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DEPUTY VICE-CHANCELLOR  
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Dear Simon,

## UNSW RESPONSE TO INDEPENDENT REVIEW OF HEALTH AND MEDICAL RESEARCH IN AUSTRALIA

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The University of New South Wales (UNSW) welcomes the opportunity to provide comment on the *Independent Review of Health and Medical Research in Australia*, and looks forward to working with the Secretariat in examining ways to optimise Australia's capacity to produce world class health and medical research in a fiscally strategic manner.

UNSW is a member of the Group of Eight (Go8) research-intensive universities with a strong medical faculty which is formally affiliated with the Garvan Institute (Garvan), Victor Chang Cardiac Research Institute (VCCRI), Children's Cancer Institute of Australia (CCIA), NeuroSciences Australia (NeuRA), and Black Dog Institute, as well as a number of teaching and research hospitals.

UNSW is keen to see Australia build on the current momentum for reform in health and medical research in NSW's through the recent work undertaken in the NSW Health and Medical Research Strategic Review,<sup>1</sup> chaired by Peter Wills AC.

### KEY MESSAGES

UNSW has identified the following key issues as priority areas for consideration:

1. There must be a **strong long-term strategic plan** for health and medical research, and this must be consistent with the National Research Priorities. There must be synergies and cooperation between the national strategic plan for health and medical research and the strategic priorities of the States and Territories.
2. Priority needs to be given to the development of **national platforms for health and medical research cooperation** including:
  - a. **National Bio-Banking Platform** incorporating tissue, genes, and brain banks; as well as an advanced database format to facilitate ready access to the repository.
  - b. **National Health Care Data Linkages** incorporating easy access to de-identified health data, including PBS and MBS data as well as Hospital admissions.

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<sup>1</sup> See <http://www.health.nsw.gov.au/omr/review/>

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3. The Review must recognise that Health and Medical Research is not just clinical research. Much of the key basic research underpins the most significant clinical outcomes. **Funding for health and medical research must be preserved for both clinical and fundamental/basic research which could lead to significant clinical outcomes.**
  - a. For example, Australian chemist, Professor Mark von Itstein, was responsible for the discovery of Zanamivir which led to the development of one of the first Flu vaccines in the world.<sup>2</sup> Another well known example is Dr Fiona Wood, who was responsible for the development of spray-on-skin for burns victims.<sup>3</sup> Both of these discoveries started as fundamental basic laboratory research.
  - b. Research programs must ensure that projects are fully funded to meet the real costs of undertaking research. UNSW would prefer to see preserved success rates, with research properly funded, rather than projects partially funded with higher success rates where the host institution must cross-subsidise research programs to ensure their success.
4. **A strong health and medical research sector can only be fully achieved with a strong and supportive administrative framework** (for example the NHMRC, DoHA etc). It is important that those agencies supporting health and medical research are not distracted by unnecessary and burdensome bureaucratisation which has been creeping in over the recent years, with an increasing focus on compliance reporting obligations over research outcomes.
5. The research education nexus is a critical aspect of the health and medical research environment. Australia provides an important international base for high level doctorate and post doctoral research training and experience for students in South-east Asia.

## SPECIFIC RESPONSE TO THE CALL FOR SUBMISSIONS

### **CONSULTATION QUESTION 1: Why is it in Australia's interest to have a viable, internationally competitive health and medical research sector?**

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*TOR 1. The need for Australia to build and retain internationally competitive capacity across the research spectrum, from basic discovery research through clinical translation to public health and health services research.*

*TOR 6. Strategies to attract, develop and retain a skilled research workforce which is capable of meeting future challenges and opportunities.*

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## National Security & Regional Protection

First and foremost, **it is in Australia's interest to have a viable, internationally competitive health and medical research sector for National Security and regional protection.** Australia could rely on our international allies to have a strong health and medical research sector, and leave Australia to concentrate on service delivery, but this would lead to significant "brain drain" and a significant lack of international collaboration capability and a lack of critical expertise in the event of a national health crisis, such as an epidemic. For example, if another "bird flu" epidemic happens in Australia, where would Australia be placed if it is local to Australia and international institutions do not have an interest in researching and developing

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<sup>2</sup> See [https://grants.innovation.gov.au/SciencePrize/Pages/Doc.aspx?name=previous\\_winners/Aust1996vonItstein.htm](https://grants.innovation.gov.au/SciencePrize/Pages/Doc.aspx?name=previous_winners/Aust1996vonItstein.htm)

<sup>3</sup> See <http://www.australianoftheyear.org.au/pages/page59.asp>

vaccines and effective therapies in this region? **Australia must have a skilled, internationally competitive health and medical research workforce sector as an incentive for recruitment and retention of health and medical researchers. Australia must have its own independent capability and capacity to respond quickly and reliably to health and medical priorities that are unique and specific to the Australian population.**

### Economic gains

Secondly, **there are strong examples of economic gains as a result of Australia having a strong and internationally competitive health and medical research sector.** One only has to look at the economic, health, medical, and social benefits of either Cochlear<sup>4</sup> or Gardasil<sup>5</sup>, which are both internationally recognised Australian developments. If Australia ceases to be a significant international player in the medical research IP market, access to inside information and new developments will slow down and/or stop altogether, and we will be in a position where we have to import knowledge as at significant cost and risk to national security, especially at a time of crisis.

