund 2018-2020 Priorities Consultation Discussion paper, Appendix B, Table B, page 14

¹⁰ Ibid, Table C, page 15

Conclusion

Research Australia is strongly supportive of the MRFF. The public consultation process on the new Priorities has generated genuine excitement and engagement from both publicly funded researchers and the private sector. A deeper appreciation of the intent of the MRFF and its promise was evident in the recent consultation fora.

As MRFF funding increases over the next two to three years, the new Priorities will have broader implications for the whole of the sector beyond the researchers and innovators who receive funding.

Over time, MRFF funding will no doubt change the face of Australian health and medical research and innovation; building new partnerships, creating new models for doing things and enhancing skills and capability. We expect the MRFF's priority driven approach will lead to greater engagement of publicly funded researchers with both the commercial sector and the health system, in pursuit of more commercial and non-commercial translation.

We also anticipate that as the MRFF matures, the distinction between the NHMRC's Medical Research Endowment Account and the MRFF will become clearer, as will their complementary purposes. This objective of complementarity has been a consideration in the development of our response to the current consultation.

If there is one other thing that we can ask for as part of the next Priorities, it would be that the new Priorities provide **a more cohesive narrative for how the MRFF's vision is to be realised**. The distribution of funding across the Priorities is a part of this narrative.

This narrative requires the Board to articulate how the Priorities link to the overall Strategy and to each other. As a once in a generation opportunity to advance the knowledge economy and Australians' wellbeing, this narrative is essential to the research community and broader public's ongoing awareness of, and support for, the MRFF.

Research Australia is willing to contribute further information and use its convening power in the health and medical research and innovation sectors to respond to any further questions the Committee may have, and to continue to support the MRFF.

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