Australian Academy *of* Health and Medical Sciences

AAHMS submission to the consultation on Australia's draft National Science and Research Priorities

September 2023

The Australian Academy of Health and Medical Sciences (AAHMS) welcomes the release of the Australian Government's draft National Science and Research Priorities. We strongly support the aim of the priorities to cut across traditional discipline and sector boundaries and target Australia's biggest challenges over the coming decade. We thank the Chief Scientist, Dr Cathy Foley AO PSM FAA FTSE and the Department of Industry, Science and Resources (the Department), for the opportunity to provide continued feedback throughout the process of drafting the priorities.

AAHMS is Australia's Learned Academy for health and medicine – the impartial, authoritative, cross-sector voice. We advance research and innovation in Australia to improve everyone's health.

We are an independent, interdisciplinary body of Fellows – elected by peers for outstanding achievements and exceptional contributions to health and medical science in Australia. Collectively, AAHMS Fellows are a representative and independent voice, through which we engage with the community, industry and governments. Our response has been informed by input from Fellows and Associate Members of the Academy.

AAHMS is pleased to see *'Supporting healthy and thriving communities'* as one of the four key priority areas. The COVID-19 pandemic showed us how quickly a global health challenge can take hold, but it also demonstrated the importance of long-term, sustainable and strategic investment in research and innovation to addressing a critical issue. The priorities take in a range of issues and we note that action towards pursuing the other three priorities will also positively influence health outcomes.

The priorities have the potential to play a key role in driving forward research and innovation to meet Australia's current and future needs. However, it is essential to consider the overarching context in which these priorities will be implemented. The AAHMS written submission to the April 2023 consultation on the priorities conversation starter highlighted the need for a comprehensive research and innovation strategy, including a long-term stable funding commitment.[1]

To remain globally competitive in science and research, and ensure that we reap the economic, productivity and societal benefits of these endeavours, Australia must return gross domestic R&D expenditure (GERD) to a positive trajectory as a percentage of GDP – with a

[1] The Australian Academy of Health and Medical Sciences submission to the national science and research priorities conversation starter. April 2023. https://aahms.org/policy/submission-to-consultation-on-australias-science-and-research-priorities/

target of 3%. We urge the Government to use these priorities as a foundation to deliver the necessary investment in research and innovation to ensure the priorities can be effectively implemented within a strong scientific environment.

This submission outlines several areas that we would ask the Department to consider strengthening in the final priorities.

Considerations for priorities

To achieve the objectives set out in each priority, science and research will need to feed into an ecosystem that goes beyond any individual discipline, sector or government department. For instance, the objective to 'Lead on preventive health' in priority 2, will require actions across several government departments including health and aged care, education, transport industry, climate change and employment.

The current framing of the priorities could be perceived to imply that science and research alone can achieve the objectives as currently stated. The objectives could be reframed to indicate how the priorities will specifically inform research and how that research could be used as part of a bigger picture towards whole-of-government action.

To ensure the priorities can have impact, it will also be important to frame the priority aims in a clear, attainable and meaningful way. They could become more valuable if they are set out as being more specific, measurable, achievable, relevant and time bound. For instance, the third aim in priority 2 – 'Australians will have healthy brains and improved mental health throughout life' – is quite broad and it is not clear exactly how research will realistically deliver this aim in a measurable and specific way. We would argue that it is not possible for research alone to achieve this aim and suggest the wording be reframed to better reflect the role of research within the broader ecosystem required for Australians to have healthy brains and improved mental health.

In addition, AAHMS suggests the Department consider the following in relation to the second priority on, *'Supporting healthy and thriving communities'*:

- **Supporting and enhancing innovation for therapeutics:** The development of new, cost-effective and sustainable therapeutics is critical for advancing the delivery of healthcare. To truly support healthy and thriving communities, Australian research must be on the front foot and our priorities should provide the necessary framework for researchers to develop and help scale up economically and environmentally sustainable therapeutics that can deliver better health outcomes. We would suggest the Department include this in the aims and critical research areas for priority 2. By doing so alongside the current critical research areas that will go towards supporting new technologies and improving equitable access to care, new therapeutics could have far-reaching impacts for improving health and wellbeing in the future.
- **Intersection between health and financial wellbeing:** Priority 2 aims include improving mental and social wellbeing for all Australians and mental health throughout life. There is a growing concern about the impact of financial stress on health and wellbeing. An analysis by the Australian National University showed that one in four Australians are finding it difficult to get by on their current income and that the level of financial stress is highest in Australia's low-income bracket.[2] This will

[2] Biddle, N. Gray, M. (2022). Economic and other wellbeing in Australia. Australian National University. https://csrm.cass.anu.edu.au/sites/default/files/docs/2022/11/Tracking_paper_-_October_2022_-_For_web.pdf

have significant knock-on effects for health and wellbeing, and in particular for mental health and health equity. Multidisciplinary research that can inform policies and programs to address this issue could mitigate the health risks associated with financial stress. We would suggest the Department add financial wellbeing to relevant aims in priority 2.

