Australian Academy
of Health and
Medical Sciences

AAHMS submission to the Department of Industry, Science and Resources consultation: Revitalising Australia's vision for science and research

April 2023

The Australian Academy of Health and Medical Sciences welcomes the Government's review of Australia's science policy framework. We are delighted to provide written input into this consultation, in addition to our contributions through participation in the roundtables hosted by Dr Cathy Foley AO PSM FAA FTSE, Australia's Chief Scientist.

The Australian Academy of Health and Medical Sciences (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 476 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 submission has been informed by input from our Fellows and Associate Members.

Key messages

- To retain our competitive edge, Australia needs a comprehensive research and innovation strategy, including a long-term stable funding commitment. Our science policy framework must provide the strongest possible foundations.
- To make the most of Australian health and medical research, the Strategy should highlight the need to better embed research and innovation in the health system, which would help to maximise the quality of healthcare.
- The National Science and Research Priorities must set the scene for Australia to build on our strengths and should provide a blueprint for how we can use them to tackle current and future challenges.
- The Priorities provide a valuable opportunity to harness multidisciplinary expertise to address complex challenges – health inequities is an important example in health.
- The National Science Statement should include consumer and community involvement and the need to better build and nurture integrated teams and cross-sector collaboration.
- Implementation of the Priorities and Strategy should be monitored and evaluated to ensure they have the desired impacts.

Introduction

Australia has a world class research and innovation sector and, in the health and medical sciences, we punch above our weight globally.[1] The terms of reference for this review, which aim to revitalise Australia's vision for science and research, note the role of science in delivering greater societal, economic and environmental benefits for all Australians. To retain and improve our competitive edge – and therefore yield these benefits – Australia needs a comprehensive research and innovation strategy, including a long-term stable funding commitment. It is crucial that the government takes the opportunity, in reforming the National Science and Research Priorities (Priorities) and the National Science Statement (Statement), to ensure they provide the strongest possible foundations for creating such an environment. It will also be important to ensure that the purpose and aims of the Priorities and Statement are clear and that there are mechanisms in place to monitor and evaluate their implementation and outcomes – to ensure they have the desired impacts.

National Science and Research Priorities

It is crucial that Australia's Science and Research Priorities address the complex nature of the current and future challenges we face. We welcome the Chief Scientist's approach to this consultation, which starts by considering these issues. This analysis should be set alongside Australia's strengths and how we can play to them. The Priorities must set the scene for how to do this and provide a blueprint for tackling the challenges which are identified.

We note that this review aims to set a vision for science and research. We strongly endorse the inclusion of research in this context. Tackling important challenges such as climate change, pandemics and health inequities requires input and action from across the disciplines, not only the sciences.

Global challenges frequently have a health component and against this backdrop, Australia's health system is facing substantial challenges. The COVID-19 pandemic showed us how quickly a global health challenge can take hold, but it also demonstrated the speed with which health and medical research and innovation can pivot to address a critical issue. Australia played a significant role in global efforts to tackle the pandemic. We have previously called for a national strategy for health and medical research. Creating this strategy to sit under the broader Science and Research Priorities would enhance their value considerably.[2]

It is not clear from the terms of reference how broad the priorities will be. However, in the context of health, some of the complex challenges include:

- **Health inequities –** health and social inequities continue to rise across Australia. This is particularly prevalent in regional, remote, and Aboriginal and Torres Strait Islander communities, where life expectancy remains lower than the rest of Australia, and Indigenous communities experience a greater burden of disease than non-Indigenous Australians.[3] Health inequities in Australia stem from social, cultural, environmental, and historical determinants, many of which could be mitigated by strategic investments and the formation of a robust health and medical workforce that includes research professionals. We have highlighted these inequities in previous AAHMS publications.[1,2] Unfortunately, in many cases they continue to rise. Developing evidence-based policies that address the determinants of social and health inequities should be included in the reformed Priorities.

- **Overcoming misinformation and disinformation –** social media and the Internet enable dissemination of information rapidly and with potentially widespread reach. This has been accompanied by the spread of misinformation and disinformation. This can negatively affect people's health behaviours, impacting mental health for example, and has even influenced the allocation of health resources in some cases.[4–6] Strategic approaches to better understand and address this issue, and to provide Australians with the critical skills required to cut through misinformation and disinformation, should be considered an urgent priority. The refreshed Priorities should support better education for individuals, enabling them to examine and analyse the information they encounter more effectively. This starts with school-level education by helping individuals develop the skills to understand evidence, check facts and biases, and identify the best sources of information.
- **Increasing rates of preventable chronic diseases and multimorbidity –** rates of chronic diseases in Australia are rising. 47% of Australians had one or more chronic conditions in 2017-18, which is an increase from 42% of Australians in 2007-08, and multimorbidity becomes more common with age.[7] In many cases these conditions are preventable or treatable. We would like to see the Priorities bring about strategic actions to reduce the impacts, including societal and economic, in Australia.

