

McKeon review

Dear Sir

It is my pleasure to submit the views of the research community of Melbourne Health for consideration in the current review.

Medical research occurs across three sectors in Australia: universities, independent medical research institutes and the healthcare sector. This submission, written from the perspective of a major tertiary, teaching hospital, will focus primarily of the role of the hospital sector, but recognises the essential interface of the three main pillars of research.

*** Why is it in Australia's interest to have a viable, internationally competitive health and medical research sector?
(Terms of Reference 1 and 6)**

The most compelling reason to have a viable, internationally competitive health and medical research sector is to provide better healthcare for all Australians.

The importance of applied clinical research and translation of research into practice is that it enables evaluation of clinical effectiveness, efficacy, cost effectiveness and ultimately improved patient outcomes.

In 2011, the medical research community of Australia came under threat when there was a perceived possibility of a reduction in funding; this resulted in a campaign, 'Discovery needs dollars' aimed to demonstrate the value to Australia of medical research producing health outcomes, career options, as well as commercial opportunities, creating health and wealth for Australia.

Medical research occurs in three sectors in Australia: universities, independent medical research institutes and the healthcare sector. There are many reasons for that research effort, not the least of which is the knowledge generation and skills base, where Australia has a proud record. The most compelling reason is to provide better healthcare for all Australians.

Australia has a good health system, which is facing challenges including escalating costs and increasing expectations of an internet-informed population. We have changing demographics with longer life expectancy, coupled with a changing burden of disease, emerging epidemics of dementia, obesity and diabetes.

Independent medical research institutes and universities are responsible for most of the basic science or bench-top research. Much of this is theoretical, or work where proof of concept has suggested a potential clinical benefit. It is only in translating these findings into clinical practice, and ultimately policy and guidelines that research will deliver the goal of better health and better outcomes for all Australians.

Translational research is a two way transfer, from bench-top to bedside to the community and back. Laboratory research informs clinical practice, which in turn frames the questions to be answered by research. Insights from primary care, for example, can focus basic biomedical research, epidemiology studies and clinical investigation and vice versa. Clinical research and research translation must be done where the patients are, in hospitals and primary care settings. Community engagement in research is essential.

Clinical research activity that takes place within the health sector provides additional broad, indirect benefits to the health system which exceed its intrinsic value in terms of new knowledge generated. The clinical trials process contributes significantly to improvements in the quality of service delivery both locally and more broadly and provides a powerful platform for supporting education and career development of health care workers. It enables our best and brightest clinicians to remain engaged so that we retain them within the public health system.

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

(Terms of Reference 2, 3 and 7)

The goal of translating research from the bench-top to bedside and back, is better health outcomes for all Australians. Appropriate funding of this research in the hospital and primary care setting creates unique challenges. The current system of separate funding of medical research by the NHMRC and healthcare through activity-based funding has in part reduced the effectiveness of clinical research and led to the withdrawal of some clinicians in major teaching hospitals from research.

Potential funding models are proposed by clinicians in the hospital setting. These are potentially complementary, or could be effective alone.

1. The ring-fencing of funds within the health budget, shared between the Commonwealth and States/Territories, for translational and clinical research.
2. The creation of a new funding organisation that draws funding from the healthcare sector, along the lines of the UK model of the NIHR within the NHS.
3. The creation of Academic Health Science Centres (AHCS)
4. Workforce development
5. Infrastructure and Data

Challenges

Against a background of State Government funding for hospitals, there is no identified Medicare agreement between Federal and State Governments regarding clinical research responsibility. Therefore there is limited Federal funding flowing to hospitals for research infrastructure or expectation of research output.

The NHMRC funding system is limited in the hospital setting at several levels; no infrastructure funding is awarded if the hospital is the administering institution for a

project grant. Furthermore, project grant funding does not work well in the hospital system which requires ongoing effort and time from clinicians.

Unlike laboratory research, public health research and health economics research, the majority of clinical research is led and conducted by individuals who are principally employed to deliver healthcare. Under the current NHMRC funding model, these clinicians are non-competitive for funding when competing against full-time research staff.

In addition, due to the nature of the research, translational and clinical research does not attract the same level of NHMRC funding, compared with basic science research, however clinical research has the potential to change patient outcomes.

Hospitals require a component of dedicated funding to support infrastructure and other related indirect costs but this is generally not accounted for in the current model.

This inequity in NHMRC funding largely reflects a structural barrier, reflecting the Federal /State system, with differing responsibility for universities, institutes and hospitals. The Federal system does not properly recognise the hospital setting where translational research can occur and therefore 'silos' have been created between basic and clinical research.

It is pertinent also to note that while research has long been undertaken within the public health sector, research is now increasingly being undertaken in the private sector.

Clinical trials are an integral part of improving health care. Not only do these trials bring an alternate standard of care into the sector, improving acuity through protocols and new medications or devices, but also through the insertion of thousands of additional dollars per patient from external funding, particularly from industry.

The Clinical Trials Action Group, commissioned by the Federal government in December 2009, has made recommendations in this regard. It is our understanding that to date, these findings have not been implemented.

Response

To improve research and patient outcomes, funding models/ options are proposed by clinicians within the healthcare setting.