Significant funds flow from the education and training of the next generation of Australian and foreign research scientists.

The WA State Health Research Advisory Council vision Statement rightly recognises the importance of a strong health and medical research sector stating:

*"...an internationally competitive HMR sector must be founded on excellence in research, a high calibre workforce, solid infrastructure support, and strong incentives for innovation. The benefits of world-class research efforts, and the translation of these into health gain, will accrue at the local, national and international level."*<sup>6</sup>

### **CONSULTATION QUESTION 2: How might health and medical research be best managed and funded in Australia?**

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*ToR 2. Current expenditure on, and support for, health and medical research in Australia by governments at all levels, industry, non-government organisations and philanthropy; including relevant comparisons internationally.*

*ToR 3. Opportunities to improve coordination and leverage additional national and international support for Australian health and medical research through private sector support and philanthropy, and opportunities for more efficient use, administration and monitoring of investments and the health and economic returns; including relevant comparisons internationally.*

*ToR 7. Examine the institutional arrangements and governance of the health and medical research sector, including strategies to enhance community and consumer participation. This will include comparison of the NHMRC to relevant international jurisdictions.*

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### **A new model for health and medical research excellence**

One model that UNSW, The University of Sydney and the University of Newcastle have recommended to the NSW Health and Medical Research Strategic Review<sup>7</sup> (the Wills Review) is the designation of "**Centres of Health and Medical Research Excellence**" which purposefully integrate health and medical research with care delivery. Such a concept is based on the well-established idea of an Academic Health Sciences Centres founded in North America, taking off in Europe and the UK and is strongly endorsed by Australian Health Deans.

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<sup>4</sup> See <http://www.cochlear.com/corporate/about-graeme-clark>

<sup>5</sup> See <http://www.gardasil.com/>

<sup>6</sup> See <http://www.shrac.health.wa.gov.au/home/>

<sup>7</sup> See <http://www.health.nsw.gov.au/omr/review/>

The Centres of Health and Medical Research Excellence (hubs) would need to be resourced appropriately with support linked explicitly to research excellence and the National strategic health and medical research priorities. The membership of each Centre would bring together under the one umbrella: Hospitals, Medical Research Institutes, Universities, and providers of allied health and primary care including general practice.

The proposed new health and medical research Model is based on our conviction that the best health care is delivered in an environment where there is a critical mass of internationally competitive research. The formation of Centres of Health and Medical Research Excellence would remove the existing tensions that too often exist between key stakeholders: health services, research institutes, universities and primary care practitioners and agencies. The formation of Centres of Health and Medical Research Excellence would reduce the siloing that currently exists by supporting these players to come together to work towards common goals, while still retaining their independence, identity and their own respective "brands".

### **Funding the full costs of health and medical research**

Managing, and funding, health and medical research, while interrelated, are two very different things. Australia must invest more substantially and competitively in health and medical research, in order to realise our full international potential. **While there is always a need for increasing the funding available for health and medical research, it is more important that the limited amount of funding that is available is used in a coordinated and competitive way to support research excellence, wherever it occurs.**

**It is essential to support the full costs of medical research in Australia, at the time that the costs are incurred, in the context of a well developed national strategic plan.** Health and medical research cannot be considered a short-term initiative; there must be a commitment to a long-term sustainable strategy that properly supports high-quality health and medical research across Australia. This requires the Commonwealth and the States and Territories to work together in supporting health and medical research, rather than competing with each other against different political agendas. **This independent review provides an excellent opportunity to bring together State and Federal strategies for health and medical research into a national health and medical research strategy, that is in the best interests of Australia.**

### **CONSULTATION QUESTION 3: What are the health and medical research strategic directions and priorities and how might we meet them?**

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*ToR 5. Likely future developments in health and medical research, both in Australia and internationally.*

*ToR 12. The degree of alignment between Australia's health and medical research activities and the determinants of good health, the nation's burden of disease profile and national health priorities, in particular "closing the gap" between indigenous and non indigenous Australians.*

*ToR 13. Opportunities for Australia's health and medical research activities to assist in combating some of the major barriers to improved health globally, especially in the developing world.*

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The following health and medical research strategic directions and priorities are set out below.

### **Development of a strong strategic plan for health and medical research**

There must be a **strong strategic plan** for health and medical research, which complements the National Research Priorities. There must be synergies and cooperation between the national strategic plan for health and medical research and the strategic priorities of the States and Territories. Any strategic plan must be sufficiently resourced to ensure that it can be effectively implemented and managed.

