NHMRC is the Australian Government’s leading organisation for the support of health and medical research, the development of guidelines for the community and ethical best practices for practitioners. Professor Warwick Anderson highlights NHMRC’s priorities for action, depicting the current health landscape and associated challenges.
How does the National Health and Medical Research Council (NHMRC) intend to help build a healthier nation?

NHMRC relies on funding the most capable researchers and asking the most important questions to address national and international health issues. Australia has an excellent health research workforce, but we only represent around 3 per cent of the world’s research efforts. Our aim is to contribute to the knowledge we need both here in Australia and around the world to develop new products, treatments, cures and diagnostic techniques. Through innovative means, we also fund research necessary to make our own health system work more effectively.

NHMRC thus contributes both to world knowledge and the specific needs of the Australian population and health system, with an important focus on healthcare provision and medical research for particular groups, such as the Aboriginal people and Torres Strait Islanders.

Why did you decide to join NHMRC and what does your role as CEO entail?

Well, it’s a great job. As CEO I am the head of the organisation and responsible for NHMRC activities. It’s not necessarily an easy job, but being able to help Australia fund the highest quality of research through what we do at NHMRC is rewarding; such as our excellent peer review processes and also the broader role that we play in the development of clinical guidelines, public health guidelines and health and research ethics. Fortunately, I have a Council and many expert committees that help me do the job. In addition, I report directly to the Minister for Health, which is a big responsibility on behalf of the Council and all we do to improve health and fund the best research.

Could you provide an insight into Australia’s National Health Priority Areas and discuss how NHMRC’s Strategic Plan 2013-2015 aims to overcome the challenges associated with these diseases?

Australia has a formal process of identifying National Health Priority Areas. These are decided through Australia’s State, Territory and Commonwealth health processes. NHMRC also has an important part to play in the health system, responsible in part for making sure the priority areas are addressed in our research and broader advisory efforts.

When we look at what we fund from our investigator-initiated research, it lines up pretty well with the burden of disease in Australia’s National Health Priority Areas. Thus, there’s been very little need to direct further research towards them as Australian researchers tend to live in Australia, and naturally, they’re influenced by the major health issues of the country.

In the last two or three years, alongside funding research, we’ve asked Australian researchers to help us identify the most important gaps in our health policies and practices. We have something called the Research Translation Faculty. This comprises about 3,000 of our funded researchers who have agreed to bring to NHMRC something we’re calling a Case for Action. This is a need for action in areas in the NHPAs, areas where there is a gap between what we know from research – what evidence shows should be done with regard to policies, practices and health – and what is currently done. So in these major areas of priority, we are hoping that through the skills and knowledge of medical researchers, we can help health practitioners and health policy makers to align our current actions with our priorities for action more quickly and thoroughly.

This is a bit of an experiment. I don’t think there’s an equivalent of the Research Translation Faculty anywhere else in the world. But we’ve been very gratified by the willingness of researchers to do this, to help NHMRC be priority-driven in our advice side as well as our research side.

What are some of the new and emerging environment-based health threats in Australia?

I’m not sure if there’s anything absolutely new. We are seeing cases of tropical diseases such as dengue becoming more of a problem in the north of Australia. But certainly, influenza and its emerging new strains is something that keeps us and health authorities here on our toes. Also, in recent years, there has been an increase in focus on the health effects of extreme temperature variations or heat waves in Australia – for example, last summer, some of our capital cities had record runs of temperatures over 40 °C, or 43 °C in the case of Adelaide.

But most of the focus is on infectious diseases and we have been working with the Commonwealth and state departments of health to put in place preparedness research that could be rolled out immediately at the beginning of any new pandemic. We did a little of this with the H1N1 pandemic a few years ago. Though we rolled out the research very quickly, by the time solutions were being developed the epidemic was reaching its end. In the future we’ll be ready at the very beginning, and that’ll be in cooperation with the state and territory health authorities.

Helping practitioners and patients gain value from research evidence could vastly improve primary care. How does the NHMRC support such endeavours?

Through our principal committees – advisory boards in the areas of genetics, clinical care, prevention and community care – we have been producing a series of helpful documents for primary care physicians, or general practitioners. At present, we also fund quite a lot of primary care research, which is needed before we can give evidence-based advice.

NHMRC is certainly aware of the struggles that primary care physicians face as the front line in healthcare, so we have expert primary care researchers on all our committees in this triennium.

I’ve also established a community and consumers advisory group, including very strong advocates for the role of patients and consumers in the healthcare system. That’s a fairly new committee but it is already of great value in bringing to the NHMRC’s processes a general focus to bear in mind at all times. As researchers, we’re doing this on behalf of the community, so it is very important to always remember that the community’s voice is absolutely crucial in all we do.

Developing Australia’s future capability for research and translation is one of NHMRC’s key aims. How can research quality be increased and translation accelerated?

