

Community Affairs Committee inquiry
into the
Medical Research Future Fund and Medical Research Future Fund (Consequential
Amendments) 2015 Bills

**Response from Prof. Warwick Anderson, Secretary General of the International Human
Frontier Science Program Organization**
to
Questions on Notice from the Community Affairs Committee
August 4th 2015.

Dear Community Affairs Committee,

Thank you for the opportunity to provide testimony to your enquiry.

The establishment of the Medical Research Future Fund is a very important event in the history of Australian health and medical research. Therefore I am pleased to see the Community Affairs Committee taking care to examine the matter thoroughly.

I have provided below my views on each of the Committee's questions (received 3rd August 2015). In summary,

- I support the concept of the MRFF Advisory Committee setting the strategy for the MRFF (through consultation) and the NHMRC administering the majority of the funding.
- When judging how to use public money for research, only peer review can identify what is valuable and what is not.
- NHMRC's almost 80 years of effective, ethical and efficient service to the Australian community means that public trust in the MRFF will be maintained if NHMRC plays the major role in administering the earnings of the Fund in accord with the Advisory Board Strategy.
- NHMRC's current Act allows simple and recently established ways to proceed, if the MRFF funds are provided to NHMRC outside the NHMRC's Medical Research Endowment Account (as is the case for the current Government Dementia Research Initiative).
- Coordination between the MRFF and NHMRC will be essential if the greatest good is to be gained from the MRFF for the benefit of Australia.

The International Human Frontier Science Program Organization that I now head shows the value of funding the highest quality, transformative fundamental research, using rigorous independent peer review.

We are just 26 years old but already 25 of our grantees have gone on to win a Nobel Prize.

There is no substitute for quality in either research or in peer review decision making.

Professor Warwick Anderson AM
Secretary-General
International Human Frontier Science Program Organization, Strasbourg, France.
(Previously CEO, NHMRC 2006015).

Questions on notice

Question 1. Given your prior experience as Chief Executive Officer of the NHMRC, could you please indicate to the committee your views on the extent to which the proposed Medical Research Future Fund (MRFF) could benefit from the NHMRC's knowledge and experience in the awarding of medical research funding grants, and how this knowledge might best be translated through the role of the NHMRC's CEO on the MRFF Advisory Board?

I have answered this question in three parts.

- a) How NHMRC's peer review is essential for the Australian community in obtaining most value from the MRFF
- b) The difference between strategic decisions on how to use the Fund from decisions about what individual research should be funded.
- c) The MRFF Advisory Board.

a). Deciding what research is worth funding.

My view is that unless NHMRC's knowledge, 80 years of experience and internationally benchmarked process are used, the tax payer will not get best value for money from the MRFF. If NHMRC is not used, the risk for the government and the community is that the inevitable lobbying by vested interests and special pleading will dilute the value of the funds.

Making the most of taxpayers' funds in scientific research (including in medical research) relies on bringing the highest quality judgment to competing ideas on how to spend the funds – in short using excellence in peer review.

In medical research in particular, there are many worthy causes, and strong arguments for more funding can be mounted by a wide variety of private, public and NGOs. Unfortunately having a wish for a cure or better treatment does not make that wish come to pass.

Research must of course be tackling the most important problems, but it will only deliver value and reliable solutions if it is conducted with the highest levels of skill by fully competent researchers.

That is why all reputable government and non-government research bodies around the world use peer review upon which to base decisions for funding. They gain the help of the best experts, with knowledge of the whole world's research efforts in order to achieve the highest class assessment processes possible.

Use of taxpayers' funds deserves no less.

NHMRC has an unparalleled reputation internationally for the quality, rigour, fairness and incisiveness of its peer review, as I have learned from my membership of the Heads of International Research Organisations over the last 9 years.

The Committee will no doubt hear criticism of NHMRC peer review processes. There are several reasons for this.

- i. Many applicants go away disappointed after applying to NHMRC. Each year, the vast majority (80 - 85%) of applicants miss out on funding.

It is natural to tend to blame the system.

NHMRC is only able to stretch to funding 20% or less of all applications (even lower than 20% in the last few years) as funds run out before leaving more than a thousand of highly valuable research applications that it believes strongly deserve funding.

- ii. Many researchers point to additional activities that they wish NHMRC to fund (e.g. research infrastructure.) NHMRC would agree but the NHMRC Act limits that can be funded through NHMRC's Medical Research Endowment Account, where almost all NHMRC's research funds are located.

However, a solution is possible and was implemented for the Boosting Dementia Research initiative in the 2014 Federal Budget (see the answer to Committee question 3).