1. Ring-fencing of funds

There is a strong argument for the ring-fencing of funds within the national health budget for translational and clinical research. This consistent national system would function without state differences. It is considered that a funding level of at least 0.5 % of current hospital budgets (analogous to the UK model) for translational and clinical research would revolutionise research outcomes in Australia.

2. New funding agency

To deliver greater transparency around research investment, it is suggested that a new funding organisation that draws funding from the healthcare sector, along the lines of the UK model of the NIHR within the NHS, could be created.

This agency would be responsible for funding large scale late-stage clinical trials, major public health studies, technology assessment research and health care delivery research. A significant proportion of its budget could be aligned with national health priorities, and could include commissioned research. It would focus on large-scale research and research that addresses specific questions about health care delivery or illness prevention.

As its second major function, the agency would be responsible for recommending and enabling implementation of evidence-based changes to the health care system.

3. The creation of Academic Health Science Centres (AHSC)

The case for academic health science centres (AHSC) is compelling and outlined briefly below in the response to optimising translation of research to clinical practice.

4. Workforce development

Defined career paths are required for all clinicians (doctors, nurses, allied health professional) who have a research base, research focus and opportunities to retain research activities. This would create a highly skilled workforce, aimed at providing the best possible care by our brightest and best health professionals, with equitable ease and access to this care for all members of the community.

This requires the recognition and consequent funding stream to reduce the high clinical loads from hospital staff, so that time is protected for research. Currently, a full time medical specialist has 20 percent of their time protected for non clinical duties, such as teaching, administration, and professional development. There is little or no paid time available for research. Other health professionals, including nurses and especially allied health professionals, have even more limited opportunity for research within the health sector.

Ideally, educational and research time should be allocated for junior staff to be able to be at the forefront of new advances in their specialty of interest as part of their training.

Reinvigorating clinical research for medical staff within the hospital setting may require that, under specified arrangements, funding for clinical services will include (or attract) an element (supplement) for funding related research. For example, this funding could be dedicated to clinical research by clinical teams, and quarantined from the funding for direct patient care. To assess the effectiveness of the use of such funds, research KPIs would need to be instituted for hospitals. Such funding could be competitively assigned initially based on recent track record, and adjusted according to performance.

5. Infrastructure and Data

Good infrastructure is predicated upon good data, and universal access via electronic medical records will provide a good baseline to research, especially within clinical trials facilities. This requires improved networking and communication

between hospitals and general practice. The establishment of systems for collaboration and reciprocal communication between primary care providers and the hospital/university/medical research institutes will include development of better shared platforms including biobanks, databases, e-health and bioinformatics.

The co-location of academic and private hospitals facilitates a team of specialists who are “geographically” full time and able to participate in all areas of hospital care including research.

*** What are the health and medical research strategic directions and priorities and how might we meet them? (Terms of Reference 5, 12 and 13)**

For medical research to deliver value, it must be applied. Large scale randomised clinical trials of interventions, public health research, health economics research, and health care systems research all generate as their endpoint knowledge that is immediately applicable to how individual patients should receive care or how the health of the general population can be improved or how health care can be delivered more efficiently or cost-effectively.

A systematic approach to the continuum and two way connectedness of translational research, including global health ie T1 through to T6 is required. Seamless arrangements between the different sectors of research will ensure the effective passage of discovery to practice and policy.

Better understanding of the burden of disease, coupled with better understanding of the changing demographics and co-morbidities can provide a blend of community and personalised care options. Health services research along with an approach to disease prevention will facilitate the incorporation of the newest technologies into the patient centred care to which we aspire.

*** How can we optimise translation of health and medical research into better health and wellbeing?
(Terms of Reference 4, 8, 9, 10 and 11)**

We need to empower the hospital sector in research– the prevailing view in some quarters that hospitals look after sick people while others do research is wrong – we need systems to ignite research in hospitals so that we can have facilities to receive and translate discovery into areas of clinical utility- better practice and policy.

If all the research which has already been published was translated into new practice and policy, we could have an immediate improvement in health outcomes and patient care. This needs a systematic approach through AHSCs.

Applications should be called for Academic Health Science Centres, with criteria developed and selection made in consultation with an international panel. Health outcomes should be the primary goal of the AHSCs, with the membership of such a consortium appropriate to deliver the virtuous cycle of translational research. This focus does not in any way diminish the value of excellent bench research, rather that it enhances its value by creating a focus for its utility. In turn, clinical and community need can inform the research areas which require exploration.

Programmes for AHSCs could be modelled on those in place in the UK, Singapore or the USA. Transparent governance, outputs and financial auditing of AHSCs could be reported. As well as the usual metrics, outputs (e.g. percentages of patients enrolled in clinical trials) and outcomes (morbidity, mortality, research productivity) could be part of the annual key performance indicators for hospitals.

We recognise the need to provide incentives for closer ties between hospital and university and/or research institute. We are keen that government realises the infrastructure needs of hospitals as well as universities and institutes. We also suggest research outputs from hospitals are measured, KPIs developed and these

should be linked to the infrastructure support. We do not support plans that draw institutes further away from hospitals such as any suggestion that there are separate streams of funding for “basic science” as opposed to “clinical research”. This would be counterproductive and a step away from translation.