AAHMS suggests the Department consider the following in relation to the third priority on *'Enabling a productive and innovative economy'*:

- **Efficient and sustainable production of medicines:** The second aim highlights the need to harness emerging technologies at scale. Biotechnology is included as an example of these emerging technologies and AAHMS is very supportive of this. We would suggest that the wording of this aim specifically include the need to advance efficient and sustainable production of medicines, including genomics medicines. The COVID-19 pandemic revealed how vulnerable Australia is to supply chain shortages of personal protective equipment, medicines and other therapeutics. Even today there are 43 medicines listed via the Therapeutic Goods Administration as "Critical Shortages".[3] Australia should aim to minimise its need to import therapeutics and medical goods, and with high quality manufacturing in Australia the quality of products medical goods and therapeutics can be maintained or improved.
- **RNA technologies:** The Department is currently consulting to build and support growth of Australia's RNA sector. This is in recognition of the enormous potential for RNA technologies to drive innovation and growth in areas like biotechnology, medicine and agriculture – leading to societal and economic benefits in Australia and globally. The Department has identified Australia's RNA sector as being one that is already making an impact, with the potential to be at the forefront of developing and producing the next generation of RNA technologies. The priorities present an opportunity to reinforce and advance this work by including RNA technologies as part of the critical research areas in priority 3.

Implementation

The AAHMS April 2023 submission highlighted the need for the priorities to be accompanied by a robust strategy for implementation, monitoring and evaluation. We wish to strongly reiterate this point as the success of the priorities will depend on how well they are applied across Australia's research and innovation ecosystem.

An implementation strategy should inform, and be informed by, other national strategies that will impact how Australia delivers science and research. For instance, the Department of Health and Aged Care is currently developing a National Health and Medical Research Strategy. This Strategy will guide investment through the National Health and Medical Research Council (NHMRC) and the Medical Research Future Fund (MRFF). It is not clear how the priorities will influence funding from these bodies or how the NHMRC and MRFF will be required to account for the priorities as they undertake their work.

The priorities, and the associated implementation plan, should leverage other policy opportunities like those ongoing in health and medical research, to ensure the overarching system can be connected for maximum impact – this is crucial to developing a long-term,

[3] Therapeutic Goods Administration. Medicine shortage reports database. https://apps.tga.gov.au/Prod/msi/search?shortagetype=Critical

strategic approach to research and innovation. The National Reconstruction Fund and the Australian Universities Accord are other examples of ongoing policy activities that should be informed by the priorities. We would also reiterate that any implementation plan should incorporate processes that will enable the priorities to be dynamic and responsive to Australian needs and the changing science and research landscape. This includes being responsive to scientific and technological changes like the emergence of artificial intelligence technologies – and structural and sociopolitical changes in how research is funded, conducted, disseminated and translated.

The priorities cannot be implemented without a skilled and well-rounded workforce. Given the multidisciplinary, cross-sector nature of the priorities, this means developing and nurturing a system and culture that brings people and ideas together to advance a common goal. In health and medical research, integrated teams that include health professionals, data scientists, biostatisticians, economists, industry experts, consumers and communities and others, enable relevant and applicable research that can be used to tackle real-world health challenges that do not occur within siloes. This is the vision expressed in the priorities for science and research, but an implementation plan must pave the path to deliver the underpinning system, culture and workforce that will enable the priorities to have an impact. It will also be key to ensure that new methods of integration and collaboration do not undermine the efficiency, effectiveness and integrity of research. AAHMS urges the department to work closely with academia, governments, industry and others to identify the gaps and opportunities to develop this robust scientific ecosystem.

For questions about this submission, or to arrange a consultation with Fellows and Associate Members of the Academy, please contact Lanika Mylvaganam, Head of Policy (lanik.mylvaganam@aahms.org) at the Australian Academy of Health and Medical Sciences.

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