Submission to the Strategic Review of Health and Medical Research

Australian Health Economics Society

Key Points

- Health economics research and analysis is a fundamental component of an efficient and effective health system. It contributes to policy and planning and to cost-effective care.
- The effectiveness of other health research (in particular, medical research on new treatments) is limited if there is not concomitant research on both its cost-effectiveness and on the best ways to fund and provide the new services.
- The focus of health and medical research should not just be on the effectiveness of interventions but also on cost-effectiveness and on understanding how health system architecture, including funding and delivery arrangements, provides incentives for efficient provision of services.
- Demand for health economists in Australia outstrips supply, but the infrastructure for ensuring sustained growth in health economics research and training does not exist.
- Health economics research and other areas of health services research have not been well served by the structure of NHMRC funding.

1. About AHES and Health Economics in Australia

The Australian Health Economics Society (AHES) was established in 1978. The aim of the Society is to promote the study, practice and development of the field of health economics in Australia, and the role of health economics analysis in informing policy and health practice in Australia and internationally. Its 145 members are drawn from across Australia, New Zealand and other countries around the world.

The prospects of a continuing world economic downturn will have major impacts on government expenditures as governments around the world try and reduce budget deficits. Though Australia escaped a sharp recession in 2009, there is still a high risk that worsening economic conditions in other countries will have an impact in Australia and influence domestic budgets. As these budgetary pressures increase and the proportion of GDP spent on health continues to rise, the need for high quality health economics analysis grows. Resources for health care are scarce, and technological advance places greater pressure on government and consumer budgets, with new treatments being available that offer gains in quality of life and survival, but at a high cost (such that other treatments could generate greater gains in population health). It is therefore essential that consideration of efficiency and equity, informed by economic analysis, should be a fundamental part of health and medical research, translation, and practice.

Every decision made by a policy maker or health professional commits scarce resources that have perhaps more beneficial alternative uses. The misallocation and inefficient use of resources costs lives. Many treatments continue to be provided which have been shown to be ineffective,

inefficient or where the effectiveness of the treatment is not known[1]. For those which do provide some effectiveness, the opportunity cost is high as it means that we are forgoing health gain in other areas where there are more effective and cost-effective treatments. Health economics provides the tools to ensure that the way we spend the health care budget provides the best value for money and the most cost-effective health care. In Australia, we see this through the role of the Pharmaceutical Benefits Advisory Committee, the Medical Services Advisory Committee, and through expert advice provided to some State and Territory governments about the comparative cost-effectiveness of health care interventions. Ensuring that Australia continues to be well informed in this way requires a skilled workforce of trained health economists.

How much we spend on health and health care and what we spend it on is decided by governments, but also by the decisions of health care consumers, health care providers, insurers and health care administrators. Their decisions are in turn influenced by the incentives that are created by the structure of the health system: the decisions that are made about how to fund services, how to pay providers, how much subsidy to provide, and where to provide the services.

Analysis of the decisions made by providers and consumers is essential to predict responses to policy change, and to evaluate the impacts of these on the health and wellbeing of Australians, as well as the likely costs to governments and individuals, and the impacts on the health industry. Health economics is a specialist field of applied microeconomics and applied microeconometrics that can provide this high level analysis in complex decision environments. There are three key elements to this analysis: high level skills in micro-economics and micro-econometrics, economists who understand the policy environment and institutional arrangements in the health system, and access to appropriate survey and administrative data to allow for timely policy analysis.

Health economics research and training is significantly underfunded relative to its potential to improve population health at reasonable cost. There has always been a severe shortage of health economists relative to demand for our services yet this has not been effectively translated into additional research funding. Often most health economists experience a high level of expressed 'need' for health economics but little funding follows.

The past 10 years has seen some growth in the number of dedicated health economics research centres in Australia, partly funded through the NHMRC Health Services Research, Capacity Building Grants and CRE schemes; partly through funding from MSAC and PBAC; and partly through State government funding (although South Australia is the only State government to have invested significantly in health economics research capacity recently). This has been resourced primarily from the recruitment of senior health economists from the UK, in addition to the recruitment of economists from Departments of Economics in Australia, and fledgling domestically based Masters and PhD training programs.

Below we respond to the main questions raised in the review with these issues in mind.

[1] Elshaug AG, Moss JR, Littlejohns P, Karnon J, Merlin TL, Hiller JE. Identifying existing health care services that do not provide value for money Med J Aust 2009; 190 (5): 269-273.

2. Response to review questions

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

1. The need for Australia to build and retain internationally competitive capacity across the research spectrum, from basic discovery research through clinical translation to public health and health services research.

6. Strategies to attract, develop and retain a skilled research workforce which is capable of meeting future challenges and opportunities.

Although there is an increased need for health economists to contribute to policy making in Australia at all levels of government, there is no concomitant investment in the development of a sustained and sustainable education, research and training capacity in Australian tertiary institutions. In recent years, health economics has relied on senior health economists recruited mainly from the UK, and also from the involvement of economists from Departments of Economics. This has proved a successful strategy in the absence of a large locally-trained cohort of senior health economists. But this is not sustainable on its own in the longer term. Building locally trained capacity is the avenue that has not been very successful in the past. Some post-graduate courses have supplied the pharmaceutical industry rather than academic health economics or the application of micro-econometric analysis to the health system. This is a major weakness in ensuring a future supply of health economists.