## Development of national platforms for health and medical research cooperation

Priority needs to be given to the development of **national platforms for health and medical research cooperation** including:

- a. **National Bio-Banking Platform** incorporating tissue, genes, and brain banks;
- b. **National Health Care Data Linkages** incorporating easy access to de-identified health data from PBS, MBS and State sources (hospital admissions etc).

## Centres of Health & Medical Research Excellence

Australia must adopt the **Centres of Health and Medical Research Excellence** model as described above in Consultation Question 2;

## Key areas of research focus

Australia must identify key priorities of strategic importance including:

- a. **Mental health.** Mental Health remains an area that is seriously underfunded. The Commonwealth must take more of a coordinating and funding role in this important area.
- b. **Ageing.** This is the biggest single crisis facing provision of health care in Australia, and must continue to be on the Commonwealth research agenda.
- c. **Cancer.** Cancer and cardiovascular disease (CVD), vie with each other as the biggest killers of Australian adults. Progress in reducing age-specific mortality from CVD has been spectacular in recent decades but much less so in cancer. It needs to remain a major priority area.

## **CONSULTATION QUESTION 4: How can we optimise translation of health and medical research into better health and wellbeing?**

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*ToR 4. The relationship between business and the research sector, including opportunities to improve Australia's capacity to capitalise on its investment in health and medical research through commercialisation and strategies for realising returns on Commonwealth investments in health and medical research where gains result from commercialisation.*

*ToR 8. Opportunities to improve national and international collaboration between education, research, clinical and other public health related sectors to support the rapid translation of research outcomes into improved health policies and practices. This will include relevant international comparisons.*

*ToR 9. Ways in which the broader health reform process can be leveraged to improve research and translation opportunities in preventative health and in the primary, aged and acute care sectors, including through expanded clinical networks, as well as ways in which research can contribute to the design and optimal implementation of these health reforms.*

*ToR 10. Ways in which health and medical research interacts, and should interact, with other Government health policies and programs; including health technology assessments and the pharmaceutical and medical services assessment processes.*

*ToR 11. Ways in which the Commonwealth's e-health reforms can be leveraged to improve research and translation opportunities, including the availability, linkage and quality of data.*

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## International collaborations

Partnerships between researchers (nationally and internationally) are already very strong. One only has to look at the consortium of Australian researchers on papers in the worlds' best

international journals to see successful Australian international collaborations. For example, Australian scientists have played a key role in the identification of a new biochemical mechanism that allows brain tumours to survive and grow, offering hope of new drug treatments for some of the most aggressive tumours. The research, published in *Nature*, was conducted by an international team from Germany, USA, Switzerland and Australia. The international team included UNSW's Associate Professor Gilles Guillemin, who identified the key role played by kynurenine, a by-product of the metabolism of the essential amino acid tryptophan, in favouring brain tumour growth and at the same time suppressing anti-tumour immune response.<sup>8</sup> There are many more examples of this level of international collaboration.

### Intellectual property

In recent years the major benefits in commercially relevant research have come from partnerships between public sector research organisations and companies that have positive mindsets towards innovation and collaboration, rather than through the invention and exploitation of IP. This trend is likely to continue and involve a wide array of research throughout the medical and public health sector. UNSW has taken significant steps to overcome the perception that Universities are hard to do business with through the adoption of the "**Easy Access IP**" model. Through UNSW's portfolio of free, Easy Access intellectual property (IP), we provide a fast-track route for the transfer of knowledge and expertise from UNSW to industry, so that it can be developed for the benefit of the economy and society. UNSW was the first Australian University to adopt this new approach.

### Clinical Trials

The explosion in biomedical research has resulted in the development of thousands of new therapies with potentially life-saving benefits. Facilities, such as advanced treatment centres and streamlined mechanisms are needed to fast track these treatments from to "bench-to-bedside".

Participation rates in Clinical Trials for patients in Australian hospitals are extremely poor by world standards. This is both a National "opportunity cost" in terms of our contribution to Health research and a personal cost to our citizens, knowing as we do that outcomes are almost invariably better in hospitals that have high participation rates in trials than in those that do not. Active participation by Australian patients in Clinical trials will also help shorten the timelines between a new research "idea" and its application to the clinic. Too often, research opportunities are lost to Australian patients because of cultural mindsets among Health Administrators that do not place sufficient value on research, often citing the lack of funding incentives for it. This needs to change and funding flows specifically encouraging research would be a powerful driver for this change.

The University of New South Wales would welcome the opportunity to discuss this submission further.

Yours sincerely,



**Professor Les Field**  
**Deputy Vice-Chancellor (Research)**

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<sup>8</sup> See <http://newsroom.unsw.edu.au/news/health/brain-tumour-treatment-hope> for further information.