Interview with Worwick Anderson AM, Chief Executive Officer, National Health and Medical Research Council (NHMRC)

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Your distinguished career in health research leadership and management has seen you through a variety of prestigious positions, not to mention the Order of Australia. Most recently you were appointed as the CEO of the NHMRC in 2006, where you will be until 2011. To begin, would you please introduce the organization to Pharmaceutical Executive readers?

NHMRC is an organization of great importance to the health and wealth of the country. Initially formed as part of the Department of Health, in July 2006 we became an independent statutory body within the health portfolio, reporting directly to the Minister.NHMRC is the Australian governmentâ??s principal funding body for health and medical research. Unlike other similar funding bodies that are focused more towards biomedical research, NHMRC is concerned with the full range of health and medical research fields, including public health and health services research. We have a very broad research portfolio. However, the NHMRC is more than just a funding body. As we strive to improve the lives of all Australians, the NHMRC also publishes evidence-based guidelines for clinical practice and public health. An example of the latter is the current work around guidelines to reduce the health risks associated with drinking alcohol, an issue around which there is some controversy as the message from science conflicts with what the public would like to believe. NHMRC also oversees health ethics and health research ethics in Australia, and also acts as the body on behalf of the government to regulate stem cells research, and to issue licenses for cloning and human embryo experimentation. NHMRC invests about $600 million per year towards health and medical research, across a wide portfolio of funding vehicles. Established in 1936, NHMRC has always been responsible for supporting the best, peer reviewed, research applications. More recently, we have worked to ensure that NHMRCâ??s research support commitment does two things: to fund the best research; and to build the capacity to undertake health and medical research through some really innovative Fellowship schemes. Such schemes have greatly expanded the Australian research capacity and opened up new opportunities to tackle those important health issues confronting Australia â?? for example, Professor Ian Frazer along with others in his team at the Queensland University are benefiting from NHMRC-funded support including for some of his of his early ground-breaking work in the development of Gardasil, the cervical cancer vaccine. An example of innovative research funding mechanisms, and one of which I am especially proud, is the Program Grant scheme which is a big one-line grant given to the best researchers based almost entirely on prior achievements, rather than how well a certain grant proposal is written. Researchers come to the NHMRC with what theyâ??ve done, and not just publications or academic achievements; these grants are awarded based on past innovation, commercial success, or medical and clinical practice advances that have come out of oneâ??s research. These grants are up to $25 million based on achievement, which marks quite a departure from other funding schemes. In late 2007 and early 2008, there were two international teams looking at NHMRCâ??s research support functions. Chaired by the then President of the Canadian Institute of Health Research, and the

Director of the US National Institutes of Health, respectively, the review teams came to personally give me feedback on how the NHMRC is doing and what we should be thinking for the future. These reviews gave me the insight into where NHMRC needs to be heading, and have helped us paint a much clearer image of what the organization can do for Australia and how weâ??re going to do that, for the benefit of the community, health system itself, innovative industry, and so on.

With such a broad portfolio covering fields as varied as ethics, stem cells, and research funding, can you please elaborate on the importance NHMRC places on transparency as a way to uphold the integrity of the councilâ??s processes?

Transparency across our organization is incredibly important for gaining and maintaining trust, from both the research community and general public. People can be cynical and expect to get information they need, and government bodies arenâ??t necessarily greatly transparent. However, the NHMRC has a legislated requirement to be to be open in many of our activities, particularly in the way we develop health advice and guidelines for the community. In this regard, our Act is quite specific, we must consult with the public when we develop or revise guidelines. This means, however, that sometimes things take longer, but itâ??s embedded in the way we operate that input is seriously taken into account, which increases trust with the Australian people in whatâ??s being done. In the research community, trust is also important because the organization relies on the goodwill of the research community to function, particularly through their support for our peer review processes. Science is a business about honesty, in the laboratory and in research, so it is really important with funding schemes, for example, to be explicit about how youâ??re going to act. In this regard, selection criteria and scoring methods are very important.