The Priorities should address these kinds of complex challenges, with the overarching goal of limiting current and future health impacts. The Priorities must be used to facilitate the research and innovation needed to inform efforts to tackle these challenges. It is important to note that issues such as those highlighted above are not independent of each other – they often co-exist and influence one another. For instance, by their nature, health inequities and poor access to health education are associated with conditions such as obesity and heart disease. Therefore, the Priorities should be designed in a manner that addresses the implicit interconnectivity of these challenges.

National Science Statement

The National Science Statement plays an important role in Australia's science policy framework, setting out how the Priorities will be delivered to address the challenges identified.

We agree that the Statement should address the four areas outlined in the consultation: local and international partnerships, open access and data sharing, science engagement, and the importance of science advice. These are all crucial to a fit-for-purpose science policy framework.

AAHMS completed a review in 2022 of how Australia can more efficiently see the outcomes of health and medical research translated into policy and practice. Our report, "*Research and innovation as core functions in transforming the health system: a vision for the future of health in Australia"*, concluded that research and innovation need to be better embedded in the health system. [8] We identified several conclusions and recommendations for achieving this aim, some of which are relevant to the Statement:

- **Consumer and community involvement** – our report set out a vision for a future in which the whole community has more equal opportunities to shape, participate in and benefit from research that is relevant to them, as active and valued partners. [8] This is an important mechanism to ensure that research and innovation meets the needs of

those it aims to impact. We believe this aspiration would be a valuable inclusion in the National Science Statement, which goes beyond science engagement as it stands.

- **Integrated teams and cross-sector collaboration** – multiple reviews have concluded that Australia is not currently maximising health innovation and commercialisation opportunities. Australia lags behind other OECD countries in academia-industry collaboration rates.[9] Our report highlighted the need to nurture an active health-academia-industry interface, which can work dynamically to enable fully integrated research teams. This principle applies beyond just health – cross-sector collaboration and mobility must be valued and incentivised (throughout the career stages), to promote knowledge exchange and ideas generation. In health, there is considerable partnership between the health system and academia, however this still needs to be strengthened to better enable translation of research and innovation into practice – for instance by creating more clearly defined career pathways for clinician-researchers.

We note that this review is being undertaken alongside other initiatives. However, it would still be worth reflecting the importance of key issues here, such as diversity and inclusion, and the challenges faced by early- and mid-career researchers.

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

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References

1. Australian Academy of Health and Medical Sciences. *Driving Prosperity and Improving Lives through Health and Medical Science*. 2019. Accessed March 28, 2023. https://aahms.org/wp-content/uploads/2022/02/AAHMS-pre-election-full-statement-February-2019.pdf
2. Australian Academy of Health and Medical Sciences. *Statement from the Australian Academy of Health and Medical Sciences Ahead of the 2022 Federal Election*. 2022. Accessed March 28, 2023. https://aahms.org/policy/statement-ahead-of-the-2022-federal-election/
3. Lowitja Institute. *Transforming Power: Voices for Generational Change*. 2022. Accessed March 28, 2023. https://humanrights.gov.au/our-work/aboriginal-and-torres-strait-islander-social-justice/publications/close-gap-2022
4. Sharov KS. Adaptation to SARS-CoV-2 under stress: Role of distorted information. *Eur J Clin Invest*. 2020;50(9):13294. doi:10.1111/ECI.13294
5. Do Nascimento IJB, Pizarro AB, Almeida JM, *et al.* Infodemics and health misinformation: a systematic review of reviews. *Bull World Health Organ*. 2022;100(9):544. doi:10.2471/BLT.21.287654
6. WHO. *Infodemics and Misinformation Negatively Affect People's Health Behaviours, New WHO Review Finds*. 2022. Accessed March 28, 2023. https://www.who.int/europe/news/item/01-09-2022-infodemics-and-misinformation-negatively-affect-people-s-health-behaviours--new-who-review-finds
7. Australian Institute of Health and Welfare. *Chronic Condition Multimorbidity*. 2021. Accessed March 29, 2023. https://www.aihw.gov.au/reports/chronic-disease/chronic-condition-multimorbidity/contents/chronic-conditions-and-multimorbidity
8. Australian Academy of Health and Medical Sciences. *Research and Innovation as Core Functions in Transforming the Health System: A Vision for the Future of Health in Australia*. 2022. Accessed March 28, 2023. https://aahms.org/wp-content/uploads/2022/10/AAHMS-Vision-Report.pdf
9. Universities Australia. *Higher Education Facts and Figures*. 2020. Accessed March 29, 2023. https://www.universitiesaustralia.edu.au/wp-content/uploads/2020/11/200917-HE-Facts-and-Figures-2020.pdf