The George Institute for Global Health Australia

Response to the Medical Research Future Fund Research Missions Evaluation

Submission to the Australian Government Department of Health, Disability and Ageing

The George Institute for Global Health

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About The George Institute for Global Health

At The George Institute, we believe that everyone has the right to a healthy life, so we are finding solutions to some of the world's biggest health challenges, working with partners and communities across the world, to conduct rigorous, high-quality research. With major centres in Australia, the UK, China and India, we have over 400 active projects in more than 60 countries, making a real difference to people's health, particularly those facing the most barriers. The George Institute for Global Health acknowledges the traditional owners of the lands on which we work, and in particular the Bedegal people, on which our Sydney office is situated. We pay our respects to Elders past, present, and future. We value and respect the ongoing connection of Aboriginal and Torres Strait Islander peoples to Country and seek to work in partnership with communities to deliver better health outcomes.

Overview

The George Institute for Global Health welcomes the opportunity to provide a submission to the Medical Research Future Fund (MRFF) Research Missions Program. The MRFF Research Missions Program enables critical research that leads to improved health outcomes for Australians, and we support continued investment in this important research program.

Our submission highlights several opportunities to strengthen the MRFF Research Missions program. Stronger strategic alignment across Australia's fragmented research funding landscape is needed, particularly through integration with the forthcoming *National Health and Medical Research Strategy 2026–2036*. Greater coordination across funding streams, priority setting, and research translation would help ensure that Australia's globally recognised research capability is fully leveraged to improve health outcomes and economic productivity.

The George Institute's also advocates for the importance of investing in critical research infrastructure which is underfunded yet essential for sustaining high-quality research and enabling translation. Shared infrastructure, such as patient registries, data platforms, and streamlined governance systems, would reduce duplication, improve efficiency, and enhance Australia's attractiveness for global research investment.

Finally, the submission identifies key emerging priorities for MRFF Missions, including cardiometabolic disease, health systems research, and sepsis as a cross-cutting issue, all of which require more integrated, mission-driven approaches.

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Suggestions to improve the MRFF Research Missions program

From the perspective of The George Institute for Global Health, there are several areas that could strengthen the MRFF Research Missions program and increase its potential for national impact.

1. Align Research Missions with national research priorities, including the forthcoming National Health and Medical Research Strategy 2026-2036

While the MRFF Research Missions play a critical role in driving research that improves the health of Australians, they operate within a complex and at times inefficient medical research funding system. The George Institute believes there is a need for a more **coherent and coordinated approach** across all national research funding schemes.

Analysis consistently shows that ***every $1 invested in Australian medical research returns approximately $4 to the Australian economy*** through improved health, increased productivity, reduced healthcare costs, and industry growth.[i] Health and medical research plays a crucial role in improving long-term economic productivity through improved treatments and healthcare, which expands workforce participation and industry innovation, and ultimately contributes to more cost-effective healthcare.[ii]

Yet, the research funding landscape is fragmented and lacks unified strategic direction, limiting the full innovation potential of research. Health and medical research is distributed across **multiple federal portfolios**, while state and territory governments, industry, philanthropy and private healthcare providers also invest independently, resulting in a system without consistent priority setting or aligned outcomes. This lack of strategic coordination means we are not fully exploiting the innovation capability of the medical research sector or capitalising on its commercialisation potential.

The development of the **National Health and Medical Research Strategy 2026-2036**, due to be finalised and released in 2026, is an essential reform. A national strategy provides an opportunity to strengthen and modernise Australia's research system, ensuring that the sector's world leading discoveries are coherent, coordinated and aligned with national health priorities. By improving consistency across funding, priority setting and translation initiatives, the Strategy will help ensure that Australia realises the full potential of its health and medical research.

We strongly recommend that the evaluation of the MRFF Research Missions, and subsequent decisions made about the extension or amendment of Research Missions align with the priorities laid out in the NHMRC Strategy. The George Institute supports the following proposals in the Strategy that are highly relevant to the evaluation of MRFF Research Missions:

- The establishment of a **National Strategy Advisory Council** to establish consistent processes to develop research agendas against national priorities, and to fund and evaluate them.

