



Submission to the Inquiry into support for health and medical research funding and priorities in Western Australia by Life Sciences WA

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About Life Sciences WA

Life Sciences WA as an independent peak-industry body representing the Western Australian life sciences industry, building a sustainable and ever-lasting society that looks to enhance opportunities that derive from medicine, health, agriculture, aquaculture, horticulture and marine sciences. Life Sciences WA was formed in 2021 to unite stakeholders across the state's impressive and often overlooked life sciences sector, with the vision to enhance the growth, economic benefit and the incredible reputation of life sciences in WA. Through a series of programs and events Life Sciences WA:

- Promotes WA's life sciences sector as innovative, experienced and internationally competitive
- Provides members with the network, market intelligence and services to accelerate and commercialise their own business opportunities
- Fosters a culture of collaboration and innovation within the WA life sciences community
- Attracts investment and talent to WA life sciences businesses
- Plays a leading role in helping to shape the direction of the industry in WA and influence public policy

Scope of Submission

The scope of this submission is limited to addressing the role of the Western Australian government in supporting Health and Medical Research from a Life Sciences sector perspective. Representatives from Telethon Kids Institute, ECU and Murdoch have provided feedback that has been incorporated into this submission and certain documents are provided separately as appendices.

The Status Quo

Commonwealth funding for higher education has been severely constrained for many years and WA has a longstanding lack of success in competitive funding applications.

Generally, federal funding for Health and Medical Research has also declined over time. According to Universities Australia, in 2021-22, the Commonwealth invested \$11.8 billion in innovation and research. This is a decrease of \$184.18 million (or 1.53 per cent) in spending from 2020-21. Out of the total investment, 31.5% was allocated to the higher education sector through the National Competitive Research Grants and Research Block Grant funding.

The % of health and medical research funds received by WA researchers and innovators (NHMRC and MRFF) in WA is similar to that of funding in South Australia (Figure 1) with both states dropping in % funding over the past 20 years (Figure 2). Interestingly it is only Victoria that has increased in % funding received- sitting at 41% in 2022.

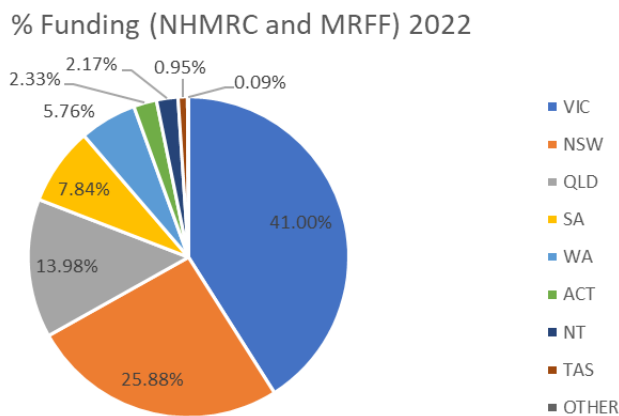


Figure 1: Proportion of grant NHMRC ad MRFF 2022 funding between Australian States and Territories.

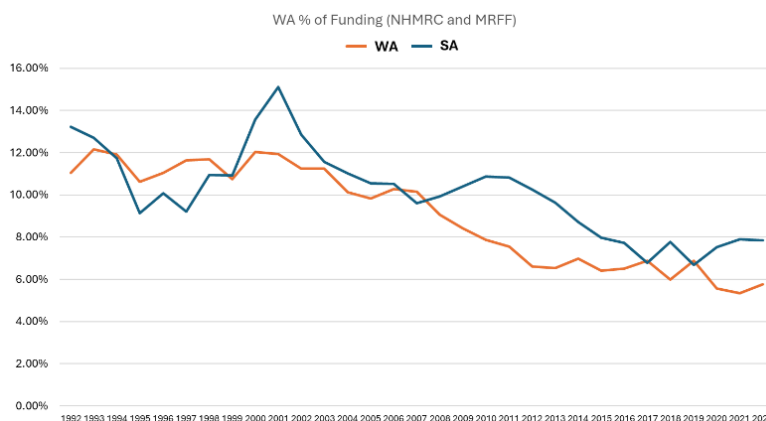


Figure 2: Comparing WA versus SA proportion of grant funding over time from 1992 to 2022.

Graphs kindly supplied by Murdoch University.



