

Australian Medical Research and Innovation Five-Year Strategy

Title: Medical Research Future Fund: consultation for the development of the Strategy – response to call for submissions

Submitted by: University of Sydney

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Our submission, presenting the perspective of a leading research-intensive university, is to inform the Australian Medical Research and Innovation Strategy and associated Priorities. We welcome the goals of the Medical Research Future Fund (MRFF) to ‘deliver practical benefits from medical research and innovation to as many Australians as possible’, provide ‘the greatest value for all Australians’ and enhance ‘the Commonwealth’s ability to provide grants of financial assistance to support medical research and medical innovation.’¹ We interpret the *Act*’s usage of ‘medical research’ broadly to cover health research as well as medical research. It follows from the *Act* that, at a program level, use of the MRFF is likely to favour translational research, and the University of Sydney supports such an approach.

Scope of the MRFF

We outline below how the advent of the MRFF provides an opportunity to introduce a strategic approach for the use of the available funding streams and to develop health and medical research priorities that will deliver benefits to all Australians. The MRFF should be concentrated on the development of translational capacity across a breadth of priorities.

Recommendations

- The MRFF should be used to develop and support translational research capacity, including significant support for clinical trials that incorporate outcomes-focused research with clearly identifiable milestones. The Medical Research Endowment Account (MREA), on the other hand, should primarily target discovery-focused research.
- The MRFF should fund People Support Schemes in a way that enhances the mobility of individual between industry, universities, medical research institutes and health services.
- Advanced Health Research Translation Centres (AHRTCs), established by the NHMRC, should be enabled and supported to broker and facilitate productive research relationships involving research groups and health industry partners.
- A defined proportion of the MRFF should focus on priority-driven research. The MRFF offers the possibility of explicit funding for multi-disciplinary initiatives with the potential for high translational and population impact.
- Opportunities for health and medical researchers and industry partners to apply for Linkage Grants should be expanded, either by directing some resources from the MRFF to the ARC or by further developing similar schemes under the NHMRC umbrella.
- Research funding streams derived from the MRFF should cover the indirect costs as well as the direct costs of the funded research.
- Eligibility and selection criteria and performance indicators that validly reflect the expectations and achievements of the different stages of translational research should be developed.

- NHMRC systems and expertise for grant applications, selection processes and management of grants and People Support awards should be used where appropriate, whether the awards are funded through the MREA or MRFF.

Resetting the balance of discovery research and translational research

The pressure on research funders to promote translational research has tended to overshadow the continuing need for discovery research. An increasing proportion of the MREA has been spent on translational research, including clinical trials, often through specific, dedicated funding programs. This can be at the expense of discovery research.

We cannot lose sight of the discovery research that explores basic scientific and clinical principles and mechanisms. It encompasses not only biomedical research but also some clinical trials and fundamental research in public health and health services, including methodology. Discovery research feeds the pipeline of knowledge that leads to translational opportunities, sometimes with long lead times. Without sufficient support for discovery research, the pipeline will run dry. Mechanisms for the support of high-quality discovery research are therefore vital components of the health and medical research enterprise, balanced with the need for translational research. In order to establish and maintain a stable and effective balance between discovery research and translational research, we believe the MREA should prioritise support of discovery research and the MRFF should prioritise translational research, including large clinical trials and research linked with industry. An example of a large-scale clinical trial that would be well-suited for MRFF would be a coordinated series of flagship cohort studies testing interventions.

The MRFF should embrace two broad meanings of translational research. First, it should focus on research with practical outcomes or on strategies to deliver new healthcare measures at scale. Second, it should focus on research into factors that influence the dissemination and implementation of knowledge, leading to clinical or public health interventions. Given the rising costs of health care, research funded by the MRFF should also enhance our ability to evaluate the economics of health care advances and help guide disinvestment in interventions that evidence does not support. However, some translational research will still require support by the MREA because of its primary purpose, e.g., *methodological research* on dissemination and implementation of knowledge constitutes a form of discovery research.

Funding for research training and career support

People Support Schemes – funding for research training, early career researchers and career pathways – is essential to sustain all higher-education research enterprises. A shortage of resources for People Support Schemes and discovery research has contributed to the increasing number of very able higher-degree research graduates from higher-degree research programs who cannot find career-track jobs and a growing attrition of experienced medical researchers from the sector – a distressing and wasteful situation.

New funded People Support pathways are needed. These should be designed specifically to enable research trainees and fellows to participate in the health service or industry components of the translational research process. Current NHMRC People Support Schemes directly involving industry partnerships are very limited. Use of the MRFF for People Support Schemes relating to translational research, industry and commercialisation would increase the resources available for both those involved in discovery research and those involved in translational research, and relieve pressure on the MREA.

Recommendations:

- People Support Schemes relating to discovery research should continue to be funded from the MREA. New pathways relating to translational research should be supported from the MRFF.
- New People Support Schemes funded from the MRFF should be specifically designed to involve and build relationships with industry and encourage individuals to move between academic, clinical and industry settings as appropriate.

Advanced Health Research and Translation Centres and Linkage mechanisms

The Advanced Health Research and Translation Centres (AHRTCs) provide vetted, ready-made structures for the conduct of multi-disciplinary collaborative research that is tightly bound with the health-service industry and driven by the needs of that industry. Such research is therefore likely to produce returns, for example in the form of innovations in health-service delivery.

The ARC Linkage Grants program is also a proven model for connecting university-based research with industry, and its use could be expanded in health and medical research.

The Federal Government's Industry Growth Centres provide an opportunity to align translational research with industry. For example, the Medical Technologies and Pharmaceutical Industry Growth Centre, will allow universities to expand their engagement with medical technology and pharmaceutical companies nationally and internationally to address major technology and engineering challenges, and to develop innovative products and processes and ensure graduate skills align with industry needs.

Full cost of research

The cost of research is not met by current direct and indirect funding mechanisms, and recently-proposed changes² will mitigate but not solve the problem. While the MRFF will lead to welcome opportunities for translational research, additional grant funding could risk adding an indirect cost burden on universities and medical research institutes. We, therefore, propose that all research funding streams derived from the MRFF include a moiety to cover indirect costs. This could follow the model in the US and other advanced economies. For example, competitive grants from the US National Institutes of Health are supplemented by a significant variable infrastructure loading.

Eligibility and selection criteria and performance indicators that validly reflect the expectations and achievements of translational research will need to be built into the funding mechanisms. These include measurable health outcomes, efficiency outcomes and commercial outcomes. Indicators should reflect the aims stated in the Act¹, and go beyond traditional academic performance measures.

Priority areas

The MRFF might give priority to multi- and inter-disciplinary initiatives with potentially high translational and population impact, essential to sustainable health and wellbeing. Such goals are not easily supported by existing NHMRC and ARC funding schemes, which tend to be used to support investigator-initiated rather than demand-initiated research. We favour priorities that address major national and global challenges including:

- food and nutrition science and food security
- emerging infectious diseases and antimicrobial resistance
- chronic disease prevention and management including diabetes, obesity and cardiovascular disease, mental health disorders, cancers, disorders of major organs including liver and kidney, and musculoskeletal disorders
- new approaches to health-care delivery in the community as well as strategies for behavioural and/or environmental change, and integrated care
- precision medicine drawing on modern genomics, and including the quality use of medicines.

References

1. Commonwealth of Australia. Medical Research Future Fund Act 2015, No 116, 2015. ComLaw Authoritative Act C2015A00116. <http://www.comlaw.gov.au>.
2. Watt I. Report of the Review of Research Policy and Funding Arrangements. Department of Education and Training, Commonwealth of Australia, 2015.