Though NHMRC's peer review processes have long been well regarded, I nevertheless worked hard to further enhance rigour and quality. Amongst the changes that I introduced were:

- Separation of powers – the researchers who nominate independent external reviews must be different from those who sit on the panels?
- Independent chairs of panels – researcher leaders from the community who ensure the rules are followed.
- Independent observers from the community for all review panels for all NHMRC schemes. - Community members of strong will!
- Clear, tough, transparent conflict of interest rules – you're out if there is a real or a perception of conflict of interest.
- Clear and transparent selection criteria – so that reviewers know how to properly assess the value of applications.
- Secret voting in the panels.
- Specific ways to judge researchers' track records, with assessment of achievements in light of opportunity (such as length of time in research, heavy teaching or clinical loads). I also introduced specific ways to better and more fairly assess those whose careers have been disrupted (mainly for women for whom childbirth and parenting affects their time available for research.).

As a result, it is certain that NHMRC can provide the government and taxpayer with frank and fearless review of the highest calibre, judging applications against the world literature and at international standard of quality¹.

Peer review focusses on three essential criteria; scientific quality and merit, the likely impact of the research (both impact on knowledge and impact on health or commercial development) and the ability of the applicants to actually do the research. It's not enough to have just a worthy aim and a passion to tackle a subject; high quality research and talented researchers are necessary ingredients.

The risk to the taxpayer is that, without this level of NHMRC peer review expertise, researchers may be just duplicating what has already been done elsewhere, or using techniques/methodology not able to do the job, or following leads that others have already discredited.

So with NHMRC's reputation, efficiency (very low overheads compared to comparable funding bodies overseas) and hard earned reputation over decades for ethical administration and management of grants, it is unnecessary and wasteful to establish a new body.

¹ See also: <https://www.nhmrc.gov.au/media/newsletters/ceo/2014/nhmrc-peer-review-debunking-myth-mates-funding-mates>

I am reminded of the Prime Minister's words the day after the 2015 budget that "the vast majority of disbursements from the Fund will be in the hands of the National Health and Medical Research Council". But, as I pointed out in my National Press Club talk of 15th April 2015, "vested interests are already circling like sharks". Of this, no doubt the Community Affairs Committee is only too aware.

b). Strategic decisions (rather than individual funding decisions):

Selecting which particular research plans to fund is a different matter to setting the strategic direction of the MRFF.

I understand that the general strategy for the MRFF is proposed to be on the advice of the MRFF Advisory Board.

This separation of strategic advice from the management of use of the Fund is broadly consistent with NHMRC's advice on the MRFF to the then Minister for Health (The Honourable Peter Dutton) in late 2014.

NHMRC's Council's view in brief was that the government should establish a means by which the general strategy for the funds be set (in broad terms, not at the level of individual research or institutions, or disease) and then use the NHMRC to administer that strategy.

In the last year, NHMRC has demonstrated unequivocally that it is capable of this approach.

It has successfully administered the Boosting Dementia Research Initiative (\$200 million in total) announced in the 2104 Federal Budget.

Key to this success was that NHMRC received these funds separate to the Medical Research Endowment Account (more on that below).

This is unequivocal evidence that NHMRC can quickly, ethically and without drama implement government's strategic decisions around medical research.

NHMRC did likewise with the previous government for the Mental Health Research initiative.

c). MRFF Advisory Board.

In NHMRC's advice to Minister Dutton, we emphasised the value of seeking wide consultation when setting a strategic direction for the fund.

I am pleased to see that the CEO of NHMRC will be a member; that is essential. But to ensure that she is not just one voice that can bring the views of the both the community and the "workforce" (i.e. the working scientists and clinicians), there must also be consultation with the community, business and higher education, and health sectors.

I have also suggested below that an international perspective will be essential for the MRFF Advisory Board.

Question 2. Do you believe the establishment of the MRFF runs the risk of duplicating the function and role of the NHMRC?

Yes, it runs this risk unless productive, transparent relationships and ways of operating are established and unless NHMRC manages the grant administration from the earnings of the Fund.

A further risk is that decisions by the Advisory Board and the NHMRC are antithetical – i.e. that decisions by either counteract and nullify the decisions and strategies of the other.

This risk can be minimised through proper formal and informal consultative mechanisms.

Consideration should also be given to the involvement of the MRFF Advisory Board in the Australian Research Committee of the Department of Industry (chaired by the Chief Scientist).

A further risk, very significant for the future health of Australian health and medical research, is that NHMRC funding may be held steady while the MRFF funds increase. With NHMRC funding already at a historical low, well below previous record lows, the very base and fabric of the currently strong and dynamic sector would be at risk if this were to occur.

Growth in the MRFF must not be at the expense of growth of the Medical Research Endowment Account of the NHMRC.

Question 3. How do you think a new funding stream could be established within the NHMRC to administer MRFF grants?

It could be established very simply.

New funding streams have recently been established to implement and administer the government's "Boosting Dementia Research" initiative announced in the 2014 Federal Budget. NHMRC rapidly and efficiently established separate streams of funding to implement the government's announcement. NHMRC's rapid responses were made much easier by the fact that these funds were provided separate to the NHMRC's Medical Research Endowment Account.

Furthermore, the NHMRC Act already provides the power for the Minister to direct the NHMRC to implement the recommendations of the MRFF Advisory Board (section 5E of the NHMRC Act)², should that be necessary.

