Medical Research Future Fund

9 October 2020

By email: MRFF@health.gov.au

Do the current Priorities remain relevant in the contemporary environment for continuation for a further 12 months? (250 words)

The current Medical Research Future Fund (MRFF) priorities remain a broadly accurate representation of research needs, and remain relevant. However, the environment in which these priorities should be funded, to prepare for the next 12 months and the years beyond, has been profoundly altered.

These changes include the way researchers will need to be upskilled and retrained, using existing expertise that is currently being lost through job cuts in the research sector to face the challenges of a post-pandemic Australia.

The impact of physical distancing and lockdown measures across the country in response to COVID-19 are likely to bring on a wave of secondary consequences, such as mental health issues. An increase in stress-related brain disorders may involve not only those directly exposed to the pandemic and lockdowns but also the next generation via intergenerational effects. There is a pressing need to ensure that the volume of research is sufficient to understand how to deal with these issues.

Should any of the Priorities be emphasised or de-emphasised for the next 12 month period?

If you answered YES, please indicate what specific priorities and why? (max 250 words)

Due to the disruptive nature of the past year, the three priorities of Clinical Researcher Capacity, Digital Health Intelligence & Global Health and Health Security ought to be elevated.

Science and our scientific capabilities have served Australia well in response to the pandemic and in our efforts to find a solution. However, the scientific, and medical research, workforce is facing significant disruption, retrenchment, and dislocation. The impact of COVID-19, particularly the reduction in discretionary university income from international revenue and industry co-investment, has led to a situation where research capacity and the capability to achieve the outcomes of the MRFF is being compromised. The research workforce needs additional supports through targeted schemes to transition to areas of priority, or into industry, where appropriate. This could include providing emergency one-off funding to provide targeted support to early and mid-career researchers.

Digital Health Intelligence has become of paramount importance as healthcare delivery has required a rapid transformation during the COVID-19 pandemic. In order to have a better understanding of the clinical effectiveness of digital health interventions, and understand the risk/benefit profile, studies will be needed to assess the implementation of digital health interventions. The shift in the take-up of

digital health interventions has also amplified the need to develop more personalised patient management and wholistic treatment strategies.

While the need for pandemic preparedness now and into the future is apparent, it is crucial that global health strategies are emphasised. The rapid response to the COVID-19 pandemic has been possible due to the broad international collaborations of scientists and the open sharing of data. Strategies to strengthen international collaborations and to require publishing data according to the FAIR principles should be emphasised.

Are there any unaddressed gaps in knowledge, capacity and effort across the healthcare continuum and research pipeline that would warrant changes to the Priorities?

If you identified a gap, please explain how it should be addressed in the 2020-2022 MRFF Priorities (max 250 words)

The long-term effects of COVID-19 infection on the individual and long-term impacts on the healthcare system following the pandemic are themes that could be addressed more directly by the existing priorities.

The advent of widespread uptake of telehealth in response to COVID-19 is likely to see that method of consultation continue. There is an urgent need to investigate which issues can or can't be dealt with appropriately using this consultation method. This is particularly critical for psychological/psychiatric conditions requiring extended interpersonal interaction for efficacy.

There are also new, unaddressed, issues relating to the sequelae of brain-inflammation and brain-vasculature changes arising from COVID-19 infection. It is increasingly clear that COVID-19 affects the brain and can be associated with neurological and psychiatric symptoms. More research is needed to assess whether infection with the SARS-CoV-2 virus increases the risk of specific brain disorders and produces neurological and psychiatric illness, which may take months or years to fully manifest. We currently do not understand enough about brain health to predict these consequences nor how it might be necessary to deal with them. A fundamental research programme is needed in this area. We recommend that the Australian Brain Alliance is consulted on how a coordinated approach to assessing brain function and disorders can have multiple benefits for the nation.

If you identified a second gap please explain how it needs to be addressed in the 2020-2022 MRFF Priorities (max 250 words)

There is a gap in the capacity of research methods, in particular, biostatistics. Biostatistical methods underpin much of medical research, ensuring it is fit for purpose. Biostatisticians minimise the risk of inefficiencies that arise with poor choices of study design and analysis methods. Strengthening the capacity of Australia's research workforce in biostatistics is essential to address unmet needs (e.g. the design of trials to assess the efficacy of interventions in rare diseases, or emerging conditions such as COVID-19). The Australian medical research community requires research-active leaders in biostatistics. The MRFF could contribute to building this capacity through the creation of funding pathways to support the development of new biostatistical research.

Is there an opportunity to consolidate the Priorities for the remaining twelve months of the Strategy? Max 250 words

N/A

Australian Academy of Science submission on the Australian Medical Research and Innovation Priorities 2020-2022

Do you have any additional comments in regards to the Priorities for 2020-2022? Max 250 words

All MRFF funds must be dispersed following transparent and rigorous peer review processes. The NHMRC is best positioned to manage the peer review of MRFF grant applications. However, the NHMRC will need to be resourced so that it can work seamlessly and synergistically with the MRFF.

Neuroscience, neurological, psychiatric and psychological research have been underfunded relative to the current and projected future burden of disease of brain and mind disorders. As a future fund, MRFF should appropriately reflect the projected future burden of disease. The societal burden resulting from measures taken to counter COVID-19 and from the individual after-effects of COVID-19 will require significant research efforts in this area. These issues are beyond the scope of those now addressed by the Million Minds initiative, which was created to address critical yet very specific mental health issues. It is likely that many of the required projects will require an emphasis on fundamental research, in addition to work towards translational outcomes.

The issues identified in the 2018-2020 MRFF Priorities all contain elements that can be addressed by the science of nutrition. Integrative nutrition is the systems biology challenge of our time, with the right combination of impact and technical stretch to be a national priority. Realising this and other challenges are discussed further in the recent Decadal Plan for the Science of Nutrition. The Academy recommends that nutrition perspectives become an integral part of addressing each of the MRFF Priorities identified.

Yours sincerely,

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President
The Australian Academy of Science