

First aid for university hospitals

David Pennington calls for a new approach to health research funding.

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The past thirty years had been a time of huge development in molecular medicine, in medical and surgical technologies, in stem cell science and also in information technology. Between them, these have great potential to change many aspects of health care and to contribute to rapid evolution in modes of delivery of services. Sadly we live in a system geared to securing the status quo, driven by preoccupation around Australia with containing budgets and waiting lists, and with funding geared to 'throughput' in terms of patient numbers. The system has been characterised over years by constant attempts to shift responsibility for costs between the States and the Commonwealth.

'Quality' and 'innovation' are words which hardly appear in the lexicon of health policies or of administrators, despite the fact that we are well aware of the coming massive change in the age characteristics of the population over the next twenty years and the stresses this will inevitably create in health services. We have much to achieve in developing new ways to deliver services to aging people in their homes by developing new technologies such as remote sensing. We must embrace the exciting new possibilities from recent research and technical development, including those relevant to people with distressing and disabling conditions for which treatment does not currently exist or is very inadequate. Research has often been seen as something separate from treatment rather than integral to it, and funded through different departments, State and Federal.

Negotiations leading to the next Australian Health Care Agreement between the Commonwealth and the States are largely handled by bureaucrats, most of whom have backgrounds in health economics, committed to the status quo when major opportunities for radical change in health care are on the horizon. Arguing about whether the States or the Commonwealth will pick up the tab for this or that, the whole culture of 'cost-shifting', is likely to take centre stage. Within this State, a new dimension of cost-shifting from hospitals to universities with medical schools is now emerging at a time when partnership in education and research offered through our medical and health science schools, is fundamental to finding and implementing new solutions. Recognition that the health workforce itself needs development is another element of our current problems.

Where have the major innovations in health care come from over the past thirty years? The sources are many, but the most significant have been through the great university hospitals of the United States and to a lesser extent of UK and Europe, often working together with industry in development of new drugs and technologies. All of the big developments – open heart surgery, coronary by-pass and stents, organ transplantation, new and effective treatments for many forms of cancer and leukaemia, devices for reconstruction and replacement of joints which keep elderly people independent and mobile, reduction in incidence of vascular disease associated with targeting high blood

pressure and high cholesterol, and new treatments for very distressing mental illnesses have all been dependent on a lively culture of research and clinical trials stemming primarily from university hospitals where researchers are integrally involved in patient care.

The American university hospital system goes back to the Flexner reforms of 1910, building on the innovative Johns Hopkins Hospital with its university-owned and staffed hospital in Baltimore, which had drawn on 19th Century German developments. It was followed by Harvard Medical School, Columbia-Presbyterian, Chicago and University of California San Francisco and then many others evolving to underpin medical education and health care delivery with research. Biomedical research gained great momentum in the US following WW II with creation of the National Institutes of Health in Baltimore, which ploughed huge funding into university hospitals and research institutes over the past 60 years. In the UK, medical research was largely centred in universities rather than hospitals, although penicillin, out of Oxford, depended on a partnership between the Australian, Howard Florey and another Australian, Professor of Surgery, Hugh Cairns, for the first clinical trials. Teaching hospitals in England, in those days, had little place for clinical professors and research. In many ways the National Health Service (NHS) locked the character of the teaching hospitals into the pattern of 1947, but for the creation of centres of research excellence in special fields over the years with support from the Medical Research Council (MRC).

What is now happening elsewhere, from which we should learn at this critical time of change? The huge advances in molecular biology stemming from understanding of the genetic codes we all carry, the detection of molecular markers for many diseases which can guide treatment, the possibility of better detection of risks and thus the potential for preventive strategies and earlier diagnosis are all emerging, but need to be harnessed. Further developments are emerging with the potential of exploiting gene therapy and application of stem cell technologies in some devastating diseases hitherto resistant to treatment. In Australia, the internationally leading Bionic Ear came from the University of Melbourne and one of its associated hospitals, followed by creation of the company Cochlear Ltd. The Resmed technology developed from research initiated by a clinical academic of the University of Sydney and is now a world leader in treatment of sleep apnoea. We have real research strengths in many of the new fields but they need to become integral to our health care delivery if we are to be real players in the next stage.

In the UK, the MRC fulfilled many of the roles of the American NIH, with funding of research institutes and special research centres, but also of groups in universities. However, the Chancellor of the Exchequer, Gordon Brown, intervened in 2004 to bring a major development of research into the core of the NHS, to redress the imbalance for both health care and pharmaceutical industries in comparison with other countries. The strategies were outlined in a policy paper *Best Research for Best Health* (BRfBH). The first step was the creation of the UK Clinical Research Collaboration and a Joint MRC/NHS Health Research Delivery Group and to redevelop a National Institute for Clinical Excellence (NICE), previously established in 1999.

In 2006, Sir David Cooksey was commissioned by Chancellor Brown and the Secretaries for Health, and for Trade and Industry to undertake an independent review and to advise on the best design and institutional arrangements for public funding of health research in the UK. His report, in December 2006, found that the NHS “*needs a stronger culture to support research*”. Among its many recommendations was the establishment of a National Institute of Health Research, with joint funding and close interface with the MRC, with strategies which “*should confer institutional and procedural advantages for health research that adds real value in tackling the UK’s identified health needs.*” These strategies were seen as offering “*faster approval for clinical trials in the NHS, and an expedited route through NICE approval*”. The strategies were designed first and foremost to enhance future health care for Britain, but included enhancing opportunities for the UK pharmaceutical and biotechnology industries in a constructive partnership. The Cooksey recommendations are being implemented, bringing MRC and NHS research activities together in a single funding framework as health care delivery through hospitals and in the community moves into the new era made possible through advances in research and technological development.

Where does Australia stand at this time of change? The introduction of ‘Casemix Funding’ came first in Victoria, led by Dr Stephen Duckett in 1983. He subsequently served as Secretary of the Commonwealth Department of Human Services and Health for two years and his innovation has, with minor modification here and there, provided the basis for estimation of budget entitlements of hospitals across the country. ‘Transactional funding’ based on the number and diagnostic characteristics of patients now drives the system, as does the preoccupation with containment of costs and politically sensitive issues such as waiting lists and ambulance by-pass figures for care of acute emergencies. Increasingly, the university hospitals, with the commitments of their university schools in education and research struggle to survive, increasingly funded as large community hospitals with no recognition of their special functions in research and innovation let alone in education and advanced professional training.

At a time when the whole national system and its funding are subject to review, surely now we should be looking, as the British Chancellor of the Exchequer demanded, at the need to redevelop the commitment to research and innovation within our health care system, making the most of innovation through our university hospitals and community orientated academic educational and research outreach. Our answers might differ from those appropriate to the UK, but our situation is very similar. We have never fully recognised the crucial role of our university hospitals in our health system in terms of appropriate funding. Well developed Departments of Population Health and of Rural Medicine, by whatever name they function, now offer the opportunity to explore and develop the new imperatives of far greater delivery of services outside hospitals. New initiatives using modern broadband IT facilities need also to be part of the mix.

Perhaps a defined proportion of the Commonwealth’s contribution to the Medicare system from 2008 onwards should be specifically tied to funding of innovative programs, integrated with research in university hospitals and with training of new health professionals, to ensure we move ahead. We need new partnerships to tackle emerging

new problems. Leaders on both sides of national politics need to get their minds around these future needs, rather than allowing the negotiations for the 2008 Agreement to proceed on old paradigms.

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