A key issue that could help is an expansion of NHMRC people support schemes focusing separately on health economics,health services research, and health policy research. This will play an important role in the career development and retention of researchers in health economics.

b) How might health and medical research be best managed and funded in Australia?
(Terms of Reference 2, 3 and 7)

2. Current expenditure on, and support for, health and medical research in Australia by governments at all levels, industry, non-government organisations and philanthropy; including relevant comparisons internationally.

3. Opportunities to improve coordination and leverage additional national and international support for Australian health and medical research through private sector support and philanthropy, and opportunities for more efficient use, administration and monitoring of investments and the health and economic returns; including relevant comparisons internationally.

7. Examine the institutional arrangements and governance of the health and medical research sector, including strategies to enhance community and consumer participation. This will include comparison of the NHMRC to relevant international jurisdictions.

All research funded by NHMRC that includes an evaluation of an intervention should explicitly consider including an economic evaluation. This should be in the form of a checklist, submitted alongside all project grants, as a mandatory requirement. This occurs under the UK Medical Research Council[2], and helps to ensure that a full and complete economic evaluation is conducted if appropriate.[3] It also helps to ensure that the researchers have explicitly considered the likely impact of their intervention, if it is shown to be effective, on health care utilisation, resources and patient and consumer relevant outcomes. AHES would be willing to help develop such a checklist.

It is important to recognise that Australia unlike other countries does not provide any explicit funding for methodological research that is intended to improve methods using empirical research. For example the MRC has a scheme to provide funding for research methods in applied disciplines including: biomedical, behavioural and social science, experimental medicine, randomised trials, cohorts and other research designs investigating health, healthcare, health services and health policy[4]. Not only would such funding ensure Australia keeps up and contributes to methodological innovation, it would also help retain skill of a range of disciplines including health economists in Australia.

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

5. Likely future developments in health and medical research, both in Australia and internationally.

12. The degree of alignment between Australia's health and medical research activities and the determinants of good health, the nation's burden of disease profile and national health priorities, in particular "closing the gap" between indigenous and non indigenous Australians.

13. Opportunities for Australia's health and medical research activities to assist in combating some of the major barriers to improved health globally, especially in the developing world.

See d) below

[2] Medical Research Council. Trial Grants Annex. Version 2.3
http://www.mrc.ac.uk/Utilities/Documentrecord/index.htm?d=MRC001738
[3] Scott IA, Glasziou PP. Improving the effectiveness of clinical medicine: the need for better science. Med J Aust 2012; 196 (5): 304-308.

[4] http://www.mrc.ac.uk/Fundingopportunities/Grants/Methodologyresearch/MRC008310

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

4. The relationship between business and the research sector, including opportunities to improve Australia's capacity to capitalise on its investment in health and medical research through commercialisation and strategies for realising returns on Commonwealth investments in health and medical research where gains result from commercialisation.

8. Opportunities to improve national and international collaboration between education, research, clinical and other public health related sectors to support the rapid translation of research outcomes into improved health policies and practices. This will include relevant international comparisons.

9. Ways in which the broader health reform process can be leveraged to improve research and translation opportunities in preventative health and in the primary, aged and acute care sectors, including through expanded clinical networks, as well as ways in which research can contribute to the design and optimal implementation of these health reforms.

There are many other aspects of health reform which are not mentioned here, including fundamental changes to the way public hospitals are being funded. There is currently little research capacity in these areas, yet they represent major elements of reform. If these are not within the remit of NHMRC, then it is not clear who should or will fund this very important research. Relative to the potential for huge impacts on health care costs, on delivery of services and on consumer outcomes that could result from health care reform, there is very little consideration of the need for evaluation and for research to inform how reform will impact on behaviour. The potential for unintended consequences from changes to how services are funded and how performance is rewarded is very high, as has been demonstrated in other countries, as well as from previous policies implemented in Australia. Yet the investment in evaluation, both prospective and retrospective, is very limited.

It is very important to give policy makers and bureaucrats incentives to be 'research-friendly'. The onus seems to be squarely on researchers to have an impact, but there seem to be limited incentives for health bureaucrats to build evidence for use in policy design and evaluation. Past efforts within NHMRC at fostering health services research have had very limited impact on health policy. The call for NHMRC Partnerships Centres has been very recent after several years delay, and appears to be on clinically-driven topics, rather than on health system-driven and health reform-driven topics. There has been very narrow consultation on the topics of these centres, which appears to have been focused on policy makers with limited input from researchers. This is very unusual compared to practice in other countries. Further, the most successful policy informative research comes from a synergy between researchers and policy makers, and by ensuring a culture of policy relevant research and research receptive policy. This needs to recognise that high quality research arises from availability of data and the infrastructure within the research community to develop and address questions, and to use the results of research to inform the development of policy. Unlike many other Australian government policy areas, DoHA does not have its own internal research capacity or funding or

