



Position

The Australian Government is tasked with ensuring the best possible health and health care for all Australians and aspires to be the “healthiest nation on Earth”¹. With investment into health and medical research (HMR) yielding exceptional economic, health and social returns², it is critical that the Government capitalises on this “golden opportunity”³ to strengthen Australia’s HMR capacity in order to effectively respond to current and future health challenges.

As the peak representative organisation for the entire HMR sector, the Australian Society for Medical Research (ASMR) prides itself on evidence-based advice to Government and makes the following recommendations for allocations in the 2021/2022 Budget.

Recommendations

- 1. Immediate doubling of annual investment into the Medical Research Endowment Account (MREA) to bolster National Health and Medical Research Council (NHMRC) grant schemes**
- 2. Commit to incremental increases in MREA investment in forward estimates to raise annual disbursements across the HMR sector to 3% of total health system expenditure**

Purpose

Our recommendations will achieve two essential goals:

- 1. Provide renewed stability to the HMR sector:** The HMR sector has been decimated by static investment in recent years, resulting in NHMRC funding rates plummeting to unprecedented lows causing an unacceptable loss of intellectual capital represented by the HMR workforce. Our recommendation for an immediate doubling of investment into the MREA is to counteract recent static investments and bolster NHMRC grant schemes, so that grant funding rates can return to acceptable historical norms (~25%), thereby stabilising a sector under immense pressure.
- 2. Move toward sustainable HMR investment:** To avert future destabilisation of the HMR sector and drive its growth, an immediate investment boost must be accompanied by transition to a more predictable and sustainable HMR investment model to support the entire research pipeline. Using 2021/2022 forward projections, investment into the MREA (\$862 million) will equate to ~0.4% of total health system expenditure (\$214 billion) and Medical Research Future Fund (MRFF) disbursements (\$646 million) will represent a further ~0.3%. Independent economic modelling indicates incremental increase of investment into the MREA to reach 3% of total health system expenditure would generate **\$58.7 billion dollars in net health and economic benefits**² and ensure sustainability of the sector.

Significance of the recommended investment

While HMR cannot address all of the economic challenges Australia faces, it does hold the key to substantially alleviating projected health expenditure and creating a knowledge environment where collateral benefits fuel economic growth and productivity in a highly sustainable and future-proof way.

The above outlined recommendations for the 2021/2022 budget will support and grow Australia’s HMR capability to provide proven exceptional returns to the Australian community now and into the future.

The status quo

The HMR sector is under severe stress from ongoing funding destabilisation. While the visionary MRFF is a valuable and welcome addition to the HMR funding landscape, it is focussed at the translational end of the research pipeline⁴. As a result of static funding into the NHMRC (with no indication of change in forward estimates) and falling outside the scope of the MRFF, discovery and early translation HMR has become increasingly vulnerable, leading to:

- Considerable attrition of the highly skilled workforce² (particularly the next generation of emerging research leaders)
- Plummeting grant funding rates at unprecedented lows⁵
- Exacerbation of wasted productivity from ~90% of grants going unfunded⁶
- Loss of outstanding research that is deemed fundable at an international level
- A catastrophic brain drain and stifling of basic HMR discoveries that has a detrimental flow-on effect to potential translation and commercialisation

With immediate, adequate and sustainable Federal Government investment, the loss of highly skilled human capital to other sectors and increasingly overseas could stop, the funding and undertaking of outstanding research could flourish, and the sector could be stabilised and strengthened to drive innovation that will provide billions of dollars of economic returns in addition to inherent health and social benefits.

Australian HMR punches above its weight globally but is small compared to other leading nations⁷. Therefore, a golden opportunity exists to appropriately invest in innovative HMR research and a highly skilled workforce that is adaptable and ready to face rapidly emerging health challenges, like Covid-19, as well as the ongoing persistent health challenges. This is an essential investment if Australia hopes to be the healthiest nation in the world.

Justification for 2021/2022 budget requests

Australian HMR provides exceptional economic, health and social returns

As the major funding body for fundamental and early translational HMR in Australia, the NHMRC supports a large proportion of the HMR workforce and facilitates the foundational health and medical innovations that underpin future translational returns.

