

## **SRHMRA Submission 20 — Hospital Research Foundation**

### **Why is it in Australia's interests to have a viable international competitive health and medical research sector?**

Medical research is under threat worldwide. In the long term this will lead to a shortage of outstanding research departments able to not only attract the world's brightest minds but also focus and develop appropriate medical interventions which inevitably lead to substantial improvements in the quality of care currently available. A strong vibrant research sector leads to an opportunity to attract national and international funds for research, particularly within the medical area.

Internationally there is a general downgrading of support for medical research, largely as a side effect of the global financial crisis. This provides an opportunity for us to repatriate many of our brightest scientific minds to Australia as the difficulties to progress overseas increase. This also will provide attraction to our recent university graduates to stay within the country and work with strong leadership within the medical research sector. The cost of importing research infrastructure, know-how and developments into Australia is substantial. To have this available within our own geographic region, and particularly within our own country, makes adopting, developing and sustaining important medical developments a much more viable option.

The need to develop safe and effective devices, techniques and treatments with adequate evaluations and then deliver them to the Australian population, and ultimately the worldwide community, should be a key national priority. In many areas, Australia has difficulty competing on the international stage. This is particularly so now with our rising Australian dollar. However, within the area of health and medical research we have a publication output above what would be expected from our population and we should build on this to become a focussed, successful research hub within the sector. Australia has the opportunity as we move towards a unique patient identifier for the nation and electronic to records to provide a valuable testing ground on a population subjected to a high quality healthcare system for new interventions both within surgery and pharmaceutical practice. This opportunity is something many other countries have great difficulty in harnessing.

### **How might health and medical research be best managed and funded in Australia?**

It is important that all reputable research groups within Australia are given equal opportunity to apply for research funding. In many instances, the larger, well known groups are able to obtain funding from sources that exclude smaller groups with less experience. The Nobel Laureates, Barry Marshall and Robin Warren, are good examples of outstanding researchers who are unable to obtain funding from the National Health and Medical Research Council yet went on to gain the ultimate validation of their work with a Nobel Prize.

It is vital that Australia recognises not only the value of large-scale, co-operative, collaborative initiatives but also the extraordinary resource of individuals who have an extraordinary idea which they are able to develop and, as in the case of Marshall and Warren, deliver a huge health benefit not only to Australia but to the world. This is a difficult challenge to manage. At present there is an obsession with large research groups and collaborative initiatives. While these can provide an enormous resource and great expertise, they should not perhaps be at the expense of serendipitous individuals who can also deliver important health gains.

It is also important to note that not all research groups require large sums of money. Many, in fact, are much more reliant on resources and supporting staff to undertake the research work. One only has to look back in history to see that the likes of John Snow, who first traced the outbreak of cholera to a water pump in the Soho district of London, achieved this simply by mapping the cholera cases using a geographic information system. While in 2012 the world is a more complex environment, the ability to fund small innovative groups is no less important. More innovative techniques to enable access to statistics, infrastructure and some basic pieces of equipment to facilitate novel research concepts should be more actively explored.

### **How can we optimise translation of health and medical research into better health and wellbeing?**

Dedicated research centres that monitor the process of translating our health and medical research into better health and wellbeing are essential to produce reliable, reproducible and verifiable research. These centres must be adequately funded and able to oversee device, technique and pharmaceutical developments as well as undertake clinical trials of such research. They need to not only provide leadership within the basic research sector and then ultimately translate this into the clinical practice but also establish more effective ways of disseminating the knowledge gained, providing appropriate teaching and education that help implement the research findings.

There is a substantial gap in the gaining of new knowledge and its translation into clinical practice. This gap often leads to poorer health outcomes occurring for the population at large, particularly if it is over a long period of time. Recent examples abound. The lack of a proper registry for the French breast implant has meant that its disadvantageous outcomes have taken longer than necessary to be made apparent to the surgical community whereas the existence of a well designed joint registry in the form of the Australian Orthopaedic Association's National Joint Registry enabled prompt identification of hip joints that were failing to deliver the outcomes expected. Translational health research, therefore, is not just about bringing new developments into practice but also about monitoring and enhancing them on the basis of well designed registries and audit processes able to identify improvements required and, indeed, detect poorly performing interventions as they gain more widespread application away from the clinical trial environment.

Health care is a major cost within the Australian budget and methods of delivering cost effective medical care will be vital for the sustainability for health care, not only in Australia but internationally. While our population is relatively small, it is large enough to answer many if not all of the major healthcare problems. Unified systems across states, common datasets, unique identifiers and electronic health records are needed if we are to optimise our population's capacity to develop the translational potential of our research.