PUBLIC SUPPORT FOR SCIENCE AND INNOVATION PRODUCTIVITY COMMISSION

Comments on Draft Research Report

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The Walter and Eliza Hall Institute of Medical Research submits the following response to issues arising from the Commission's Draft Research Report. In general we understand the direction taken by the Productivity Commission, however, due to the complexity of issues we would expect more connection between economy-wide generalisations and the realities of specific market segments and organization sectors. In this respect the terms of engagement may not have been sufficiently rigorous to "flush out segment and sector specific issues and we run the risk of a higher denominator analysis and superficiality.

Our specific major concerns are as follows:

(1) Role of medical research institutes

Medical research institutes clearly play a major role in research, translation and commercialisation of Australia's investment in health research. The report is inadequate in its treatment of their role and this sector must be specifically addressed. For example, three of Australia's largest biotechnology commercialisation deals have been derived from the medical research sector - a) Cytopia/Novartis/Ludwig, b) G2 Therapies/NovoNordisk/Garvan and c) Zenyth/Merck/WEHI - all potentially worth more than US$100 million before royalties. These and other examples are clear evidence of a specific sector seeking and achieving returns from Australian taxpayer investment and should be recognised in the report.

Critically, as noted by the Commission in Section 6.12. medical research institutes out-perform other publicly funded sectors with respect to licence income by more than 3-fold (return of 6% on research expenditure versus 1.7% for other publicly funded sectors). This performance is linked to the strong focus on translation and establishment of responsive business development offices by medical research institutes and should be recognised as a sound proposition for increased investment by both the public and private sectors.

2) Inequity in consideration of medical research institutes

The inequity of treatment of medical research institutes is not adequately addressed by the Commission.

- In spite of the strong track record noted above and their major role in creation of intellectual property value, medical research institutes are

relatively disadvantaged among the public sector participants. Their exclusion from eligibility of access to pre-seed funds is inexplicable when universities and CSIRO are eligible and this policy has no apparent rationale or merit.

• Similarly, medical research institutes can access only partial contributions to infrastructure. Given the current level of Federal and State Government contributions, we estimate that medical research institutes must secure an additional 40 cents in every dollar to cover overheads. This gap is much greater than that experienced by universities and CSIRO, and presents a strong competitive handicap for Australia's medical research institutes.

Is the current mix of research funding, government commercialisation grants and commercial investment appropriate? The Commission's own figures show that Australia's world share of research publications and citations is approximately 3% (Figures K1, K4) while Australia's share of world patents is approximately 0.8% (Tables J1, J2). Since patents are a key requirement and indicator of research commercialisation these figures point to a real innovation gap that is not being addressed by current Australian systems.

In its report the Commission has focussed on solutions for universities and, as elsewhere, is lukewarm or silent on the medical research institute sector which is performing much better despite less support. Medical research institutes produce nearly 8% of Australian publications and have shown the greatest rate of growth (Figure K6) and success in commercialisation. They are essentially excluded from DEST funding schemes including ARC grants, Infrastructure grants, Pre-seed funding etc. The suggestion of third stream funding to university infrastructure grants and the generation of an `Innovation Stimulation Fund' (page 6.37) are worthy considerations but they should include access models for medical research institutes and other institutions that do not currently receive funding for these purposes.

3) Funding gap for proof of concept

The Commission takes the view that the funding gap for proof of concept studies in publicly funded research organizations may not require government intervention because it may represent appropriate market appraisal of the risks. However, the market clearly regards the risk profile of medical research and development at this stage and this is precisely why the finding gap exists.

Therefore, our view is that if Australia is to reap benefit from investments in publicly-funded research (usually through research grants), a means must be found to fund projects to the proof-of-concept and reduction to practise stages, after which the usual commercial channels would take over. In this context, the Commission's finding that public sector funding does not prevent private investment in medical research must be emphasised given the evidence of the genuine market failure experienced by medical research institutes.

Again a sector specific analysis is essential since medical research institutes face the daily reality of a gap in funds before sound "pre-clinical" data can be established - the base line requirement for engaging Australian investors.

4) R&D investment benchmarking

The Commission concludes that Australia's R&D funding and effort is appropriate, given Australia's industry structure and uses various `normalisation' processes to make the point. The assumption appears to be that Australia should not strive to be anything different to what it currently is and does not need to increase its participation in the knowledge-based economies. However, in our view, trying to rationalise performance through an "Australian normalised" model of the world economy and then believing that close to average performance is competitive is fundamentally unsound. Australia's industry structure, private investment profile and performance is not globally competitive in key sectors and specifically in health care. Any ambition that benchmarks us to the average will lead to institutionalised lack of competitive advantage.

5) Real costs of infrastructure

A key omission in the Commission's Report is that it does not adequately address the issue of funding the indirect (overhead) costs of doing research in publicly-funded research institutions. The Commission favours the current very opaque distribution method to universities and is silent on medical research institutes. Current block grant distributions to universities are meant to fund a wide range of different types of needs and funding agencies are therefore not assured that the infrastructure need to perform research is in place.

We recommend a totally different approach, based on overseas precedents and good business practice. Both the direct and indirect costs of performing a research project should be assessed and if the project is selected for funding, funds for both should be distributed by the research agency to the administering institution. This would ensure that the outcomes of the project would have the best chance of being achieved. It is widely accepted that indirect research costs represent as least 70 cents per dollar of direct costs (see May and Sarson, *Nature* 398:457-459, 1999).

The issue of additional core funding to major research and teaching institutions should be separately addressed, and should be based on merit and available to medical research institutes as well as universities.

6) Data accessibility and IP

In our view, the Commission's recommendation that all NHMRC and ARC grant holders be required to make all data publicly accessible in a central registry is expensive and unwarranted. Publication in peer-reviewed journals is the appropriate way of making data publicly accessible and compliance is assured because without publication a researcher is unable to secure his/her next grant. A caveat that should be noted is that publication of commercially relevant data may sometimes be retarded by the need for confidentiality.

Real translational and commercial benefit from public investment will come from a greater emphasis on "composition of matter" patent claims. The Pfizer/Rochester ruling in the US highlights this issue and should guide Australian policy and focus.

Finally, Federal Government clarity and endorsement equivalent to the Bayh-Dole Act in the US would provide the catalyst to greater returns from public investment in science and innovation.