

REVIEW OF RESEARCH POLICY AND FUNDING ARRANGEMENTS FOR HIGHER EDUCATION

Response to the Issues Paper

September 2015

**RESEARCH
AUSTRALIA**

AN ALLIANCE FOR DISCOVERIES IN HEALTH



About Research Australia

Research Australia is an alliance of 160 members and supporters advocating for health and medical research in Australia. Research Australia's activities are funded by its members, donors and supporters from leading research organisations, academic institutions, philanthropy, community special interest groups, peak industry bodies, biotechnology and pharmaceutical companies, small businesses and corporate Australia. It reflects the views of its diverse membership and represents the interests of the broader community.

Research Australia's mission is to make health and medical research a higher priority for the nation. We have four goals that support this mission:

- A society that is well informed and values the benefits of health and medical research.
- Greater investment in health and medical research from all sources.
- Ensure Australia captures the benefits of health and medical research.
- Promote Australia's global position in health and medical research.

Elizabeth Foley

CEO & Managing Director

02 9295 8547

elizabeth.foley@researchaustralia.org

Greg Mullins

Head of Policy

03 9662 9420

greg.mullins@researchaustralia.org

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REVIEW OF RESEARCH POLICY AND FUNDING ARRANGEMENTS FOR HIGHER EDUCATION

RESPONSE TO THE ISSUES PAPER, SEPTEMBER 2015

INTRODUCTION

Research Australia welcomes the opportunity to respond to the Review of Research Policy and Funding Arrangements for Higher Education

Research Australia recognises that this review is occurring in the context of the Government's broader *Economic Action Strategy*, the *Industry Innovation and Competitiveness Agenda*, and measures to *Boost the Commercial Returns from Research*. It is also complemented by the review of Research Training.

The role of universities in the Australian economy is complex and multi faceted. Universities are significant contributors to economic activity in their own right- international education is one of Australia's largest exports. Universities are responsible for training individuals for a diverse range of roles in our economy, with 1.2 million individuals enrolled in Australian higher education institutions in 2014.¹ This role in increasing the skills and knowledge of Australia's workforce is critical to our future economic performance.

Universities' other key contribution is the creation of knowledge, and it is universities' research function which is the subject of this current Review. The primary role of research is to increase knowledge and the creation of knowledge needs to be the primary focus of research funding programs, with research excellence as the primary criterion of assessment for funding. This is acknowledged throughout the Issues Paper, with the discussion of Research Block Grants, Competitive Grants Programmes, performance of the research system and the research training and employment all emphasising first and foremost the need to ensure the quality and excellence of research.

The role of universities in the application of new knowledge (of which commercialisation is one of the paths) is important but is necessarily a secondary role. While Research Australia acknowledges that universities can do more to support the application of new knowledge, this role is contingent upon the creation of knowledge. Programs such as the Research Block Grants and the competitive grants programmes must maintain a primary focus on research.

¹ ABS, Education and Work, Australia May 2014. Cat. No. 6227.0

This is not to suggest that research outcomes are the only 'input' required for innovation or that there is not a role for programs to sponsor innovation; clearly there is, but the two should not be conflated. While there is no clear delineation in practice between when the creation of knowledge ends and the application of knowledge begins, it is both possible and necessary to make a distinction between programmes with the objective of creating knowledge and those with the objective of applying knowledge to the creation of new products and services. Where a programme is intended to do both, explicitly acknowledging both these objectives is essential.

While the Review places an emphasis on commercialisation and engagement with industry, it is important to recognise that, particularly in relation to health and medical research (HMR), there are other paths to the application of new knowledge. The adoption of evidence based practice in our health system drives improvements in quality and efficiency and frequently does not require the commercialisation of a new product, instead relying on the adoption of new practices and protocols. Public health initiatives to change behaviours are also important means of translating findings and delivering improved health outcomes. They also provide economic benefits through reduced demand on primary health care and increased productivity. HMR is a large component of our public research expenditure and these other paths to translation and improving engagement with the not for profit healthcare and public sectors (including Commonwealth State and Territory Government departments and agencies) are also critically important.

RESPONSE TO SELECTED QUESTIONS

Research Block Grants

2.3.1 Does block grant funding still have a role to play in funding research?

There is still a role for block grant funding. Any restructure of Research Block Grant Programmes (RBGs) has to be primarily about supporting the indirect costs of research and research training.

Research Australia submits that the fundamental problem currently with the RBGs is that there is insufficient funding to adequately meet the indirect costs of research. More funding for the indirect costs of research is necessary if we are to make the most of our research capacity, not only in new discoveries but in the application of new knowledge.

