

Submission to the Strategic Review of Health and Medical Research

My comments relate to two of the terms of reference:

1. The need for Australia to build and retain internationally competitive capacity for medical research. As a university researcher in the neurosciences, I am constantly reminded of the enormous personal and social costs of many kinds of diseases, but especially of mental illness. Effective treatment of devastating mental disorders will not occur if we take an empirical, ad hoc approach. The development of new therapies must proceed hand-in-hand with a deeper understanding of the brain -- the most complex object, for its size, in the known universe. Very great effort is being expended around the world in seeking to achieve precisely this understanding. If Australia were to opt out of this quest, it would do much harm to our ability to take advantage of future knowledge-based therapies for mental illness. It would also exclude us from new technologies, such as brain-machine interfaces. Australia already has a strong international reputation in basic and applied neurosciences (think of the bionic ear, and the Nobel Prize to Jack Eccles). However, as world-wide competition in this area intensifies, the stakes become higher and new levels of support become necessary. For these reasons, I believe that Australia's investment in biomedical research should include substantial support of the neurosciences.

2. Strategies to attract, develop and retain a skilled workforce. I wish to propose that advanced research training courses should be given the opportunity to apply for national competitive grant funding. The PhD degree is the traditional rite of passage for future leaders of the nation's research effort. However, the PhD often expects students to "sink or swim", throwing them into the laboratory and expecting them to acquire new skills with little guidance. This approach can be wasteful and dispiriting. Overseas, this problem has been addressed by setting up advanced research training courses, funded by national competitive grants, that provide specialised training for students from institutions throughout the country. Seven years ago a similar course was set up in Australia with the support of a one-off donation from a philanthropist. I am the Director of this course, the Australian Course in Advanced Neuroscience (ACAN). Since its inception, ACAN has trained nearly 100 young Australian and New Zealand researchers in advanced neuroscience techniques. A recent survey of course alumni confirmed that the course has had a major beneficial effect on their careers, helping them to establish their own research programs. Hence, the effectiveness of this training model is well-established. However, the original donation is becoming depleted and other funding sources (universities, research institutes) are erratic. We are also unwilling to raise the course fee above its current level (\$5000 per student). It would be very beneficial to ACAN and other research training courses if they had the option of seeking federal funding, as currently occurs abroad.