Importantly, the gap between what it costs to do the research and the funding available is growing. The indirect costs of research, meant to be supported through the block grant, are now mainly carried by universities; with ~\$1.50 required for every \$1 of research grants received from the ARC, NHMRC, MRFF and other schemes. This is undermining the long-term sustainability of health research in WA.

WA and SA show a lot of similarities in numbers of research staff and students, grant submissions and resources provided to the grants processes. Most WA universities and research institutes provide resources related to the administrative aspect of the grants but little actual grant writing expertise. The Universities in Victoria, which receives the greater share of grant funding, not only have greater economies of scale, larger number of researchers and students, but importantly provide dedicated resources for each grant type, that is a combination of grant writing and grant administration.

The Office of Medical Research and Innovation (OMRI) provides policy and funding support for health and medical research and innovation, for both WA Health and the wider WA health and medical research and innovation sector and supports the Future Health Research and Innovation (FHRI) Fund's operations. It is located within the Department of Health.

WA Government Support for health and medical research

Both the federal and state government provide support for health and medical research in Western Australia.

Western Australia's current government is particularly engaged in supporting health and medical research towards commercialisation. The Minister for Emergency Services; Innovation and the Digital Economy; Science; Medical Research; and Minister Assisting the Minister for State and Industry Development, Jobs and Trade, the Hon. Stephen Dawson shows interest, enthusiasm, and is physically present at events, demonstrating the current government's commitment to health and medical research and innovation.

The WA Health and Medical Research Strategy 2023–2033, implemented in July 2023, outlines the priorities and direction of health and medical research for the state (<https://www.health.wa.gov.au/Reports-and-publications/WA-Health-and-Medical-Research-Strategy-2023-2033>).

Some examples of WA initiatives that support health and medical research include the WA Child Research Fund (WACRF, jointly established by the Department of Health and the Channel 7 Telethon Trust in 2012) and the establishment the [Future Health Research and Innovation Fund](#) which provides funding for multiple health research programs including current pending programs such as:

- Co-Funding Partnerships Program (Co-FPP)
- Cancer Research Project Grant scheme (In partnership with Cancer Council WA)
- Translation Fellowships – Burden of Disease and Genomics 2024 program
- Major Research Application Support
- Research and Innovation Capacity and Capability Building funding program (opens in July)

And past programs such as:

- WA Near Miss Awards (March 2024)
- WA Cohort Studies (March 2024)

- Enabling Scheme - capital infrastructure support (May 2024)
- Research Infrastructure Support (RIS) program (May 2024)
- Clinician Research Fellowships (June 2024)
- Early Career Child Health Research Fellowships (July 2023)

Current health and medical research Priorities of FHRI are:

- Enhance health and medical research literacy, skills and experience of consumers so that they engage more in research.
- Establish innovation P&Is to support topical and/or early stage ideas and enable opportunities for these innovative ideas to secure follow-on funding from commercial/other funders.
- Establish co-funding partnerships that will secure genuinely new non-government funding for research and innovation aligned with Priorities for the FHRI Fund.
- Provide cash commitments for submission to major competitive co-funding programs, making Western Australian-led applications more competitive and, therefore, increasing the State's share of national and international competitive funding.
- Support the development of early- and mid-career researchers, helping them to achieve an independent and self-sustaining career.
- Target high-performing researchers in WA to maintain and/or advance the State's position as a leader in health and medical research.

The WA Governments Role in supporting health and medical research funding and priorities

Investing in medical research will lead to a healthier and more productive population in WA, and better outcomes for patients. The Victorian State government shows that every \$1 invested in the sector generates approximately \$3.90 of activity in the economy (<https://djsir.vic.gov.au/medical-research/victorias-health-and-medical-research-sector/health-and-medical-research-strategy-2022-2032>).

The Future Health research and innovation fund (FHRI) is an important step towards providing a secure source of funding to drive health and medical research and innovation in Western Australia. The programs and initiatives currently provided by the government are commendable, however many could benefit from an increase in scale, speedier distribution and consistency of program delivery.

It is also uncertain how the WA Health and Medical Research Strategy has informed or influenced the current FHRI funding priorities and grant recipients funding in Western Australia and whether the FHRI funds have been used to successfully fulfil the outlined strategies for Western Australia.

Western Australia's small share of national competitive funding

It is clear that the states with similar infrastructure and resourcing (WA and SA) achieve similar grant funding proportions. This lack of competitive funding may reflect a number of factors, including a lack of experience in writing grant applications, lack of proximity to decision makers in Canberra, or lack of support/ advocacy from the State Government, compared to universities and government agencies in other jurisdictions (ECU submission to University Sector Review).