The NHMRC has placed specific emphasis on updating its Grant Review. Would you talk about the initiatives NHMRC is pursuing in this respect, and the criteria and scoring methods you mention as being so important?

Iâ??m particularly proud of the NHMRC Fellowship scheme. Under this scheme, Fellows know what they need to do to score outstanding, excellent, average, etc., so they will know exactly what to do to increase their standing on various levels over time. For Project Grants, the NHMRC used to have an interview system that was anything but transparent. Since that system was abolished, we have developed a Grant Review Process that has introduced a 7-point scale, with written descriptors against each of those, and the committees have to left how they rank an application against a particular category. Interestingly, the NIH just announced they will be changing their 41-point scale to a 7-point scale, similar to NHMRC. With the one-line Program Grants, and the selection criteria and scores associated with each, thereâ??s a 100-point scale against publications, achievements, and true collaborations, so people can work up their program before applying against those criteria. Peer review is not perfect, and the process is not 100% right every time, but at least the applicants, our peer review panels, and internal review processes are all operating on the same line.

Obviously, creating research with ultimate intent toward successful commercialization must factor into the evaluation. To what degree are these issues taken into consideration?

For a health and medical research funding bodies, the main innovations are how we can transfer knowledge created through research to evidence-based advice, and how clinicians can take up this advice into evidence-based clinical practice.

Therefore, itâ??s about improved knowledge and treatment in every sense ? From behavioural treatments and/or evidence for policymakers ?

rather than a product. There is a specific funding scheme called the Development Grant, where if while conducting research a commercially viable idea is uncovered, money is available to further

develop it, pending peer review from internal as well as industry sources. To reward our Fellows if they are active in commercial areas, NHMRC also offers a separate grant for IP protection.

Does the NHMRC help scientists who may be strong in research but lack the skills to be commercially oriented?

No, itâ??s not our role. However, we do value initiatives with a commercial orientation, underlined by the Commonwealth Governmentâ??s strategy towards commercialization.

In this regard, is there any program to mesh private and public interest, through PPPs or other initiatives?

No, thatâ??s left to the individual university or medical research institute. It is NHMRC policy to remove barriers to funding in order for people to do whatever best serves their interest. In Australia, for education, health, and other areas considered government areas, the government manages any public private partnerships. We have seen various characterizations of Australia as a â??clever countryâ??.

What is your view on the reputation of the Australian researcher or academic?

Just speaking to health and medical research, there is no question that Australian researchers are outstanding. In bibliometric analyses of our sector, 2% of Australian papers are found in the top 1% of papers worldwide. One would expect it to be the case that Australia, being â??out of sight out of mindâ?? in a sense, would not be as present there, but the fact that itâ??s so highly represented at this level is a recognition by the rest of the research community that the research produced in Australia is of outstanding quality. Health and medical research also accounts for the majority of Australiaâ??s Nobel Prizes, most recently in 2005 with Barry Marshall and Robin Warren. Australia has a system of â??Australians of the Yearâ??, and over the past decade about 50% were medical researchers. I should also add that there are also a high number of Australian researchers who are Presidents of international medical societies. Although Australia is not strong across every area, and of course there are gaps for a country that represents only 3% of the worldâ??s literature, one particular strength is public health research, which represents 3% of the top 1% of the worldâ??s literature, as well as other areas like immunology, cell biology, and cardiology.

To what do you attribute this success across so many measures?

