THERAPEUTIC INNOVATION AUSTRALIA

Queensland Node

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Therapeutic Innovation Australia (TIA) – QLD Node Submission to the McKeon Review of the NHMRC

About TIA – QLD Node

The TIA – QLD Node is a consortium of five leading translational research centres located at The University of Queensland (UQ) and Griffith University (GU) comprising the Centre for Integrated Preclinical Drug Development, the UQ Diamantina Institute, the UQ Centre for Clinical Research, the Queensland Clinical Trials and Biostatistics Centre and Griffith Health Institute.

In 2011, TIA – QLD Node was awarded $6.9M from the Commonwealth Government's $35M Education Investment Fund (EIF) Initiative for infrastructure to expand existing world-class preclinical and clinical translational research infrastructure and to link the infrastructure in a coordinated way to establish a unique facility for translating university-based life sciences discoveries into products for commercialization. The mission of the TIA-QLD Node is to provide a coordinated and facilitated pathway to accelerate movement of inventions by university-based life sciences discovery researchers from the laboratory, across what is known as the 'valley of death' that is the arduous path between early research and proof of concept. With respect to university-based discovery research it includes the pathway through preclinical and into clinical development to produce 'reduced risked technologies' that will be attractive for subsequent investment and commercialization into pharmaceutical and diagnostic products for improving human health. ***However, a major impediment to success is lack of operational funding and salary support for the highly skilled and experienced personnel needed to operate the facility and manage the translational projects.*** **Suggested solutions are outlined below.**

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

A viable, internationally competitive health and medical research sector should be supported because its many dimensions ultimately underpin the provision of optimal health care that is of primary concern to all Australians. Hence it is of utmost importance that the internationally recognized strength in health and medical research in Australia is maintained.

Apart from providing a platform for healthcare innovation, the biomedical research sector is an industry where Australia can compete on a global scale. However, to better capture commercial and economic benefits from the investment in health and medical research in Australia, it is essential that future NHMRC investment be directed towards establishment of mechanisms to facilitate translation of laboratory-based discoveries into pharmaceutical and diagnostic products for improving human health.

Recommendations:

1. Maintain Australia's current level of investment in real terms in the fundamental sciences that underpin our internationally competitive health and medical research sector.
2. Provide new funding to establish a new category of research centre entitled ***Centre of Translational Research Excellence (CTRE)*** and fund the operational costs including the salaries of the highly skilled personnel required to operate the translational research infrastructure.
3. Create a new category of translational research fellowships to markedly improve career paths for early and mid-career biomedical researchers in the translational research field.

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

As mentioned above, it is the view of the TIA-QLD Node collaborators that grant funding support for translational research is essential in order to accelerate the generation of health and economic benefits from the investment in health and medical research for Australia. We make the following recommendations.

Particularly in the last two to three years, there has been a severe contraction in the scale of in-house R&D research being undertaken by large Pharma companies. Hence, it has never been more important for Australia to maintain and grow our national capabilities in this regard. Australia, with our outstanding biomedical research workforce and high quality infrastructure is exceptionally well placed to leverage this paradigm shift in how large Pharma companies are moving to change how they conduct their pharmaceutical R&D by forming collaborations with public sector institutions. One proposal for consideration is formation of a national virtual pharmaceutical organization in partnership with the private sector. Potential translational research projects could be reviewed ruthlessly from a commercial perspective by industry professionals (criteria including market size, intellectual property position and competition). The translational research steps required to move life sciences discoveries towards commercialization could then be contracted to appropriately funded specialist local facilities such as the TIA – QLD Node rather than being undertaken in an ad hoc manner or sent internationally.

In order to translate inventions by biomedical discovery researchers into pharmaceutical and diagnostic products for improving human health, access to translational research capabilities is a fundamental requirement. Similarly, to foster growth in investment in Australian research by international pharmaceutical and medical device companies, local centres hosting translational research capabilities must demonstrate a suitable track record and employ appropriately qualified and experienced personnel. High-end hard infrastructure is important but the critically under resourced component of the system is the scientific expertise at the centres (including medicinal chemists, bioanalytical scientists, pharmacologists, clinical trial personnel, quality systems personnel and the like). Short term programs with limited or no funding for personnel is a major impediment that is severely restricting our national capacity to translate the outputs of life sciences discovery research into products for improving human health and generation of the associated socioeconomic benefits.

High-end hard infrastructure is important but the critically under resourced component of the system is the scientific expertise at the centres

We re-iterate recommendations 2 and 3 above as follows:

Recommendations:

1. Provide new funding to establish a new category of research centre entitled ***Centre of Translational Research Excellence (CTRE)*** or similar, and fund the operational costs including the salaries of the highly skilled personnel required to operate the translational research infrastructure.
2. Create a new category of translational research fellowships to markedly improve career opportunities for early and mid-career biomedical researchers in the translational research field.

Associated with the formation of the proposed CTRE's, there is a clear opportunity to put in place policy initiatives that foster the development of public-private partnerships (PPP) between such Centres of excellence and large pharmaceutical and medical device companies. Success in this regard will bring investment into Australia and foster a translational research culture in which innovative life sciences discovery researchers have the opportunity to gain deeper insight into the key drivers for translating discoveries into products that are attractive to industry.

Recommendation:
Develop policy initiatives that foster development of public-private partnerships with the proposed CTRE's to foster accelerated growth in a translational research culture in Australia.

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

As already stated, it is essential that the NHMRC continues to fund an internationally competitive broad base of biomedical discovery research so that as a nation we are well-placed to respond to health challenges that may suddenly arise from time to time.

However, specific investment is now required by the NHMRC to build commensurate national expertise in internationally-competitive translational research capabilities so that appropriate commercial and socioeconomic returns on Australia's investment in biomedical discovery research, can be generated. In particular, creation of translational research fellowships of various types and operational support for facilities with the translational research capabilities such as the TIA – QLD node, is essential.

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

To address this question, we re-iterate our recommendations stated in the previous sections.

Recommendations:

1. Maintain Australia's current level of investment in real terms in the fundamental sciences that underpin our internationally competitive health and medical research sector.
2. Provide new funding to establish a new category of research centre entitled ***Centre of Translational Research Excellence (CTRE)*** and fund the operational costs including the salaries of the highly skilled personnel required to operate the translational research infrastructure.

3. Create a new category of translational research fellowships to markedly improve career opportunities for early and mid-career biomedical researchers in the translational research field.
4. Develop policy initiatives that foster development of public-private partnerships with the proposed CTRE's to foster accelerated growth of a translational research culture in Australia and appropriate socioeconomic returns on Australia's investment in life sciences discovery research.