Importantly it has been established that there is a lack of medical research national collaborations for WA researchers and hence a low recognition of WA research and researchers within the funding bodies review committees. It is well acknowledged that WA researchers suffer from a tyranny of distance. The WA state government (JTSI) has successfully provided WA companies (SMEs) access to grants via the Market Access Grant Scheme (MAGS) to travel to major industry conferences or business events. Similarly, it is suggested that a travel award for researchers and innovators specifically targeting the development of project collaborations and lobbying for research funding.

In order for WA researchers to perform more competitively, more support is needed that can also enhance researchers' ability to more effectively build collaborations, network and lobby Federal grant bodies for research funding in the same manner that currently occurs in Victoria and NSW.

Given the small economies of scale in the research labs and current lack of resources provided by WA Universities and MRIs to its researchers and innovators, the provision of robust academic mentoring is often challenging and as a result some early career researchers may not receive the same level of support composing grant applications as their VIC or NSW, which is resulting in a lack of experience in writing grant applications. Hence any support that can provide help to improve the quality and collaborative nature of the grant submissions, beyond administrative support, would be very welcome to medical researchers and health entrepreneurs.

Until such time as the collaborations increase, the quantity of near miss and areas of unfunded research that are of priority for WA, rather than the Federal research priorities, e.g. remote health, will need much more funding as success begets success.

Access to and Constancy of Grant programs

The Office of Medical Research and Innovation (OMRI), located within the WA Department of Health, supports the FHRI Fund's operations. The current structure was suggested to represent a simple structure that should have enabled fast decision-making and minimise red tape where possible (Deloitte). It is commendable that there is a dedicated functional office accountable for the implementation and performance of the FHRI Strategy. Unfortunately OMRI is currently very under-resourced and the processes providing researchers access to these grants are impacted by this.

It would be greatly appreciated by the researcher community if OMRI could improve:

- Clarity for the researchers as to what exactly FHRI wants to support; specifically on what programs are applicable to them
- More notice on rounds opening (which is also addressed below) and
- More information on how to address the selection criteria they present as currently there is ambiguous language used that can sometimes mislead applicants

Arguably, the R&D tax incentive program is the Australian Government's most successful and significant lever for funding innovation and R&D. Key to this is the knowledge that companies can rely on the government providing this incentive every year. Researchers currently spend a lot of time applying for grants. In a similar manner, if researchers and innovators can rely on WA funding to occur at the same time periodically, and for funds to be distributed in a timely fashion, this constancy can provide significant value in WA.

Distribution of FHRI funds

As described above, OMRI struggles with limited resources. Although there are costs involved in providing independent governance arrangements outside of the Department of Health, an independent organisation may be considered a better governance model that can provide:

1. Improved access to medical research funds for researchers outside of the WA DOH
2. Improved access to staff and the specialised resources required for performing due diligence and assessing competitive and relevant research projects in WA.
3. Decrease the current extensive timeframe from submission to contract signing and grant provision.

While acknowledging that stakeholders initially strongly felt that misaligning the Fund's priorities and those of WA Health would reduce the likelihood of funds being directed to highest-impact projects, it is arguable that this may bias the FHRI outputs to those of WA Department of Health over other institutes and universities within the state.

The ultimate impact of medical research is to improve patient care. This can occur via many different mechanisms such as:

1. Changing health policy
2. Changing care best practices including activities related to the improvement of services through the adoption and implementation of new technology or models of care.
3. Research infrastructure - a critical enabler to support the delivery of high quality research outcomes, ultimately improving the health and wealth of WA.
4. Developing new uses for old medications
5. Developing new medications, diagnostics and devices

All of these opportunities are just as important as each other for providing impact to patient care but mechanisms 1-3 requires very different evaluation, funding and follow-on requirements than developing products. It is arguable that these mechanisms should be treated differently when it comes to assessing and funding research. Separate evaluation and award pathways for impact (1-3) and commercialisation (4-5) projects could provide a greater number and specialty type of resources that will improve funding outcomes.

How the state's health and medical research priorities are determined

An Independent FHRI Strategic Advisory Board (IFSAB), made up of ten leading public and private sector figures in health research innovation, including an independent chair, is responsible for overseeing the evaluation of funding applications and recommendations to OMRI.

