SUBMISSION

Submission to the Department of Health, Disability and Ageing

Submission to the MRFF Research Mission program evaluation

27 February 2026

The Australian Academy of Technological Sciences and Engineering (ATSE) is a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together Australia's leading thinkers in applied science, technology and engineering, ATSE provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

The Medical Research Future Fund (MRFF) and its Research Mission program play a central role in addressing emerging national public health challenges, providing strategic, priority-driven investment to support research, translation, and impact. While the MRFF has been designed with a strong focus on translation, there remain opportunities to enhance the impact of the Research Mission program through improved evaluation, coordination, and alignment with health priorities. Strengthening the MRFF's effectiveness requires strong mechanisms to measure translational outcomes, as well as strategies to integrate multidisciplinary expertise, industry partnerships, and international collaboration. By embedding these approaches and targeting underfunded or high-priority areas, such as antimicrobial resistance, Traditional Knowledge and underrepresented groups, the Research Mission program can maximise the value of public investment, accelerate the adoption of innovations into clinical practice, and ensure that research delivers strong benefits for patients, health systems and the broader Australian community.

ATSE makes the following recommendations:

Recommendation 1: Implement transparent reporting on translation outcomes and comparative analysis of MRFF Mission-funded research, including data on clinical trials, regulatory approvals, clinical practice changes, health system adoption, and performance relative to NHMRC grants.

Recommendation 2: Conduct an evidence-based assessment of raising the MRFF disbursement cap in line with the fund's original intent to strengthen translational capability and better support high-burden and historically underfunded areas.

Recommendation 3: Strengthen portfolio-level coordination and consolidation by establishing mechanisms to reduce duplication across Missions and support shared infrastructure, platforms and data systems.

Recommendation 4: Implement robust and flexible evaluation approaches, such as theory of change, network analysis, and dashboards, to monitor collaboration, shared infrastructure, and cross-Mission impact.

Recommendation 5: Consider establishing performance-based sunset provisions for Research Missions, supported by robust evaluation approaches to ensure MRFF funding delivers results or is reallocated efficiently.

Recommendation 6: Identify and support high-priority areas not currently addressed or underfunded across the broader research ecosystem, such as antimicrobial resistance, to establish new Research Missions.

Recommendation 7: Continue to strengthen the meaningful inclusion of under-represented Australians in health research, governance and priority-setting by supporting co-design research and translation approaches through Missions.

Improving transparency of Mission-funded research

The Medical Research Future Fund (MRFF) is a significant component of Australia's health and medical research landscape, and the Research Mission program is a positive mechanism for supporting priority-driven research and translation. While not specific to the MRFF, it is estimated that every dollar invested in Australian medical research delivers a $3.90 return on investment, reflecting benefits to both the health system and national productivity (KPMG 2018; AAMRI 2025). However, the effectiveness of research funding should not be measured by economic return estimates alone, as they vary widely in methodology and scope. Demonstrated translation of discoveries into clinical practice, health system improvements and patient outcomes offer meaningful ways to assess the value of research funding in the MRFF Research Mission program. While the Research Mission program was designed to accelerate translation of medical research, there is limited publicly available evidence on how Mission-funded research performs against objectives compared to traditional grant programs or international models.

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Decisions about the program's future should be informed by the current effectiveness of the program, including through transparent reporting of translation outcomes from existing missions, such as clinical trials, regulatory approvals, clinical practice changes and health system adoption. Additional comparative analysis of Mission-funded research compared to traditional NHMRC grants using consistent metrics can further demonstrate the impact of the Research Missions program. This analysis can help assess whether the Mission structure itself adds value beyond the initial funding allocation and identify areas where additional investment would maintain or improve translation effectiveness.

Recommendation 1: Implement transparent reporting on translation outcomes and comparative analysis of MRFF Mission-funded research, including data on clinical trials, regulatory approvals, clinical practice changes, health system adoption, and performance relative to NHMRC grants.

Increasing investment in medical research through strategic and evidence-based assessment

Initial plans for the MRFF, when established by the former Coalition government, were to release $1 billion annually once the fund had reached $20 billion. The MRFF has continued to grow and has reached $24.8 billion. Despite crossing this threshold, the government is currently releasing $650 million annually (Department of Health 2025a). The government has an opportunity to increase the disbursement of the MRFF fund to further support the Research Mission program, however, this decision should be informed by an evidence-based assessment of the program's effectiveness. This assessment should be based on the transparent reporting methods previously mentioned, focusing specifically on the Research Mission program's translational capability.

If the decision to raise the disbursement cap is lifted, the additional funds could be used both to support new high-priority research initiatives (including through existing and future missions) and to support the cost of current and future medical and health infrastructure. For every $1 spent to directly cover the costs of medical research, 64 cents is needed to cover the full cost of research, including related infrastructure costs (AAMRI 2024). This infrastructure may include essential advancements in cybersecurity for sensitive data, maintenance of specialised biological storage and upgrading and maintaining medical equipment. This could be provided through specific infrastructure grants in addition to the existing research grants, assisting researchers to cover the costs of research and equipment used. These additional grants may also support covering the cost of salaries, allowing for the increased involvement of biomedical engineers, medical device innovators, and digital health specialists, who play a key role in the development, translation and implementation of technologies that improve patient outcomes.

