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Executive summary

Investment in Health and Medical Research (HMR) provides exceptional returns that are largely independent of external economic cycles and represents an opportunity for Australia to secure its long-term economic, health and social prosperity.

This Submission provides a roadmap for Treasury to capitalise on this timely opportunity. As an organisation that prides itself on using an evidence-based approach in its advice to Government, the Australian Society for Medical Research (ASMR) is pleased to make the following requests, based on the results of independent economic modelling.¹

Request 1: Allocate an **additional \$400 million** to the Medical Research Endowment Account (MREA) of the National Health and Medical Research Council (NHMRC) in the 2020-21 Federal Budget.

Request 2: Incrementally increasing investment into the NHMRC MREA **to reach 3%** of total health expenditure in the next 10 years.

This investment strategy will achieve two important goals:

1) Arresting the rapidly accelerating decline in workforce and providing short-term stability to the sector

The HMR sector has been decimated in recent years by static investment into the MREA, resulting in an unacceptable loss of the intellectual capital represented by Australia's HMR workforce. In a recent ASMR workforce survey, 48% of respondents are considering leaving research for other careers, 76% believe that the prospects for HMR are negative and almost 91% were unlikely to encourage young graduates into a career in HMR in Australia. If this trend is not urgently reversed, we will continue losing large proportions of a highly qualified workforce with a proven track-record for providing exceptional health and economic benefits (\$3.20 return for each \$1 invested). In addition, the world class research supported by the NHMRC MREA feeds the pipeline to the visionary Medical Research Future Fund (MRFF) with its focus on clinical translation and commercialisation.

2) Incremental increase in funding and moving to a sustainable HMR investment model

Independent economic modelling indicates that investment in HMR, benchmarked to total health expenditure, will ensure sector sustainability and support for the entire HMR pipeline, from critically important fundamental discovery through to translation and implementation. Incrementally increasing investment into the NHMRC MREA to reach 3% of total health expenditure in 10 years' time (when combined with the MRFF) will generate **\$58 billion in health and economic benefits**.¹ The NHMRC MREA (\$842 million) currently accounts for 0.45% of total health expenditure (\$185 billion); when combined with current disbursements from the MRFF (\$222 million), this increases to only 0.57% of total health expenditure.

This is a golden opportunity to mitigate escalating health costs and reap strong health and economic returns.

Evidence for our recommendation and significance of this investment

The Federal Government is tasked with ensuring all Australians enjoy the best possible health and health care, while also being fiscally responsible to current and future generations. *HMR cannot address all of the economic challenges we face but it does hold the key to substantially alleviating projected health expenditure and to creating a knowledge environment where collateral benefits fuel a growing economy in a highly sustainable way largely independent of the typical economic fluctuations seen in other industries.* Great nations emerge when people are empowered by a supportive and visionary Government. Our HMR sector is dominated by researchers who simply require opportunity, stability and support to make their invaluable contribution to Australia's future health and economic prosperity.

Australian HMR provides exceptional economic, health and social returns

As the major funding body for fundamental and translational HMR in Australia, the NHMRC enables the foundational health and medical innovation that underpins future translational returns.

- Investment in NHMRC-supported projects and people yields exceptional returns – **every \$1 invested returns \$3.20** in economic, health or social benefits, including wellbeing gains, avoided health system and indirect costs, and commercialisation.^{1,2}
- NHMRC investment between 2000-2015 is projected to yield **net returns of over \$1.5B per year** over 15 years.¹
- The **largest increase in Australia's exports over the last decade has been in medical instruments and medicinal and pharmaceutical products**³ – an industry with a rich future as Australia enters its accelerated transition from a resource-based economy to a knowledge-based economy.

The Australian HMR workforce is being decimated

Despite the clear benefits of HMR, Government investment in the NHMRC has remained static for almost a decade. This has precipitated historic lows in grant funded rates, some as low as 5%, particularly for Clinical Trials and Cohort Studies Grants, Ideas Grants and the Emerging Leadership Investigator Grant scheme, which, in turn, has resulted in damaging workforce attrition.

In the inaugural Investigator Grant round, applicants ranked in the second highest category "Outstanding" in terms of quality and contribution to science by international standards missed out and were not funded. Among the Leadership group (established researchers) 41% of applicants scored at that level were not funded. More dramatically, in the Emerging Leadership group, the crucial next-generation workforce replacing the established researchers over the next decades, an unprecedented 62% of applicants scored at that level were not funded.

