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Re: McKeon Review

To Whom It May Concern,

Bioplatforms Australia (www.bioplatforms.com) was established under the Commonwealth Government National Collaborative Research Infrastructure Strategy in 2007 and has responsibility for investing in and managing research infrastructure in the Genomics, Proteomics, Metabolomics and Bioinformatics sectors. The original investment was augmented with additional support through the 2009 Education Investment Fund.

The research infrastructures supported by NCRIS and EIF Super Science are critical to almost all thematic areas of health and medical research and support the breadth of the research and development continuum including population health, discovery, target validation and clinical trials.

In addition to supporting a national infrastructure network, Bioplatforms Australia has chosen to seed the establishment of collaborative genomics data repositories, including one in the Melanoma field where approximately 500 tumours (plus controls) will be sequenced, underpinning future discovery research that will contribute to the understanding and treatment of this disease, of such special significance to Australians.

The research infrastructure investment Bioplatforms Australia oversees is a systemic contribution to Australian health and medical research, providing access to over 2000 researchers annually and providing technology, expertise and contextual collaborative support that would not be readily available in the absence of the NCRIS and EIF Super Science programs.

Bioplatforms Australia has identified a number of key areas for the McKeon Review to consider, including

1. The systemic need for a devoted infrastructure program ensuing Australian researchers have access to current and internationally competitive technology;
2. The need for infrastructure to be supported with dedicated expertise with a remit to support Australian health and medical research;
3. The opportunity to minimise duplication and enhance efficiency through cohesive and rational investment in research infrastructure;
4. The data intensive nature of much of modern research requiring a considered approach to what data is needed, how it is acquired, managed, made accessible, analysed and integrated with correlating data sources.

We will try and limit our responses to areas relating to research infrastructure or where we have made observations that may be contributive to the review.

Why is it in Australia's interest to have a viable, internationally competitive health and medical research sector? (Terms of Reference 1 and 6)

Health and medical research contributes significantly to many areas of socio-economic benefit in Australia, including

- The betterment of quality of life for sufferers of chronic and/or acute illnesses;
- Economic benefit by reducing health costs through better medical practices via the diagnosis, treatment and surveillance of patients;
- Economic benefit by enhancing social productivity through an advanced and effective health system;
- Economic benefit via the translation and commercialisation of health and medical discoveries;
- The educational system that accompanies health and medical research provides the skills and expertise required across a range of national needs;
- A viable health and medical research sector provides the opportunities to attract and retain intellect, expertise and skills;
- The capability available through a viable health and medical research sector can be applied on a needs basis to challenges that are unique to Australia, for example, Melanoma, Hendra Virus outbreak, indigenous health issues.

How might health and medical research be best managed and funded in Australia? (Terms of Reference 2, 3 and 7)

Health and medical research in Australia is a complex multidimensional sector with political, historical, geographical and research domain complexities that will not easily or uniformly be addressed. This is complicated by funding types including fellowships, projects, networks, research infrastructure and translational investments.

Bioplatforms Australia is well placed to comment on research infrastructure investment and the systemic impact and value that accessible research infrastructure investment has on the breadth of the health and medical research sector.

1. <u>The systemic need for a devoted infrastructure program ensuing Australian researchers have access to current and internationally competitive technology</u>

   Whilst the NHMRC enabling program has facilitated much needed research infrastructure devoted to health and medical research, it is not broad enough to cater for the comprehensive research infrastructure needs of the sector. Indeed the technology needs are becoming both broader and more expensive and in many instances multiple infrastructure classes are required to address research questions. This has ensured that even the most research intensive universities

and medical research institutes cannot meet researcher needs in an ad hoc fashion and that a devoted research infrastructure program (such as NCRIS) is needed to service the sector.

2. <u>The need for infrastructure to be supported with dedicated expertise with a remit to support Australian health and medical research</u>

   One of the success factors in the NCRIS program has been the strategic perspective of investing in technical staff to maximise the usage and impact of the hard infrastructure investments. These positions have not only ensured quality research data outputs are provided efficiently, but provide a focal point for collaboration between researchers, infrastructure sites and in some instances 3rd parties whom may not have been able to contribute without the provision for supporting expertise.

3. <u>The opportunity to minimise duplication and enhance efficiency through cohesive and rational investment in research infrastructure</u>

4. <u>The data intensive nature of much of modern research requiring a considered approach to what data is needed, how it is acquired, managed, made accessible, analysed and integrated with correlating data sources</u>

What are the health and medical research strategic directions and priorities and how might we meet them? (Terms of Reference 5, 12 and 13)

The health system needs of Australia are continually evolving and research provides an opportunity to proactively address changing objectives. The social and economic imperatives of disease/health classes, such as mortality rates, health budget burden, quality of life, aging population and so on will drive priorities for specific future research investment. Bioplatforms Australia is not ideally placed to comment on specific of what these priorities may be.

Addressing health priorities requires the development of capability across the research and development pipeline with balance that is appropriate to any specific priority identified above. Components of the research and development continuum include

- Population health and epidemiology;
- Discovery science;
- Diagnostic and prognostic development;
- Therapeutic target discovery and validation;
- Clinical trial materials;
- Clinical trials.

Whilst not all aspects of the research and development continuum are the responsibility of Government, however consideration of how government investment could be made in partnership with private organisations (commercial, not for profit, philanthropic) at relevant phases in the pipeline will inform strategy. For instance, programs to encourage Venture Capital investment to support commercially viable components of the above continuum may be considered.

How can we optimise translation of health and medical research into better health and wellbeing? (Terms of Reference 4, 8, 9, 10 and 11)

The NCRIS program that supported research infrastructure investment in line with Australia's strategic needs was performed after a consultative road mapping exercise. This roadmap informed what capabilities were needed to support Australia's research needs and strengths and investments were then made in a facilitated and strategic process. This ensured Australia's needs were met cohesively and rationally.

A similar process would benefit Australia's health and medical research investment. Pressing health needs could be prioritised, the capabilities needed to address these challenges identified and investment rolled out after careful planning and consultation. Such a strategic approach to translational health and medical research would in time build collaborative teams with a focus on translation as an identified outcome, rather than an ideal supporting a competitive grant application.

For too long we have seen the determination of the totality of research investment as the product of what the individual research user finds interesting or useful. We have not considered what the nation needs for certain outcomes and how that links internationally in anything like a strategic fashion. By mapping out needs, capabilities, deliverables and ultimately the people to make a translational contribution Australia would go a long way in addressing a variety of health challenges.

Conclusion

This review provides a significant opportunity for broad consultation on the desired outcomes, possible directions and processes needed for a health and medical research sector of national and international value.

Bioplatforms Australia would be delighted to continue to contribute as appropriate and is open to discuss and aspects of our submission, or research infrastructure needs more broadly. Please do not hesitate to contact us should you have any further comments or questions.

Yours sincerely,

Andrew Gilbert
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Bioplatforms Australia