Internationally, systems such as the UK's Transparent Approach to Costing (TRAC) have been designed to ensure that research funding reflects both direct and indirect costs, including finance, procurement, HR, IT, library services, estate costs, and a margin for sustainability and investment (UK Research and Innovation 2022). While Australia's funding context differs, a similar approach may assist in strengthening the sustainability and efficiency of publicly funded research and translation, particularly where Missions require extensive coordination and shared infrastructure.

Raising the cap can also foster investment in underfunded areas that significantly cost the Australian economy. Women's health is an example of long-term underinvestment, which has contributed to substantial health and economic losses. Ovarian cancer alone is estimated to cost the Australian economy approximately $3.8 billion annually, and it is estimated that 90% of this is attributed to loss of life (Hutchinson et al. 2025). Despite this burden, Australia invests only $217 million in ovarian cancer research annually, representing around 0.1% of total health care expenditure (Hutchinson et al. 2025). The MRFF Research Mission program has the potential to generate research and translational innovations that benefit both clinical practice and the economy. By leveraging existing resources to address underfunded health concerns, the Research Mission program can encourage collaboration and novel approaches, driving the development of support solutions, new diagnostics, and preventative strategies for health issues that impose substantial costs on Australia.

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Recommendation 2: Conduct an evidence-based assessment of raising the MRFF disbursement cap in line with the fund's original intent to strengthen translational capability and better support high-burden and historically underfunded areas.

Improving coordination and reducing duplication through strengthened portfolio management

The MRFF Research Mission program has established governance and oversight mechanisms intended to support coordination and reduce duplication (MRFF 2019). These include standardised governance documents, Expert Advisory Panels for individual Missions, and periodic reviews, such as the review of the Brain Cancer Mission in 2022–23. The program is also supported by an MRFF Monitoring, Evaluation and Learning Strategy, and portfolio-level advisory structures such as the Genomics Health Futures Mission Panel. However, there is an absence of publicly available evidence demonstrating how coordination is achieved and how the risk of duplication is managed across the Missions' portfolios (Russell 2021). There is limited transparent reporting on the extent to which infrastructure and platforms are shared, how researchers and institutions participate across Missions, or coordination for challenges that span multiple Missions.

Fragmentation within Missions can lead to risks or inefficiency, including missed opportunities for impact. For example, multiple current Missions are centred around cancer research, including the Brain Cancer Mission, the Low Survival Cancers Mission, genomics-related funding, clinical trial infrastructure support and emerging priorities funding. Without portfolio-level coordination, this may result in duplication of infrastructure and clinical trial networks and missed opportunities for discoveries and platforms that could support multiple cancer types. Digital health infrastructure presents a further area where fragmentation could reduce the efficiency and impact of any investments. Digital therapeutics, wearable technologies, machine learning and monitoring platforms may be supported across different Missions, including mental health, cardiovascular health, drug discoveries and dementia-related initiatives. Shared datasets could be advantageous to the Research Mission program through the strategic use of Australia's high-quality, trusted, nationally significant datasets, as outlined in ATSE's report Made in Australia: Our AI opportunity. These datasets provide the foundation for scalable, safe and economically efficient sovereign AI systems in niches that can deliver productivity gains and export value. Without a portfolio-level strategy to ensure interoperability and shared infrastructure, there is a risk that separate but similar platforms will be developed, limiting the ability to share research and enable cross-mission collaboration.

Improved evaluation could draw on established approaches such as theory of change portfolio evaluation, network analysis and dynamic monitoring tools. Theory of change portfolio evaluation includes developing portfolio-level maps collaboratively with grantees and stakeholders, with indicators harmonised across results-based management frameworks (OECD 2025). Additionally, network analysis can use collaboration data already collected through grant reporting to assess growth in partnerships and interdisciplinary connections (Peters et al. 2015). Research Missions are typically established with clear goals for their funding period, and enhanced evaluation can ensure these objectives are being systematically measured and tracked. Collecting additional data on Research Mission effectiveness could also support the introduction of performance-based sunset provisions, helping to ensure that MRFF funding achieves meaningful outcomes or can be reallocated to other Research Missions or research grants.

Internationally, mechanisms exist to identify potential duplication and improve transparency across funding portfolios. For example, automated systems and text analysis approaches are used to flag applications for review, and disclosure requirements are used to ensure that researchers provide visibility of other funding sources and commitments, such as the National Institutes of Health's (NIH) eRA Commons platform (Nashwan 2025)(Nashwan 2025). Australia currently lacks comparable systems across the Research Mission program. As MRFF grants total millions of dollars, small percentage improvements in portfolio-level coordination could release significant resources for research and translation.

Recommendation 3: Strengthen portfolio-level coordination and consolidation by establishing mechanisms to reduce duplication across Missions and support shared infrastructure, platforms and data systems.