That said, Research Australia also believes that it is possible to simplify and improve the current RBG system, and to this end proposes two streams of funding:

1. funds for the indirect costs of research based on research revenue.
2. funding based on the number of research students.

In relation to the first stream, the Higher Education Research Data Collection currently provides for four categories of research revenue. These appear to provide the opportunity to differentiate between sources of research revenue and to provide support at different rates if the Government chooses to do so.

In relation to funding based on the numbers of research students, this is already a component of the JRE, RTS, APA and IPRS programmes. Creating a single scheme with the objective of meeting the costs associated with research students can be achieved within the existing reporting requirements, and with less complex formulae, which would promote greater transparency. The distinction between high load and low load students should be retained. Incentives for timely completion of higher degrees by research could be included as part of any reform of funding.

Competitive Grants Programmes

The principal Australian Competitive Grants Programmes are those provided by the Australian Research Council and the National Health and Medical Research Council. These programmes have been under particular pressure in the last few years, primarily because funding has declined in real terms.

There is significant underutilised research capacity in Australia. This is a critical issue at the moment, with success rates for the NHMRC grant announcements in October 2015 widely anticipated to be at record low rates. With the employment of researchers in Australian industry at some of the lowest rates in the world, there are currently few alternative employment opportunities in research. As a consequence, individuals are leaving research altogether or are pursuing research opportunities overseas.

Research Australia submits that the one way the Government could boost the commercial returns from research would be to provide more funding for the ARC and NHMRC competitive research programmes, thus retaining researchers, boosting our research capacity and increasing the stock of new knowledge available for innovation. While the Medical Research Future Fund is welcome and will have a significant impact in the longer term, the projected funding available in the next few years while the MRFF builds its capital base will be minimal.

Industry Experience

3.3.1 What changes would support increased recognition of industry experience alongside research excellence in competitive grant processes?

Research career paths that move between universities, medical research institutes and industry need to be encouraged and rewarded. One of the key difficulties facing a researcher coming into a university from industry is that the relative lack of publications puts them at a disadvantage when it comes to making a successful application for competitive grants. While the ROPE principles are useful and appear on paper at least to address this issue, there is a need to investigate whether they have been utilised appropriately in the assessment of applications.

An alternative approach is to provide specific funding for universities that recruit individuals with industry experience in specific fields. The funding could be used to undertake research and re-establish the type of track record necessary to be successful in applying for competitive grants.

Specifically in relation to health and medical research, we need programs that recognise the importance of clinical experience, and support clinicians to undertake research (and further research training) either on a full time basis or in conjunction with continued clinical practice.

Boosting commercial returns

3.3.6 Is there a need for a greater focus on competitive research programmes which specifically support early stage commercial research endeavours, such as proof of concept funding and require tangible progress toward a commercial outcome within a five-year timeframe?

Yes. In relation to boosting the commercial returns from research and the NHMRC's competitive grants programmes, one solution is to provide publicly funded programmes that support research discoveries to a later stage than is currently typically the case; to a point where commercialisation or other translation into practice is feasible.

For example, research is funded to test the hypothesis that a particular compound will prevent the production of an enzyme that is critical to the progression of a particular disease. The research is successful in demonstrating the hypothesis under laboratory conditions, and the results are published.

Under current arrangements, the funding now ceases even though further experiments and tests will be required to demonstrate 'proof of principle' as a therapeutic approach, and it is typically only after this stage that commercial partners can be engaged in the development of a new therapy. Progression of the body of research will be dependent on securing further funding from public funding programs or other sources, and this will require further grant applications and most likely the suspension of any further work until the funding is secured.

The need for this further experimentation should be anticipated at the time the initial research grant application is made, and funding for this purpose should be available subject to the initial research achieving predetermined milestones/thresholds identified at the time the funding for the research is approved. To do this effectively, we need to be clearer at the outset about when publicly funded research is supported in expectation of commercial and/or practical outcomes and when this is not the case. Where it is the case, there needs to be a presumption by both the funding bodies and the researchers that if the research is successful the further funding will be available.

The NHMRC's existing Development Grants Programme is a good start. A 2012 report of a review of 40 completed Development Grants found that:

- *85% reached complete or partial proof of concept at completion of the grant;*
- *80% had secured a commercial partner in some form (of the 32 securing a partner, 25 were Australian biotech firms);*
- *55% are currently under some form of possible commercial development; and*
- *6 have resulted in product to market or are awaiting regulatory approval.*²

However, the existing Development Grants are too few. In 2014, there were only 26 Development Grants funded from a total of 142 applications. The total value of Development Grants was a little over \$15 million, and represented 2.1% of total NHMRC funding.³ As a nation we are failing to capitalise on the investment we have already made in the research that underlies the other 116 applications. One straightforward way of boosting the commercialisation of research would be to increase the total funding provided for Development Grants.