To reiterate, a precedent has been established with Boosting Dementia Research where NHMRC rapidly implemented the government's strategic wishes, bringing its own knowledge and excellence in process to the task – on time, with excellent processes, and with excellent research funded.

It is important to provide some background here about the Medical Research Endowment Account.

Almost all the government's funding each year comes into the NHMRC's Medical Research Endowment Account. This account is established in the NHMRC legislation, has many unique characteristics and can only be used strictly for public health research and medical research and research training.

This has restricted NHMRC from funding much of what might wish to and which might be useful more broadly (e.g. infrastructure, steps towards commercialisation).

These restrictions would not apply if the MRFF funds (like the Boosting Dementia Research funds) were provided through normal government mechanisms, rather than through the Medical Research Endowment Account. For example, initiatives to coordinate research nationally and to boost commercialisation could be undertaken that are not possible with the Medical Research Endowment Account.

It is right that there is strong legislation around the NHMRC's Medical Research Endowment Account. This has protected the NHMRC from outside hostile forces in the past.

But the provision of funds to the NHMRC in the more normal manner as for most other government granting schemes, outside the Medical Research Endowment Account as for Boosting Dementia Research, would allow the NHMRC to be more strategic, consultative, and flexible and fund in different ways.

² Note that the paragraph also states that

Directions given by the Minister under subsection (1) must be of a general nature only, and, in particular, the Minister is not entitled to direct the CEO, the Council or a Principal Committee:

(a) to recommend the allocation of research funds to a particular person, organisation, State or Territory; or

(b) as to the manner of the CEO, Council or Principal Committee's treatment of particular scientific, technical or ethical issues

In short, a new funding stream could be established very simply. It already had been established for dementia research and all the machinery is in place. Why do anything else?

Question 4. How important is it that the MRFF recognises the importance of combined overseas research initiatives with Australian researchers, and do you think this priority is adequately reflected through the current legislation?

This is crucial.

Medical research everywhere has changed markedly over the last decade. This is more and more an age of large international collaborative efforts.

This is because the difficult and complex health issues that Australia and the world faces need to be tackled with enough “grunt” and with a wide range of technical and methodological expertise if we are to make progress.

The MRFF Board will need this perspective in its deliberations. The NHMRC already takes this international perspective in its peer review.

An international perspective is also essential if Australia is to gain commercial advantage from this funding. It is pointless to waste funds, for example, on Australian research when someone else has already had the idea and is years further advanced.

As NHMRC CEO, I signed Australian medical research up to large scale, ambitious research collaborations such as those listed below. (See also <https://www.nhmrc.gov.au/research/international-activities> ³).

- The International Cancer Genome Consortium – near 30 countries now collaborating, already made major breakthroughs in understanding cancer, especially why relapses occur.
- The Global Alliance for Chronic Disease research. The major international funders tackling chronic disease in low resource countries and settings.
- The EU NHMRC – EU Collaborative Research Grants scheme
- Bilateral research collaboration with the National Natural Science Foundation of China and with the Singapore’s A*STAR institutes.
- Indigenous Health Research comparison – collaboration between NZ, Canada and Australia on the health of our first people, with an emphasis on building research capacity.

³ “Specific reasons for NHMRC to have a robust connection to the whole world’s health and medical research effort include:

1. Most discoveries of value to Australia will come from outside Australia. International research collaborations, at all levels and through many means, allow Australia to benefit from the worldwide research effort.
2. Growing international trends towards big science; major international collaborative efforts provide the heft and quality research to wrestle the big health problems. Examples include the International Cancer Genome Consortium (ICGC) and the Global Alliance for Chronic Disease (GACD).
3. Nation to nation research cooperation by government funding bodies is in the national interest. Scientific cooperation is one of the most effective ways to build resilient relationships between countries, in a mutually advantageous way. The countries in our region are naturally a major focus for Australia’s scientific cooperation.
4. Leverage. The quality, significance and influence of Australian research can be increased through leveraging greater scope, scale and extent through cooperation.
5. Australian research can be benchmarked for its quality by international peer review. Examples include Australian participation in research applications reviewed and subsequently funded, by the European Commission and the Human Frontier Science Program (HSFP).
6. Participation in bilateral and multilateral initiatives to address key issues faced by the sector. These include the development of platforms and standards for health and medical research (examples include data sharing and the responsible conduct of research)”.

Our international research partners have been enthusiastic about Australia's participation. Australian medical research has much to offer and but even more to gain.

Such collaboration levers large amounts of international funds towards the same research goals. For example, for much less than a million Australian dollars each, the EU-NHMRC scheme provides our researchers with access to multi-millions of EU Euros. .

To ensure a strong international focus and benchmark, it might be worth considering appointing a leading international medical research leader to the Advisory Board – e.g. from the UK Medical Research Council, the USA National Institutes of Health, the Bill and Melinda Gates Foundation or the Wellcome Trust.