Recommendation 4: Implement robust and flexible evaluation approaches, such as theory of change, network analysis, and dashboards, to monitor collaboration, shared infrastructure, and cross-Mission impact.

Recommendation 5: Consider establishing performance-based sunset provisions for Research Missions, supported by robust evaluation approaches to ensure MRFF funding delivers results or is reallocated efficiently.

Ensuring Research Missions reflect national and emerging health priorities

It is important that the MRFF continues to identify emerging health and medical priorities that may be adopted as future Missions. The introduction of new Missions should be guided by criteria that ensure that they strengthen, rather than fragment, existing national efforts.

Antimicrobial resistance (AMR) represents a critical and escalating threat to global and national health that may be considered a priority for existing Research Mission programs or a potential future AMR-dedicated Mission. Recent estimates forecast that AMR-attributable deaths could reach 1.9 million per year globally by 2050, with a further 8.2 million deaths annually in which AMR is a contributing factor (Naghavi et al. 2024). In Australia, the estimated burden was approximately 1,700 deaths attributed to AMR and up to 7,840 AMR-associated deaths annually in 2021 (GRAM 2023). The World Bank estimates that AMR could result in US$1 trillion in additional health costs globally by 2050 (WHO 2023). Addressing AMR will require urgent, coordinated and multidisciplinary action across human health, animal health, agriculture and environmental systems. Australia is well-positioned to be a strong global contributor in this area, as highlighted by the joint ATSE and CSIRO report Curbing Antimicrobial Resistance. The report identifies the fragmentation and lack of coordination as major barriers to effective AMR research and translation. The MRFF has previously contributed to AMR research, including through an initiative to tackle AMR in aged care facilities and $6 million in funding for research into antimicrobial resistance and reducing the incidence of hospital infections (Department of Health 2025b, 2023). However, MRFF-funded AMR research is often offered through standalone grants focused on specific circumstances, rather than addressing AMR as a complex, system-wide issue affecting multiple facets of Australia's health and medical landscape. A MRFF One Health AMR Research Mission could complement existing national AMR strategies by filling critical knowledge and translation gaps, while consolidating AMR research funding across the MRFF. The Mission would align with multiple Australian Government strategies, including Australia's first National Climate and Health Strategy, which recognises that climate change will accelerate the emergence and spread of antimicrobial resistance.

While existing MRFF Missions address important disease-specific gaps within Australia's health and medical research system, cross-cutting and equity-related gaps that are not tied to a single condition risk being overlooked. Aboriginal and Torres Strait Islander health remains a national priority, with substantial and persistent disparities in health outcomes between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians. The Indigenous Health Research Fund and the Reducing Health Inequities Mission appropriately target systemic barriers affecting First Nations peoples, LGBTIQA+ Australians, and people with disability. However, evidence consistently indicates that research funding priorities continue to favour treatment-focused interventions over prevention and Aboriginal and Torres Strait Islander-led research, despite these approaches being essential to achieving long-term health equity and cost savings (Bainbridge et al. 2015; Latif et al. 2024). The Indigenous Health Research Fund and the Reducing Health Inequities Mission can continue to strengthen engagement with underrepresented groups, including through increasing engagement in co-design approaches. ATSE 2023 Traditional Knowledge Innovation Award winners, Nyikana Mangala man John Watson and Professor Ron Quinn's collaboration on the use of Mudjala mangrove bark as medicinal pain relief, is an example of the benefits of codesigned health research with Aboriginal and Torres Strait Islander peoples leading to translational outcomes. Combining thousands of years of Traditional Knowledge with Western science produced a novel, natural remedy for the treatment of severe pain, with hopes to supply the medicine at the 2032 Brisbane Olympics. By

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strengthening codesign research efforts, the MRFF's Reducing Health Inequities Mission can continue to support meaningful inclusion of underrepresented Australians in health research, governance and priority-setting. Adopting codesigned health research through the MRFF Research Mission program additionally supports the National Science and Research Priorities. Specifically, it provides a pathway to elevate Aboriginal and Torres Strait Islander knowledge systems while promoting healthy and thriving communities.

ATSE supports strategic and evidence-based investment in health research through the MRFF Research Mission program, but emphasises that effective allocation across all STEM disciplines, robust translation mechanisms, and demonstrated return on investment should guide future program decisions. Through strengthening coordination, targeting high-priority and historically underfunded areas, and embedding co-designed research approaches, the MRFF Research Mission program can accelerate innovation and improve national health outcomes. The goal is to invest strategically to maximise the impact of funding to advance Australia's health and medical landscape.

Recommendation 6: Identify and support high-priority areas not currently addressed or underfunded across the broader research ecosystem, such as antimicrobial resistance, to establish new Research Missions.

Recommendation 7: Continue to strengthen the meaningful inclusion of under-represented Australians in health research, governance and priority-setting by supporting co-design research and translation approaches through Missions.

ATSE thanks the Department of Health, Disability and Ageing for the opportunity to respond to the MRFF Research Mission program evaluation. For further information, please contact academypolicyteam@atse.org.au.

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