It is acknowledged and appreciated that the IFSAB have requested stakeholder feedback and suggestions into programs and opportunities the FHRI fund should be investing in. However, the stakeholders note that while the applications were submitted in January 2024, that no feedback or outcomes from this engagement process have occurred to date.

Many of the external stakeholder discussions around current priorities have focussed on the need for the FHRI fund to:

1. Align with federal priorities to enhance the opportunities for matching funding and

2. Encouraging OMRI to fund research programs that address the 'big health problems', regardless of commercial viability, facing the WA patient population
3. Target priorities that are different from Victoria, NSW and Queensland- as WA cannot compete with the investment into medical research provided by these states

We would encourage the WA government to also consider:

1. Tailoring funding to ensure the appropriate milestones are completed before providing the next funding round. In this way the same projects are not getting multiple rounds of funding for the same milestones but successfully funding the movement of the program from basic research through to more commercial research.
2. While we acknowledge that focusing on funding areas of success is a sound strategy, we suggest an allocation of funding for key areas of strengths within the State which have NOT demonstrated funding success, but which still address the 'big health problems' facing the WA patient population, solve global needs and are good quality. Examples include the capabilities we have in antibiotics, an area that has had a dearth of research funding for many years.
3. Thinking more about potential for future impact — both on health and economic outcomes and align investment in our capabilities accordingly.
4. Determining specific areas of need that WA may not have research capacity in and providing access to the required resources to attain it. This will align with the overarching strategy to identify unmet needs at the population level in WA.

The impact on specific types of research and areas of need.

The Fund is commended for its support of competitive research and innovation output with genuine commercial potential to get to market, but this currently requires better review of project quality and commercialisation potential. Additional support is required for OMRI to ensure that research questions being proposed are commercially viable and are aligned to patient outcomes and the unmet need within the WA health system.

The strategy and funding principles to assist with the determination of how the funds should be distributed are transparent and clear but IFSAB should perform a review on whether the current funds are being provided to fulfill the current outlined strategies.

Two of the key priorities outlined by the FHRI fund are to:

- a. Support the development of early- and mid-career researchers, helping them to achieve an independent and self-sustaining career.
- b. Target high-performing researchers in WA to maintain and/or advance the State's position as a leader in health and medical research.

The Fund is commended for its priority for investing in excellent early- and mid-career researchers. While WA boasts a strong cohort of experienced and senior researchers, there is still more needed to support the development of a sufficient pipeline to replace them that is robust and sustainable for future growth rather than just providing a single opportunity.

Considerations for improving research culture in WA include incentivising national collaboration and providing incentives for research leaders to train and collaborate with their early- and mid-career



colleagues to ensure a strong pipeline of future research excellence. Please see the suggestions above under the national competitive funding section.

The Fund is commended for supporting platforms and infrastructure that underpin research activity, including access to data and support staff services such as biostatistics, equipment operation and maintenance, and research assistance. More access to these providers and building economies of scale are still required.

Education and Training Through Partner Organisations

Life sciences researchers at all levels benefit from education and training. The provision of education and training programs through government partners with the relevant domain expertise will continue to be invaluable. Training should include diverse areas, such as entrepreneurial education and how to meet compliance drivers. This is particularly relevant in areas of innovation that are burgeoning, such as the health and medical devices sector (LSWA Innovation submission).

Opportunity for Further Engagement

Life Sciences WA, Murdoch University and ECU are enthusiastic to contribute to any additional activities of the Committee related to the inquiry.

Declaration of Conflict of Interest

Life Sciences WA is supported by the Department of Jobs, Tourism, Science and Innovation.

Useful References

Deloitte Baseline Review for the Future Health Research and Innovation (FHRI) Fund – Final Report (2018)

<https://www.health.wa.gov.au/Reports-and-publications/WA-Health-and-Medical-Research-Strategy-2023-2033>

<https://djsir.vic.gov.au/medical-research/victorias-health-and-medical-research-sector/health-and-medical-research-strategy-2022-2032>

ECU submission to University Sector Review May 2023.

2023 University Sector Review: Western Australian Universities Discussion Paper

LSWA Innovation submission (Jan 2024)

Appendix

Murdoch University Submission

Inquiry into support for health and medical research funding and priorities

Murdoch University Submission
Inquiry into support for health and medical research funding and priorities
14th July, 2024

Murdoch University is pleased to make a submission to the Education and Health Standing Committee as part of its inquiry into health and medical research funding and priorities for Western Australia.