The NHMRC plays a big role, and since it has started it has always been guided toward excellence, and an independence which makes it protected against the apparently fashionable. Through strong leadership, the NHMRC has sent the message that we are looking for the best and most relevant. Another contributing factor is the countryâ??s capacity for research outside the university sector, which is subject to periods of difficulty due to curtailed funding. By the NHMRC developing Fellowships and parallel schemes, we have built quality whenever universities have struggled. There is also a separate sector of outstanding medical research institutes, such as the Walter and Eliza Hall Institute and the Queensland Institute of Medical Research, which, because they come from a different angle with different levels of support have added exceptional quality to Australiaâ??s health and medical research sector. NHMRC is also responsible for those, as from back in the 1970s and 1980s the NHMRC supported the development of the independent medical research institutes with large annual block funding. There is also something to be said for the Australian culture around collaboration. Around 65% of published papers in Australia have an international component to them. I have worked in the US and can say from experience that the situation is different there. Perhaps Australia being a relatively small country, far away, that puts something in the back of researchersâ?? mind that we must get along with each other to succeed. The mentality here is very much, â??Are we as good as them?â??, and we often get overseas experts to come and give

advice, so thereâ??s an element of wanting to be as good as our European forebears. Many Australian post-docs go the US, so thereâ??s an interesting influence from the culture of the nation which amplifies the NHMRCâ??s work. Also, one canâ??t underestimate the Macfarlane Burnet Nobel Prize in the 1960s which came at a very important time, because he did his work in Australia, which made the community and other medical researchers say, â??We can be as good as anybody else, and we can do it here.â?? Psychologically, that was a very important milestone.On that note about doing things locally, globalization has seen the free flow of financial capital around the world, resulting in global rationalization of manufacturing, for instance.

To what degree is human capital subject to the same market influences, and how competitive is Australia as a location for research as well as researchers to be located?

The country has a narrative that weâ??re subject to a brain drain, but Iâ??m not so sure myself. Australia, like any country, has natural advantages and disadvantages. Formal figures, in fact, suggest a brain gain, although we do lose high profile and very good scientists overseas from time to time, but this is the modern reality whether in banking or any other business: young Australians go and work elsewhere across the world quite a lot.

For 25 years the NHMRC has had a scheme to support early post-docs studying abroad ?

and then to come back. We lose many of them who choose to stay abroad, but I donâ??t personally worry too much. If we were losing 50% it might be cause for concern, but there are labs throughout Australia populated by people all around the world, from Sweden, and China, the US, and especially Britain. What the NHMRC must do is to help retain younger people, because in 21st century industries, their understanding of what is needed is ever-more valuable. Itâ??s important for the country to create a reasonable career structure, as well. In the NHMRC Fellowships, and there are many hundred, these are untenured 5-year grants, available to applicants after undergoing rigourous competition. Itâ??s tough, but better than some other countries, where researchers have a public-service job where there is less pressure to be as good as you possibly can.Funding for NHMRC has risen three fold in the last decade, which has allowed the provision of even more opportunities. Also, Australia offers an excellent quality of life, with many of its cities offering rich academic and research environments, so people arenâ??t coming back to be by themselves. Thereâ??s so much health and medical research going on in Sydney and Melbourne that we now rival Baltimore and Boston, and a richness in the excitement of being in one of the big cities internationally.

Looking towards the future, what are some of the most exciting projects at the NHMRC that will attract the types of research desired?

There is a new NHMRC Australia Fellowship representing $4 million over five years for an individual researcher. We are keen to attract outstanding mid-career researchers, people who are really flying in their research, and are looking for a big one-line grant to take the next step in their career to come work with a great institution. Australia has many institutes and universities in the top 50 in the world, a great infrastructure, and friendly climate. The NHMRC is keen to attract more international applicants and to be internationally connected, and we are associated with research trusts in the UK, and performing work with the Juvenile Diabetes Association based in New York to fund Type I diabetes research. Additionally, there is an exchange scheme with France and China, and the NHMRC is about to join the International Cancer Genome Project, a $1 billion effort to do the genomics, transcriptomics and epigenetics of 50 of the worldâ??s most important cancers. The NHMRC is also about to join a big global health initiative around non-communicable diseases in some of the worldâ??s poorest countries. In summary, the NHMRC is an ambitious organization allowing Australian researchers every opportunity to work at the highest level.

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