Developing capability has long been and still is one of our priority actions; we call it building Australia’s research capabilities. So we have a very strong programme of fellowships: early career fellowships, mid-career fellowships,
and then our high prestige NHMRC Research Fellowships scheme. Within all of those there are streams that are for laboratory-based scientists, clinical researchers, and public health and health services researchers. So we have strategies for building across the entire spectrum of health and medical research.

We also need researchers in this area to accelerate research translation. With regard to this objective, the NHMRC has developed two initiatives, both under the heading of Partnerships for Better Health. We fund research to accelerate translation through this scheme, both through a project grants scheme and a centre grants scheme. We also have the Centres for Research Excellence scheme, which is very popular; we get many more applications than we can fund. Again, we have these in the clinical, public health, and health systems areas. That’s our contribution to the health system itself to make sure that there’s capacity in this very important sector.

With regard to research quality, I believe it is already of a high standard in Australia. We’ve recently published a bibliometric survey called ‘Measuring Up’, which we do every five years to check whether Australian researchers are being cited by other researchers at a level above the world average, and I’m pleased to say that they are. But at the end of the day, what we really rely on is our quality peer review, and we’ve been working hard over the last decade or so to continually improve the quality of our peer review system, because selecting the best research to fund in the first place is the key to quality.

In what manner are health inequalities in Australia addressed by NHMRC?

We do that either through research or clinical guidelines. An example of a guideline is when, a few years ago, we put out a public statement saying that fluoridation of water supplies was the most socially equitable and safe way of improving oral hygiene and dental health in Australia. With regard to research, most of our focus has been on Aboriginal and Torres Strait Islander Australians who suffer from nearly every health issue at a higher level than other Australians; and so we have tried to focus our priorities by setting a 5 per cent goal to achieve funding for Australian Aboriginal people, who represent about 2.5 per cent of Australia’s population. We have established research criteria to make sure interaction with Aboriginal and Torres Strait Islanders is ethically appropriate, for which we also have guidelines.

There are, of course, other areas of inequality in Australia, and, as we are developing the Cases for Action by the Research Translation Faculty, we are asking the faculty to also think about the economic implications of what they are recommending. Though research cannot by itself solve social inequality, we need to have that lens on in terms of all that we do.

What are NHMRC’s plans to meet the needs of the future and the demands of globalisation?

That’s a very broad question! I would answer it by saying that it is important to be a responsible member of international efforts. We do participate in a wide range of activities. We’ve just finished talking to a European group about participating in reducing antimicrobial resistance worldwide, and we do our bit in cancer through the International Cancer Genome Consortium. We’re a founding member of the Global Alliance for Chronic Diseases with a view to direct practical research in lower-middle income countries for chronic diseases. The Global Alliance for Genomics and Health is a worldwide body trying to internationally coordinate knowledge and data coming out of genomics. Again, this is a wonderful researcher-initiated effort to make sure that as a global research community we are harmonising things.

I think the participation of Australia in many of the major international initiatives in research is a really crucial part of being a nation with high quality research activities and researchers. We’ve always been very responsible international citizens. We’re not a big country, but we’re a rich country and I think we have a particular responsibility to participate and indeed add value to international efforts and cooperation in research.
I’ve identified that in 2015 we will have a major initiative in genomics and sequencing towards improved healthcare. I would say that around a quarter of NHMRC research has an ‘omics’ aspect to it, which gives you an idea of how important this area is already. Recently, we had a high level roundtable on the role of genomics, and genomics in improving healthcare, which enabled Australia’s leaders in this area to bring to NHMRC their views of the most important priorities for action.

We all think that this is the big challenge that has arisen out of research for healthcare systems here and around the world. There’s quite a lot of international collaboration in the area that we’ve joined, including the development of guidelines in translational processes between gene sequencing knowledge and patients’ clinical conditions. So this is a really big challenge for the health system, but also for researchers to make sure that we’re conducting research and translating the outcomes in a way that policy and decision makers will be able to use.

There are huge opportunities through knowledge of the ‘omics’ – genomics, transcriptomics, epigenetics and so on – to better target preventive mechanisms and treatment modalities to the individual patients’ own biology. We’ve got a long way to go to understanding that fully and we’re only really getting a glimpse at this stage, but there’s huge potential. And that’s good for two reasons: one, patients will get better targeted treatments and we’re much more likely to have better preventive mechanisms and targeted treatment mechanisms. There is also the possibility of developing a more cost effective health system if we can get this right. Instead of blunderbuss approaches to treatment, we can target the treatment so we’re not wasting drugs, modalities and processes on patients who won’t benefit from them.

I want to emphasise that this is a learning process and we shouldn’t over-promise here. But in the next ten, twenty, thirty years, this will continue to be a very hot area in health and medical research, and healthcare, and it’s good to start now because the genie’s already out of the lamp; we’re en route as science and medical research has produced so much information already. In addition, we have advisory committees to help health practitioners comprehend what’s coming out of genomics, we publish documents for the community and we’ll have this big initiative next year that I hope will bring a sharper focus to what we do in research and what we can do for patients and the health system as a result.