

EMCR Forum submission to the Australian Medical Research Advisory Board consultation on the development of the Medical Research Future Fund (MRFF) Australian Medical Research and Innovation Priorities for 2020-22

6. Do the current Priorities remain relevant in the contemporary environment for continuation for a further 12 months?

The Australian Academy of Science Early and Mid-Career Researcher Forum (EMCR Forum) Executive conducted a survey of our membership in preparation of our submission, receiving responses from 39 medical researchers working across universities, medical research institutes, government and not-for-profit sectors. Responses were received from researchers in NSW, VIC, QLD, WA, SA, TAS and ACT. 23% of respondents recommended removing or changing current priorities, 46% were unsure and 92% of respondents said additional priorities should be added to the list.

While most of the listed priorities remain relevant, we recommend the addition of some new ones and modifications to existing priorities, to ensure they are targeting areas of need over the coming 12 months. The most significant shortfalls with the current priorities are in the areas of capacity and collaboration. There is little focus on supporting early and mid-career researchers (EMCRs) working across basic, translational, and clinical medical research. The impacts of COVID-19 have been particularly damaging to EMCRs and if action is not taken urgently, there is a real risk that we will lose much of the next generation of medical research leaders, to the great detriment of Australia's health, security and economic prosperity. We recommend that the MRFF be used strategically over this period to help reduce this damage, which is discussed in further detail in our forthcoming responses.

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

Based on a survey of the membership of the early and mid-career researcher (EMCR) Forum we recommend the following Priorities be emphasised in the next 12 months. (1) precision medicine and risk prediction in public health; (2) genomic, proteomic, metabolomic and phenomic studies to determine disease markers as well as for better risk stratification among patients; (3) global health challenges with a particular focus on building networks in the Asia-Pacific region in this Priority area; (4) medical device development; (5) discovery research focused on novel diagnostics and therapeutics not restricted to a particular therapeutic area.

At the same time, we suggest that the Priority area of Health Services and Health Systems be de-emphasised, together with the accompanying bias towards clinician researchers, as it fails to appreciate the important role fundamental biomedical researchers play in achieving the goals of the MRFF.

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

The primary areas identified were the lack of attention to the needs of EMCRs and fundamental biomedical research under the current MRFF priorities. This is discussed in more detail in our response to Q10. Specifically, the EMCR Forum considers that the MRFF should prioritise (1) capacity building at the early and mid-career researcher stage as this group are the emerging leaders in the field and are most at risk of being lost to the sector in the current climate; (2) supporting fundamental and discovery biomedical research across all priorities of the MRFF as the current priorities fail to acknowledge the important role fundamental research plays. The NHMRC alone is insufficient to fund all basic and discovery biomedical research required to support the successful pursuit of the MRFF Priorities.

In addition, it was suggested that health risks resulting from climate change be considered as an additional priority in future years (e.g. exposure to bushfire smoke as a result of longer, more intense bushfire seasons).

9. Is there an opportunity to consolidate the Priorities for the remaining twelve months of the Strategy?

N/A

10. Do you have any additional comments in regard to the Priorities for 2020-2022?

The EMCRs surveyed strongly indicated that they want to see more discovery/basic research funded by the MRFF within each of the chosen priorities. Funding from the NHMRC is insufficient to support the fundamental research required to drive clinical translation. For example, in current priorities such as “Antimicrobial Resistance”, basic pre-clinical understanding of the fundamental biology underlying disease progression and host responses is critical to inform drug discovery; for “Ageing & Aged Care”, understanding healthy cognition and ageing in non-human experimental models is key to understanding the processes that may lead to diseases associated with ageing, such as dementia. We recommend that the MRFF priorities should explicitly recognise basic research as a strategic need.

Finally, we strongly suggest that the MRFF priorities under “capacity and collaboration” include an explicit action to support early and mid-career researchers (EMCRs), the future emerging leaders in health and medical research. NHMRC funding by itself is insufficient to support excellent research led by or in collaboration with EMCRs. We recommend that future MRFF priorities include 1) explicit support for EMCRs, and 2) incentives for EMCRs to be included as co-investigators on MRFF submissions, such as a formal requirement for at least 1 EMCR to be listed as co-PI. We especially urge that MRFF priorities in 2020-2022 support research led by or including EMCRs as collaborators, as EMCRs have been particularly vulnerable to the negative consequences of the covid-19 pandemic in 2020 and we risk losing the next generation of leaders in medical research (see our

report: <https://www.science.org.au/files/userfiles/support/documents/covid19-emcr-impact-report.pdf>).