- Investment in NHMRC-supported projects and people yields exceptional returns with ***every \$1 invested returning \$3.20*** in economic, health and social benefits, including wellbeing gains, commercialisation and avoided healthcare costs^{2,8}.
- NHMRC investment between 2000-2015 is projected to yield ***net returns of over \$1.5B per year*** over 15 years.²
- Independent economic modelling indicates that incrementally increasing investment into the NHMRC MREA to reach 3% of total health expenditure could generate ***\$58 billion in health and economic benefits over a ten-year period.***² **NB** Using forward projections for 2021/2022 disbursements from the MREA (\$862 million) and MRFF (\$646 million), current disbursements equate to ~0.7% of projected total health expenditure (\$214 billion).
- Econometric studies indicate that basic/discovery research provides the greatest social returns and increases the productivity of applied research⁹.

The Australian HMR workforce is being decimated

Despite the clear benefits of HMR, Government investment into the MREA and NHMRC grant schemes has remained static for almost a decade. This has precipitated historic lows in grant funding rates, which, in turn, has resulted in damaging workforce attrition.

- There was a 16% loss of full-time equivalent personnel supported by the NHMRC Project Grant scheme between 2013 and 2017 – equating to a **\$4.5 billion decrease in net benefits²**
- In a 2019 ASMR workforce survey
 - 42% of respondents were considering leaving research
 - 75% believed that the prospects for HMR were negative
 - 79% were unlikely to endorse a career in HMR in Australia
 - 46% had less than one year of job security
 - 21% did not have job security for the following year
- In the 2020 application round of NHMRC Investigator (people) and Ideas (project) grants, success rates were at unprecedented lows of 13.3% and 9.8% respectively⁵. More importantly, success rates for Emerging Leadership Level 2 and Leadership Level 1 Investigator grants – which support the next generation of research leaders attempting to assert research independence – were on average 9.5%⁵. This means up to ~90% of applications went unfunded, which is a far cry from historical and international levels of ~25% and even further from the >40% recommended by a House of Representatives Standing Committee on Industry, Science and Innovation¹⁰

As a result of workforce instability, many Australian research leaders are forced to take their intellectual capital overseas or to other industries, meaning breakthrough research is not being translated into tangible returns for Australia and the innovation pipeline is at risk of running dry. This workforce loss has only been intensified by the current global pandemic in combination with low grant funding rates, the true extent of which remains to be determined. Replacing these experts will (if at all possible) take decades and is not a cost-effective option¹¹.

HMR is a long-term investment that requires robust and perpetual support of the entire pipeline as the research tap cannot be turned on and off and “there can be no translation or commercialisation without the genesis of discovery”¹². As this century, more than ever before, will be one in which human capital determines the success or failure of competing economies, *the attrition must be stemmed and these experts must be retained.*

The MRFF is not a panacea for the Australian HMR sector

The focus of the MRFF is to support a very specific component of the downstream HMR pipeline (translation and commercialisation), and cannot address many of the problems currently facing the HMR sector.

- The MRFF provides little scope for ‘People Support’ (beyond a small number of clinician researchers) and will not mitigate the alarming and unacceptable workforce decline.
- The OECD reports that basic research provides greater knowledge spillover and underpins the productivity of applied research¹³
- Clinical translation and commercialisation is reliant on a solid foundation of discovery-driven fundamental research – *all stages of the research pipeline must be adequately supported to enable the sector to flourish.*

For the MRFF to meet its aspirational goals, there must be a bold commitment to substantially and sustainably invest in the NHMRC MREA, which supports the people and projects that drive the essential discoveries required for translation and commercialisation by the MRFF. Without this support for fundamental discovery HMR through the NHMRC, there will be few researchers and little knowledge to translate to the clinic in future decades – “*like expecting crops without planting seeds*”¹².

Summary

The Government has a golden opportunity to forge a new, innovative future that appropriately utilises our irreplaceable intellectual capital in order to live up to our moniker of the “clever country”. This is clearly Australia’s winning formula: we have the evidence that HMR provides exceptional returns, we have the highly skilled workforce needed to achieve these returns and we are ready and able to tackle ongoing, emerging and future challenges, but only if adequately supported by Government investment. While certain incentives may entice industry and corporations to take up some slack, the ultimate responsibility of ensuring the health, well-being and prosperity of all Australians lies with Government.

In this way, enhanced Government support for HMR will be a cornerstone in shaping a 21st century society founded on a strong knowledge-based economy, a healthy population and social equality.

Yours sincerely,



Dr Ryan Davis
President



A/Prof Christoph Hagemeyer
Immediate Past President



Dr Daniel Johnstone
Treasurer and Past President

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