Murdoch University's 2023-2030 Strategy entitled "Ngala Kwop Bidji, or Building a Brighter Future, Together" sets out three strategic pillars of Sustainability, Equity, Diversity and Inclusion, and First Nations that seek to guide the core activities of the university in Education, Research and Engagement. Our research activities are organised across three thematic areas of Health, Food and the Environment.

Our translational approach to health and medical research has always been enabled through cross-disciplinary initiatives where Murdoch researchers can create the most impact. This is achieved by generating deep knowledge of human health, nutrition, our activities and their impacts in the total environment.

This One Health approach recognises the interconnected causes associated with minority group disadvantage, population growth and ageing, emerging infectious disease, climate change effects, food and water security. Murdoch seeks to solve these complex global health challenges by facilitating multi-disciplinary efforts through its Institutes and Schools such as the Health Futures Institute, Ngangk Yira Institute for Change, the School of Medical, Molecular and Forensic Sciences and the School of Allied Health.

Murdoch University has also established a number of world-class infrastructure capabilities that seek to empower medical and health researchers with the tools for discovery science. These include significant commitments to the support of spectrometric and analytical technologies for phenomic medicine research and biomarker discovery, advanced data sciences, chemical biology and custom oligonucleotide syntheses, high-throughput automation and sequencing capabilities that is best-in class. Examples where Murdoch have been successful in the translation and commercialisation of its health research is in the application of **precision medicine** approaches to treat and diagnose a range of inherited or acquired conditions such as Duchenne muscular dystrophy, COVID-19, sepsis, dementia as well as emerging threats associated with zoonoses and anti-microbial resistance.

This focused approach is vital for a small to medium sized University like Murdoch to generate real impact for the community and realise significant returns on research investment. While modest, Murdoch continues to surpass expectations in its ability to generate a share of medical research income from the Commonwealth, industry and more recently, through the support of the Future Health Research Innovation Fund. Such success would not be possible without the continued support of the State in line with the WA Health and Medical Research Strategy 2023-33. In particular, Murdoch is the beneficiary of critical grant programs such as the WA Near Miss Awards, Future Health Research Innovation Enabling Scheme as well as other targeted funding



as part of WA's COVID-19 and Long-COVID research response. These programs allow Murdoch to sustain capabilities and continue to support a vibrant and competitive medical and health research ecosystem.

Murdoch has also benefited from the recent Future Health Research Innovation Research Infrastructure Support Scheme that seeks to address some of the cost challenges associated with medical research infrastructure. This is vital for supporting core infrastructure at Murdoch University, especially those of the Australian National Phenome Centre, a high-throughput biomarker discovery engine for industrial scale metabolic phenotyping. Established initially as part of an ARC LIEF between all four public WA Universities, the Australian National Phenome Centre has now established standardised methodologies that is being applied across WA's study cohorts including Busselton Health Ageing, Origins as well as other multiple clinical trials and epidemiological cohorts. This is a State capability that is unrivalled at both the national and global stage.

Murdoch is highly supportive of the State's initiatives to promote a Team WA approach to infrastructure sharing, especially those that would ensure a capability advantage in precision medicine research. Murdoch would welcome discussions with the State on ways in which its infrastructure capabilities can be supported and fully deployed to 1) enhance WA medical and health research through equitable access, 2) provide a competitive advantage that will improve grant success and income, and 3) stimulate cross-institution collaboration and accelerate the translation of clinically actionable outcomes for the benefit of the State.

Murdoch is also committed to the internationalisation of its research activities. We work across institutional, national and international borders to address global health challenges through strong networks and collaborations, especially those with our Indo-Pacific partners. With transnational campuses in Singapore, Dubai and Malaysia, Murdoch is well-positioned to translate our capabilities to emerging economies that has a strong appetite to partner, co-fund and co-develop new knowledge. Strategic funding and development of commercial-ready technologies will provide Western Australian researchers with a pathway to further disseminate our capabilities and provide new avenues for research funding and engagement through scientific diplomacy.

This submission underscores Murdoch's commitment to advancing medical and health research within Western Australia. Our efforts are aimed at fostering cross-disciplinarity between our researchers with the wider community, including industry, to improve the human condition through modern, precision approaches to medical research. We look forward to continuing our mission as a co-contributor to a rich legacy of medical research and excellence in Western Australia.