- Implementation of the **National One Stop Shop for Clinical Trials** and the National Clinical Trials Governance Framework across public and private health services
- Supporting **Aboriginal and Torres Strait Islander health and medical research leadership** and supporting emerging researchers, particularly community-based researchers with non-traditional pathways into research.
- The establishment of a **unified management of the MREA and MRFF** to ensure strategic, coordinated investment, aligned to national health priorities and challenges.
- The **prioritisation of collaborations and sharing of resources**, through investment in platforms and networks across the health and medical research ecosystem, to support research, workforce development and translation in areas of national priority.
- The establishment of infrastructure/mechanisms for **greater Consumer and Community Involvement (CCI),** such as CCI networks and digital platforms.

2. Invest in research infrastructure so that Missions can reach their full potential

The George Institute supports sector-wide calls for increasing the disbursement of funds from the MRFF. This increase should fund critical gaps in the current funding framework, namely 'indirect' costs, and shared research infrastructure.

Crucially, the MRFF does not provide funding for "indirect" costs of research, which are the essential research activities that could lead to translation and commercialisation of research. These include laboratory maintenance, legal costs, technology transfer, data storage, consumer and community involvement and cutting-edge technologies. In 2023, medical research institutes had to find an additional $766.2 million to cover the gap between funding received and the full cost of research.[iii] The resulting funding gaps pose a growing risk to the long-term- viability of the workforce and the sector's capacity to respond to the health challenges Australia faces.

Much of the research infrastructure required to conduct studies, particularly clinical trials, is common across projects, regardless of disease area or trial phase. Core functions such as community engagement, contracting, ethics and governance, participant recruitment, data systems, and technology platforms are typically developed and maintained by individual organisations rather than shared across the sector. This results in significant duplication of effort and represents a major missed opportunity to improve efficiency and productivity.

Moreover, Australia needs to build the research infrastructure of the future, not the past. Clinical trials based on small cohorts recruited in individual hospitals lack the statistical power to produce meaningful results. Increasingly, countries are seeking to build large disease-agnostic patient registers and other supporting infrastructure that reduces the time to trial and encourages more private investment. The UK Biobank is the best known example of this, containing phenotyping, genomics and linked health records for 500,000 volunteers. Large scale data assets such as these cannot realistically be developed by individual organisations, but need to be publicly owned. The

value of investing in these assets is that they can increase the power of research significantly. For example, they can 'mimic' randomised, controlled trials – see examples below.

- **Alcohol consumption and long--term disease** – A preregistered target- trial emulation in the UK is estimating the causal effects of different drinking patterns among social drinkers, addressing biases that plagued earlier observational studies and providing -RCT like- estimates where real trials are infeasible.[iv]
- **Physical activity "intervention" and CVD risk (wearables vs self report-)** –compared emulated adoption of ≥150 min/week moderate physical activity using accelerometer data versus self report, showing how precise exposure measurement changes causal estimates—evidence that is shaping real- world -activity promotion- trials.[v]
- **Rest–activity rhythms and dementia** – A UKB actigraphy-based TTE linked dampened circadian rhythms to higher dementia risk, strengthening the causal case for sleep/circadian-focused prevention trials.[vi]

The George Institute with funding from the NSW Government established a disease-agnostic patient register (JoinUs) in 2022 which now has over 10,500 patients enrolled. The register has supported trial participant recruitment for approximately 140 studies so far.

Establishing shared research infrastructure such as coordinated participant recruitment registries, community and consumer engagement platforms, and modernised, streamlined ethics and governance processes would strengthen the research ecosystem and generate both health and economic benefits. Greater coordination enabled by dedicated infrastructure funding would also help attract international investment and enable patients to access innovative therapies more quickly and easily.

Addressing the gap in indirect costs and improving funding support for research infrastructure would allow Research Missions to expand their ambition and translational reach. Ensuring adequate long-term resourcing would also strengthen the ecosystem required for successful translation such as clinical trials networks, data infrastructure, implementation science, workforce development, and community involvement platforms enabling Research Missions to deliver real-world impact.