Another problem with Development Grants is the length of the application process. The next round of Development Grant applications opens in November 2015 and closes in March 2016, with funding available in 2017. In the interim the research is effectively stalled, research teams are dismantled and the competitive commercial advantage of being the first is at risk.

As noted above, where an expectation of commercial and/or practical outcomes is identified when the initial research project grant is made, if that expectation is confirmed upon completion of the research, there should be an (almost) automatic provision of the funding required to advance the research to the next stage. Rather than a new application, it should be treated as a second stage of the initial research funding and subject only to a requirement for evidence of the commercial potential and that an appropriate plan is in place to advance the research to the next stage. This measure would require a significant expansion of the funding available for Development Grants and changes to streamline the assessment process, but could be achieved within the existing framework of the NHMRC's competitive grants programs.

Research Australia recognises that the above proposal is only one way of boosting the commercial returns from research but it has the advantage of being able to build upon an existing successful program. It also illustrates how being clear about the different objectives of funding for research and innovation can facilitate a more streamlined approach to the application of new knowledge.

Performance of the Research System

This section of the Issues Paper has a very strong focus on 'industry' and 'the commercial returns from research'.

Research Australia wishes to emphasise that for health and medical research, the 'industry' includes the whole health system. This consists of a broad range of organisations including:

- private sector pharmaceutical, biotechnology and medical device companies;
- private companies, not for profits and state government entities providing health care in hospitals, community health care and primary care settings; and
- preventive and public health agencies seeking to influence behaviours and the environments in which we work, learn and live.

² NHMRC, Evaluation of Development Grants Scheme Final Report - April 2012, page 12

³ NHMRC, Summary of the results of the outcome of the NHMRC 2014 Grant Application Round, table 3

The interaction between universities and the health system leads to a range of economic benefits, including but not limited to, the commercialisation of new products and services. It includes the adoption of new practices and protocols that improve the quality and efficiency of healthcare, and changes in behaviours that positively affect the health of the population as a whole. Together these lead to reduced morbidity and higher productivity.

Any assessment of the performance of the research system's engagement with industry and knowledge transfer need to take account of the breadth of participants in the health industry and the various paths to knowledge transfer. This includes, for example, not only the creation of IP and the generation of revenue but the influence on public policy and the adoption of new practices in health care.

Research Training and Employment

5.3.2 What changes to research funding structures reduce structural funding barriers affecting the movement from undergraduate to HDR studies?

The Bachelor Honours Degree and the Masters Degree by Research both currently serve as preparatory qualifications for a research PhD. The Masters Degree by Research provides scope for better preparation for undertaking doctoral research, particularly in providing additional coursework in a range of subjects such as research ethics, research methods and experimental design. However, the Bachelor Honours Degree, which is fully funded by Commonwealth Supported Places programme (CSP), provides a higher level of income to a university for each year of study than is provided for a year of study for a Masters Degree by Research. Not only is the payment per year for a Masters Degree by Research lower, but a large portion of the payment is linked to completion, and payment is deferred for several years. Addressing the disparities between the two in the payment to universities would remove a barrier to further innovation in preparation for doctoral studies.

CONCLUSION

Research Australia welcomes the opportunity to respond to the issues paper.

Public funding for health and medical research enjoys high levels of support from the Australian community and this support is linked to an expectation that the research will result in better health outcomes. Research Australia recognises the need to ensure that the discoveries made by researchers are applied as new drugs, technologies, therapies and practices that improve and prolong lives, and that the research community has a role to play in improving the application of research. While Research Australia acknowledges that universities can do more to support the application of new knowledge, this role is contingent upon the creation of knowledge and programmes such as the Research Block Grants and the competitive grants programmes must maintain a primary focus on research. There is scope for reform to improve and simplify the funding of research and to provide incentives for greater engagement with industry. Any changes to how programmes are structured or funded must however, ensure first and foremost that the quality of research undertaken by our universities is not compromised.

If you require any further information, please contact Greg Mullins, Head of Policy, on 03 9662 9420 or at greg.mullins@researchaustralia.org.

RESEARCH AUSTRALIA LIMITED

384 Victoria Street Darlinghurst NSW 2010

T +61 2 9295 8546 **ABN** 28 095 324 379

www.researchaustralia.org