

## Submission 250 — Richard Boyd

I will refrain from stating the obvious but will rather highlight the areas that Australia can take a major role in. There are countless models of the economical advantages of a robust research and development led economy.

The Individual points in the Terms Of Reference are fine and while improvements can no doubt be made to cost cutting at the Administrative levels, the truth is that the quantum of funds invested is simply too small. As a small population we effectively punish ourselves by being very effective on limited resources as is clearly represented in sports but there is a direct correlation between investment quantum and profitability. No doubt close attention will be paid to the success of the Californian Institute of Regenerative Medicine. From the inside of research and education, and from experience of giving over 500 public lectures there is a great frustration that the general public is not aware of the tremendous platforms we have developed in Australia for translating into clinical treatments (in the field of stem cells and immunology at least).

Based on a more proactive Government financial investment (without it the public will see a “snow job” of bluff and mirrors) the following are my key points:

Research means careers means new products to the general consumer means returns to the economy. We either create it or face the much greater financial burden of importing discoveries – often made by our best and brightest overseas

Education: begin in secondary schools with dedicated programs on research in many fields as we do standard subjects. The values of research need to be embedded early in education. We have a very poor career development for our young talented researchers. Those that complete PhD's are too often see the stress of their supervisors without employment and swamped in rejected grants. However, they may head to research in industry – which is fine too, but industry needs to see improvement in incentives to invest in not just the R and D Tax rebate but enhanced co-funding programs linking Govt, research institutes, commercial entities, medical end users (hospitals, physicians – even GP's), private practices and Health Insurance Companies. There also needs to be better fostering of public involvement – eg patient advocate groups and philanthropic donors. Workshops and interactive think tanks are great catalysts here.

Multidiscipline Research: More resources need to go into encouraging the fusion of nanotechnology and medical research to develop human ready treatments.

International linkages: With our limited population we need to engage the best of the world and leverage from them. We must expand the financial co-funding with schemes such as CIRM, EU, Human Frontiers - these are basically a token gesture and the current EU Framework 7 was an embarrassing debacle. The value of such schemes is best exemplified by the CIRM –Vic Govt grants where at least 6 Victorian projects have been successful – nearly twice that of the rest

of the world collaborators. Enormous opportunities exist for clinical translation and to some degree research with China, India and Middle East – where are the grants for collaboration? Those in place are again only token gestures.

Clinical Translation: In the field of stem cells there has been much hype about talks of treatments and even cures. The time for the first clinical studies could be right now – Govt support in combination with the medical end users and commercial interests would stop stem cell tourism and place Australia at the very forefront of properly structured clinical treatments. My own group is working on setting up stem cell treatment clinics for arthritis conditions (from aging or more often sporting injuries) in close collaboration with leading groups in the USA. These are based on our studies of over 8000 large animals (dogs, horses). The Govt must set up more GMP facilities for this translation, co-funded by industry and the medical end-user entities