3. Enhance support for research translation to unlock the full value of Australia's research investments

The MRFF's mandate to drive knowledge translation ensures Australia has a research pipeline that spans early stage- ideas (supported by investigator-led research funded by the NHMRC) to implementation of research in clinical practice. The MRFF's key "measures of success"[vii] are almost universally focused on research translation and implementation, including new health technologies and health interventions are embedded in health policy and practice; increased commercialisation of health research outcomes; and ensuring the community engages with and adopts new health technologies, treatments and interventions.

Despite this notable focus on research translation and the substantial investment the MRFF has made to prioritise this under the remit of the MRFF Research Missions, widespread implementation of research findings remains a significant challenge.[viii] Recent evaluation of The MRFF Cardiovascular Health Mission found that only a third of projects under this mission implemented a suite of translation activities and most research projects did not engage early with practice change partners and clinicians.[ix] As part of this evaluation, Review participants thought that increased or longer-term funding would support more transformative research and this was particularly relevant for enabling effective consumer and community engagement. More community-driven research is needed that is led by Aboriginal and Torres Strait Islander health and medical researchers, with investment focused on research and translation activities that are community-led and designed.

The George Institute supports opportunities to strengthen translation requirements in MRFF applications, including assessing the feasibility of implementation of an intervention, and providing targeted translation support for funded research teams. For example, increasing opportunities for partnerships with policy makers who can advise on the project as well as partners who can provide support for commercialisation. In the UK, the US and Singapore, dedicated funding is provided to frontline health service clinical staff who drive research translation in combination with clinical care. These “research translators” are funded to involve consumers and stakeholders in research, to lead integration of evidence and innovation into clinical practice, and partner with healthcare and industry.[x] Specialised research translation staff funded through MRFF Research Missions would provide a systematic way for translation and implementation to be embedded in routine research practice and help to achieve the full beneficial impact from MRFF funding.

Finally, closer alignment between MRFF Research Missions and wider trends in health policy and service delivery including moves towards value-based care, digital health, preventive health, and strengthening primary care, will ensure that research funding directly supports the strengthening of health policy and systems to drive better care and health outcomes.

Emerging/unmet needs or significant health challenges that should be considered within the existing MRFF Research Missions

Recognising Australia’s growing burden of cardio-metabolic multimorbidity

The MRFF has made significant investment in cardiovascular disease and stroke research that has progressed its objectives and improved care for patients. The George Institute has a long history of researching combination therapies, and after 10 years of investigation, it has led to subsequent commercialisation of the first ever low-dose triple combination therapy for treatment of hypertension. The support of the LOTUS grant from the MRFF Cardiovascular Mission has now extended investigation into use of the therapy to prevent secondary stroke.[xi]

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The burden of cardiovascular disease and stroke is happening in tandem with the rise of metabolic diseases, such as obesity, Type-2 diabetes, and chronic kidney disease. The rise in the complex interplay of these conditions, so-called cardiometabolic disease, is a leading cause of death in Australia, responsible for twice the number of deaths caused from cancer[xii]

Type 2 diabetes, obesity and chronic kidney disease are deeply interconnected. Rates of Type 2 Diabetes have risen over 200% in the last decade[xiii] and the rates of deaths from chronic kidney disease have also risen exponentially.[xiv] Cardiovascular disease and chronic kidney disease are the leading causes of disability and death in people with Type II Diabetes.

While lifestyle and prevention efforts remain the cornerstone of addressing cardiometabolic disease, more research is needed to understand the complex metabolic pathways that link these diseases. By framing translational research questions around these pathways, we can better identify new therapies and develop better ways to integrate cardiovascular diseases and metabolic diseases in clinical care.[xv] As healthcare systems struggle to deal with the rising burden of these conditions, research must shift towards treating cardiometabolic diseases as systemic conditions that require innovative risk assessment and treatment methods that move beyond traditional methods. This includes understanding the contribution of root causes of cardiometabolic disease in childhood, and how environmental conditions may play a role in the rapid rise of these conditions. Research enabled by funding over the last two decades has enabled The George Institute to conduct innovative clinical trials on chronic kidney disease, leading to the approval of new therapies and standards of care.

The George Institute recommends that the MRFF expand the Cardiovascular Research Mission to explicitly include cardiometabolic disease, reflecting the growing recognition that interconnected metabolic conditions significantly contribute to cardiovascular burden and require integrated research approaches.

