



## Submission on Te Ara Paerangi - Future Pathways Green Paper

## General Comment

The Malaghan Institute welcomes the opportunity presented by the Te Ara Paerangi - Future Pathways green paper and subsequent review of the New Zealand science sector. As one of New Zealand's most prominent independent research organisations, the Malaghan Institute has received invaluable support through the publicly funded RS&I system in recent times. However, the changing policy headwinds over the years have resulted in a system with several artefacts and an overly complex funding system with substantial gaps that impact on research capability. These effects are potentially more severe in independent, full-time research organisations where other forms of funding are not available to cross-subsidise the research effort.

We, therefore, wholeheartedly embrace the opportunity to review the system and identify those elements which work well, whilst highlighting gaps or opportunities for improvement to ensure that New Zealand is able create maximum value from its research endeavours. Our submission will follow the structure of the green paper but will only respond to those questions on which we have specific input to offer.

## Research Priorities

1. The guiding principle in designing funding tools and making resourcing decisions should be to avoid erosion of research capability through sudden disinvestment in established research areas whilst ensuring flexibility to respond to emerging priorities.
2. Currently in full-time research, salaries (from early career through to principal investigator) are frequently entirely dependent on short-term project funding. De-coupling (or partially de-coupling) salaries from projects would mitigate the impact of shifting research priorities and the boom-bust cycles of grant rounds. The Malaghan Institute has seen multiple mid-career laboratory heads fail to establish a career in New Zealand and move overseas as a result of depending entirely on contestable grants to fund themselves and their team. With success rates at around 10%, this isn't tenable. We have been able to ameliorate this to some extent with philanthropic funding, which is available given the nature of our research, but note that others are not so fortunate.
3. We would endorse separate but equal focus on mission-driven research which is highly aligned with established research priorities whilst retaining substantive opportunity for investigator-led discovery research in long-standing, established areas of endeavour.
4. We would suggest that the process of priority setting needs to have real independence from potential recipients of the funding; however, research input into priority setting will be critical to ensure the latest signals from the marketplace of ideas are considered.

## Te Tiriti and Mātauranga Māori

5. We support a renewed approach to Mātauranga Māori and consideration of how to embed the principles of Te Tiriti in research.
6. We believe that all organisations that are recipients of public research funding should be expected to define how they are responding to the obligations of Te Tiriti within their fields of endeavour.
7. We note the undue burden that Māori researchers have had to bear as both researchers and cultural representatives under prior efforts to engage with Māori. Sector-wide policies or initiatives should explicitly protect against this effect.

## Funding

8. We strongly support maintaining separate investment tools respectively for:
  - a. Investigator-led discovery science with a focus on excellence; and
  - b. Mission-led applied science with a focus on impact.

The funding system should recognise the respective values and differing contributions of each.

9. De-couple or partially de-couple research salaries from project funding to reduce career precarity. This needs to be carefully managed to avoid excesses of either researchers with full salary but no research expenses or project funding but no salaries.
10. Competitive incentives should be carefully considered and where possible removed to promote multi-organisational approaches. Often, researcher-initiated collaborations can be limited or even prevented by requirements of host organisations to control budgeting and allocation of overheads. Larger organisation-driven collaborative structures can also become political exercises in carving up budgets which favour larger or more politically connected organisations rather than promoting the best team. We note that some competitive incentives, such as PBRF, are considered outside of scope but would note that they also contribute towards anti-collaborative behaviours.
11. It should be noted that for full-time research, given the effects of inflation on both labour and research costs, prolonged flatline budgets actually represent a gradual disinvestment in research capability. For example, where a \$1.2m budget cap on an HRC project grant ten years ago may have funded a team including a PI and a postdoctoral research, it likely now funds a PI and a student or technician. Maintaining a budget does not result in maintaining a workforce over time.
12. Our recent experience has demonstrated that longer-term funding (through HRC IRO contracts over 7 years in our case) with well defined goals and objectives can lead to significantly improved outputs and outcomes than a similar quantum of funding with shorter horizons and subject to regular re-application. Therefore, we would be supportive of a similar implementation of base grant funding.

## Institutions

13. In recent years, it has been heartening to see increasing acknowledgement of the value of IROs as part of a diverse research ecosystem. However, occasionally policy statements refer solely to Universities and CRIs as research providers. Any policy should be considered for impact on all providers of publicly-funded research.
14. For example, the consideration of research infrastructure that is currently underway should be broadened beyond CRIs and Universities to include IROs and private research organisations, where complementary capability can be clustered to synergistic effect.
15. In the health sector, research is isolated from health service delivery. The recent health reforms made far too little mention of research and without a research mandate (with associated KPIs and deliverables) the new Health Agencies are unlikely to contribute meaningfully to clinically-focused research. This will thwart the uptake of innovations from publicly-funded health research and result in a lower level of health service provided. An expectation of research should be meaningfully embedded within the health service.
16. High quality international research connections are absolutely critical to science quality and can substantially improve the ability to deliver impact. Linking New Zealand's researchers with international networks and partners should be resourced and incentivised appropriately.
17. Mission-led collaborative research structures should minimise the role and influence of organisations and promote researcher perspectives. Research is led by people, not Institutions. Institutions will likely prioritise existing research over new areas in order to capture budget rather than designing an optimal programme of research to address the mission in question.

## Workforce

18. As mentioned in points 2 and 9, researcher reliance on competitive project funding to maintain salary can be highly deleterious to the full-time research workforce. Shortfalls are often subsidised through other activities, such as teaching or fee-for-

service work. Our recent experience has shown that long-term funding connected to high level objectives and outcomes can assist in retention and attraction of high quality research candidates, with a commensurate improvement in research outputs.

19. Increasing funding targeted for career development can be used to achieve workforce objectives, such as increasing diversity or recruitment of high quality candidates.
20. Such funding, e.g. fellowships and awards, are needed throughout a research career. Recent focus has been gone on early-career precarity but the situation is not greatly improved for mid-career researchers either. How funding is applied to maintain a diverse workforce, providing career pathways and stability throughout a career should be carefully designed and considered, rather than a more immediate response of allocating a little additional budget to fund a handful of fellowships.

## Infrastructure

21. We are very supportive of the broad concept of shared infrastructure. New Zealand's research, ourselves included, is heavily siloed, so mechanisms for breaking down these siloes will be beneficial to system performance. Physical separation is part of that picture and opportunities to co-locate aligned research should be supported.
22. This obviously comes with a caveat around how this is implemented. Physical proximity alone isn't enough and forced collaboration is seldom effective. Proximity can increase likelihood of collaboration, but building clusters of aligned expertise involving multiple organisation types - Universities, CRIs, IROs, industry - which provide access to shared resources but also promote interactions and shared sense of identity and purpose, will generate greater benefits. This will lift the exercise beyond efficiency of infrastructure investments to increased system performance.
23. A systems approach to such clustering, taking in funding, organisational structures, technologies, research networks, infrastructure and allowances for changes in focus and membership over time, should be adopted to get maximum benefit from such a major undertaking.