culture. They rely on NHMRC to fulfil this role. This may be appropriate for biomedical and clinical research, but not for health services, health policy and health economics research. A model in the UK is that the Department of Health has their own Policy Research Program and the NHS has the National Institute of Health Research, in addition to the separate Medical Research Council. Both the Policy Research Program and NIHR were established to undertake research on the health service focusing on the needs of patients and the public. This is laudable and *we recommend that a similar approach be followed in Australia*. Until this changes, it will continue to be the case that health services research and health economics research will compete with clinicians for research funding, with the compounded problems that the research is evaluated according to inappropriate criteria including expectations of impact, that it is unlikely to be timely, and will be severely underfunded.This will result in a continuing relatively small share of research funding going into health economics and health services research, and as a consequence very little impact on health policy and practice.

10. Ways in which health and medical research interacts, and should interact, with other Government health policies and programs; including health technology assessments and the pharmaceutical and medical services assessment processes.

The issue of the shortage of a skilled workforce in health technology assessment, of which health economics is a key component has been raised in a number of previous reviews, but has not been adequately addressed in Australia as yet. In the 2009 report of the Health Technology Assessment Review, the review noted:

"The HTA workforce is made up of various occupations and roles across private and public sectors such as data collection, HTA assessors, economic evaluators and health economists. In Australia this workforce is scattered across a number of sectors and jurisdictions such as Australian and state and territory government agencies, consultants, private health insurers, industry and the public hospital system. There is a general stakeholder view that the existing workforce is not sufficient to comfortably meet the current workload of HTA and is not growing sufficiently to manage the likely, continuing increase in the use of HTA."(p. 111-12)

AHES agrees that the current investment in training and research in health technology assessment in Australia is insufficient to meet the needs of the health system, particularly for reimbursement decision making. Our process of reimbursement decision making which is highly regarded internationally (Australia was a world leader in introducing the use of economic evaluation as a formal requirement for pharmaceutical reimbursement) relies on a highly skilled workforce both for the preparation of submissions by industry and the rigorous evaluation of these submissions by academic groups and government committees. The demands for this workforce have expanded as the approach has been extended, appropriately to a wider range of health care, and with recognition of the greater interaction between reimbursement decisions for different technologies (for example the co-dependence between many drugs and diagnostic tests, or between different components of treatment). This places an increasing strain on the existing workforce and is a potential threat to the quality of the evaluation process and reimbursement decision making.

Beyond the simple matter of the growth in demand for skilled economists trained in health technology assessment outstripping the growth in supply, there is also the need for a workforce

that is involved in and leading international research in health technology assessment. This is still a relatively young field of research in which methods are developing. Part of this is a greater recognition of synergy between econometrics methods and statistical methods in health technology assessment, partly the capacity for more advanced methods because of availability of data, and partly because of the recognition that issues to do with reimbursement should be a key component in the design of evaluation of health technologies. For Australia to have the highest quality decision making, researchers must not just be undertaking health technology assessment but contributing to the development of methods.

Finally, there is a need for greater overlap and interaction between health technology assessment and other policy analysis. How effective and cost-effective a new health care technology will be depends on how it will be used in practice, which means that analysis must extend beyond extrapolation from the results of clinical trials to consideration of the incentives and behaviour that result from how it is funded, and how related health care services are funded. This requires a sophisticated approach that combines health technology assessment methods with other microeconomics and econometrics analysis methods.

It important to note, that health technology assessment typically involves a highly specialised set of skills and so it can take several years of training for health economists to engage in high quality independent research.

11. Ways in which the Commonwealth's e-health reforms can be leveraged to improve research and translation opportunities, including the availability, linkage and quality of data.

To properly examine and conduct research into the efficiency of the health care system requires the linkage of data on inputs (health professionals, hospitals, GP practices etc) to outputs and outcomes (volume of services provided, performance indicators and health outcomes). How changes in inputs influence health outcomes is vital to examine health sector efficiency. The data linkage process so far has been focused on linking data on the demand-side, that is, linking data of patients. Whilst this is important, there is very little linkage of patients' data to data on the health care providers who treated them. For example, hospital data do not indicate who referred patients and so there is no link to primary care services, a major omission in data linkage given the importance of primary care in reducing hospital expenditures. Health Workforce Australia are building a national statistical resource and it is unclear the extent to which they are involved in current data linkage efforts.

We therefore welcome the advent of e-health and the data linkage opportunities it brings, but would strongly advise that data linkage efforts be shifted to link data on patients to data about the health care providers who treated them. This is the only way that the efficiency and equity of the health care system can be examined using administrative and national data.

It is important to recognize that there are currently significant barriers to accessing linked data as the extraction process is costly and time consuming. Also an approach based on one off extractions of data for a specific research purpose has the problem that because the data must be kept confidential it is not possible for others to replicate results of a study. This could be overcome through the development of a random sample of administrative health and potentially clinical data on a sub-sample of the Australian population that could be used by multiple research teams.

It is necessary to move beyond funding linkage infrastructure to funding projects targeted at exploiting this valuable data resource.