Addressing complex health system challenges through research

Australia's health system faces a range of challenges including an ageing population and the associated increasing demand on health services, increasing rates of chronic disease and rising costs of medical innovations.[1]

There is a strong role for health and medical research through the MRFF to not only research disease, but to look at the systemic drivers of the challenges that are dominating the health system. More research is needed on *how* health care is provided and how to drive good health and wellbeing, not only provide acute care. Including the incentive structures for the health workforce, managing complex chronic disease across the life-course, how best to empower consumers in healthcare, and utilising and enhancing data for better patient outcomes. Health systems research, for example conducting health technology assessments, evaluation of health interventions, and the development of innovative models of care, aligns strongly with the national prioritisation of value-

based care, and a focus on simultaneously achieved better health outcomes while maintaining cost-effectiveness in the health system.

The George Institute has been funded by the MRFF for a five-year research project to leverage a healthcare data asset that follows patient journeys of six million people in NSW.[2] The project is investigating what aspects of healthcare delivery are working well and what aspects need improvement, to drive better, more integrated care. Long-term, mission-driven funding for research such as this that is focused on translation and health system improvement, rather than publication output, is the kind of focus needed to confront Australia's health challenges and ensure research delivers value for money.

Recognising Sepsis as a cross-cutting unmet need

Sepsis is common and deadly. In 2022–23, there were over 84,000 hospitalisations for sepsis in Australia, resulting in roughly 12,000 to 12,600 deaths, or one in seven cases.[xvi] Around 50% of sepsis survivors experience long-term physical, psychological or cognitive impacts, commonly known as post-Sepsis syndrome.

And yet, major gaps remain in preventing, diagnosing and treating sepsis. Despite the burden it poses to individuals and the health system, there is still no specific diagnostic test, no specific pharmacological treatment and no established post-sepsis model of care. Sepsis is a system-wide challenge that intersects with every component of the health system. Sepsis can occur from any infection, and so patients may be navigated through different specialist doctors to treat the initial infection, none of whom may be knowledgeable in sepsis diagnosis or management.

The growing urgency of sepsis is compounded by an ageing population, who face much higher rates of sepsis. Aboriginal and Torres Strait Highlander peoples are twice as lightly to suffer sepsis as non-indigenous Australians, and to suffer this at a younger age. Socioeconomic disadvantage and rural location are also risk factors for both the occurrence of sepsis and readmission to hospital following sepsis.

Sepsis is one of the most expensive acute conditions to treat due to ICU demand, long hospital stays, and high rates of rehospitalisation. More research is needed to develop effective diagnostic tools and treatment and rehabilitation pathways that place less burden on patients and the health system. Investment in sepsis research is also important for pandemic preparedness and managing anti-microbial resistance. The rise of anti-microbial resistance is making sepsis harder to treat and increasing mortality rates.

The George Institute recommends that sepsis be adopted as a cross-cutting priority within the *Indigenous Health Research Fund*, the *Dementia, Ageing and Aged Care Mission*, and the *Reducing Health Inequities Mission*. Embedding sepsis across these Missions would strengthen prevention, early detection, clinical pathways, and post-discharge care in line with these Mission's objectives. Because multiple conditions lead to sepsis, a coordinated, cross-cutting sepsis priority

within MRFF Missions ensures that innovations in infection prevention, acute care, digital decision support, and recovery are leveraged system-wide.

Conclusion

The MRFF Research Missions program plays a vital role in advancing health and medical research in Australia. The impact of the Missions program can be enhanced through better coordination, sustained infrastructure investment, and a stronger focus on translation and system-wide outcomes. Aligning Missions with the *National Health and Medical Research Strategy*, addressing structural funding gaps, and embedding mechanisms for improved translation and implementation will ensure that research investments deliver tangible benefits for patients, communities, and the health system.

By expanding priority areas to reflect emerging health challenges, including cardiometabolic disease and sepsis, and strengthening support for collaborative, data-driven, and community-led research, the MRFF can evolve into a more cohesive and forward-looking funding model. These reforms will help ensure that Australia not only continues to produce world-class research, but also successfully translates it into improved health outcomes, reduced inequities, and a more sustainable healthcare system.

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