These outstanding scientists by international standards are publishing in world-leading journals and are delivering cutting-edge breakthroughs. Australia's talented researchers have plenty of opportunities to take their outstanding skills, determination and intellectual capital overseas. If this is not adequately addressed as a matter of urgency, Australia will lose a significant proportion of the best and most productive medical researchers in the country.

- There has been a **16% loss of personnel** (full-time equivalent) supported by NHMRC Project Grant scheme since 2013¹ – if reflective of the broader HMR sector, a 16% loss of workforce equates to a **\$4.5B reduction in net benefits**.¹ This downward trend in workforce capacity is rapidly worsening and cannot recover without enhanced investment.
- 1 in 4 PhD-qualified researchers have less than 2 months of job security.^{4,5}

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. Replacing these experts will take decades and is not a cost-effective option⁶ – *the exodus must be stemmed and these experts must be retained.*

Research supported by the NHMRC MREA will underpin translational and commercial outcomes supported by the MRFF

The MRFF is a visionary initiative that is expected to disburse \$1B per year⁷. However, the MRFF will support a very specific component of the HMR pipeline, and will not address many of the problems currently facing the HMR sector.

- The MRFF provides little scope for ‘People Support’ beyond clinician researchers and thus is highly unlikely to mitigate the alarming HMR workforce decline.
- Clinical translation and commercialisation require a solid foundation of discovery-driven fundamental research – ***all stages of the research pipeline must be supported to enable the sector to flourish.*** Without fundamental discovery science there will be little knowledge to translate to the clinic in future decades.

For the MRFF to meet its aspirational goals, there must be a parallel commitment to investing in the NHMRC MREA, which supports the people and projects that drive the essential discoveries required for translation and commercialisation.

Our recommendations present an evidence-based solution that will maximise economic, health and social returns from HMR.

Immediate

Increase investment into the NHMRC MREA by \$400M. This will have the dual effects of:

- (i) paving the way towards a sustainable investment strategy whereby research allocations are benchmarked against total health expenditure (see below)
- (ii) providing immediate stability to a workforce under immense pressure.

An immediate injection of \$400M into the NHMRC MREA will allow people and project support schemes to be returned to acceptable funded rates of approximately 25%, which is comparable to international standards. While this falls short of the >40% funded rates recommended by the 2008 House of Representatives Standing Committee on Industry, Science & Innovation,⁸ it will provide short term security, stabilise the workforce loss and support the ongoing transformational health outcomes of Australian HMR sector.

Long-term

Increase investment into Australian HMR incrementally to reach 3% of total health expenditure by 2030. ASMR strongly advocates for benchmarking HMR investment against total health expenditure in order to achieve a predictable and sustainable investment model for the HMR sector. NHMRC investment as a proportion of health expenditure dropped recently to 0.45%. Even if current MRFF disbursements are added to this figure, this will represent only 0.57% of total health expenditure. If investment continues to remain static, this fall will continue due to increasing healthcare costs.¹

Should investment into HMR be increased to 3% of health expenditure by 2030, independent economic modelling projects a windfall of \$58B in net benefits over a 10-year period.¹

Expected outcomes and significance

Our request for a modest immediate additional investment will provide short-term stability to the HMR sector, while transitioning to a more sustainable investment model will bring Australia into line with other leading nations and provide a solid foundation for the translation and commercialisation aspirations of the MRFF. This strategic injection of funds will allow the Government to forge a more prosperous Australia, rich in economic, health and social returns.

It is time to ask ourselves what sort of nation do we want to be over the coming decades – a global leader in health and medical innovation or a minnow just trying to keep pace?

We have been fortunate to prosper on the back of the resources boom for the past 30 years, but as this comes to an end, we have an incredible opportunity to forge a new future, utilising our intellectual capital 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 – we are ready and willing to tackle the challenges of the future with appropriate support by the Australian Government.

While certain incentives may entice industry and corporations to take up the slack, the ultimate responsibility of ensuring the prosperity of all Australians comes down to the Federal Government.

Enhanced Government support for health and medical research 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,



A/Prof Christoph E Hagemeyer
President-elect



Dr Roger Yazbek
Immediate Past President

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