



Review of UK Health Research: The Cooksey Review

Summary

The following response was collated after consultation within the Faculty of Medicine and Faculty of Biomedical and Life Sciences. The potential merger of the UK-wide MRC budget with the research budget of England's devolved Department of Health (DoH) is of great concern to Scottish Universities and consultation and discussion is on-going. A version of this document was submitted to Universities UK but some minor amendments have since been made following discussions with representatives from the Review and the Scottish Executive.

The following points summarise the key elements for the University of Glasgow:

- It is essential to safeguard the biomedical research base of Scotland as an important element for economic development and as part of the healthcare agenda
- The current funding arrangements for biomedical research, including support from the MRC and major medical charities, work well within Scotland
- The current funding through the CSO, when combined with MRC and charity funding, is a vital ingredient in supporting Scotland's medical research
- Scottish Universities must continue to have access to UK-wide research funds in order to maintain their competitive edge and international reputation
- We have major concerns over the merger of MRC and NHS R&D funds into a single pot especially if the budget becomes vulnerable to political pressures as is often the case with NHS budgets
- A diversity of funding streams in biomedicine (MRC, BBSRC, Multiplicity of medical charities, NHS) has ensured that the UK has an outstanding international reputation for biomedical research which is second only to the USA. This comparative advantage must not be jeopardised
- The University recognises that current funding for translational medicine is inadequate and ways should be found to stimulate better partnerships between the Universities, NHS and industry.
- The University would seek to preserve as much of the CSO mechanism as possible whilst ensuring that Scottish researchers have the same access to the MRC pot as researchers in the rest of the UK

1. What are the strengths and weaknesses of the MRC and NHS R&D programmes at present? How do each of these support the research and training needs of the NHS, social care, industry and academia? Does more need to be done?

The University of Glasgow recognises the enormous importance of the basic research funded by the MRC over the last 50 years. This has been the great strength of the MRC and has helped significantly to ensure that the UK is a world leader in biomedical research. It is vital that the present level of funding for basic medical research in the UK is maintained and the MRC must remain able to contribute its share of support in this area otherwise an unsustainable burden will be put on the BBSRC and the major medical charities. The MRC has also supported research on clinical trials and public health and recently has begun to focus much more on translational research. This shift in emphasis has been delivered so far without damaging the support for basic research. As the move towards more support for translational and clinical research continues, however, the University of Glasgow considers that further funding will need to be made available from other sources; this could include NHS R&D budgets.

A further strength of the MRC is its internationally recognised peer review system, considered by many to be better than the equivalents in the US and elsewhere in Europe. This ensures that MRC funded research is highly regarded within the international research community. The University of Glasgow considers it essential that the ethos and prestige of the MRC is maintained to ensure that the UK continues to be recognised globally as a research leader.

There have been problems with the level of MRC funding available for project grants, and a particular issue with funding for early career researchers. Recently this has been remedied to some extent but it is vital that the MRC continues to support proposals that are considered internationally leading and cutting edge by peer review.

The NHS R & D programmes, on the other hand, lack most of the MRC's positive features. One of most significant weaknesses of the NHS R&D funding is that it has been subject to many revisions over the last few years, none of which have led to any discernable improvement in its management or effectiveness. At present the NHS R&D budgets are provided from two funding streams; infrastructure funding, which is tied up in the base costs of NHS hospitals and not accessible to researchers, and specific grants for undertaking large-scale NHS relevant studies that have been criticised in the past for being scientifically weak and unimaginative. In the University of Glasgow's opinion, the NHS R&D funding is currently not performing effectively and we would welcome changes to the system to emulate those of more prestigious biomedical research funders. These changes must be considered carefully and undertaken sensitively to ensure that the NHS R&D funding is rightly targeted towards research that benefits significant numbers of patients. Although there are obvious disadvantages to linking NHS R&D funds to the NHS patient care budgets, it is essential that these budgets are closely co-ordinated, or inherently flexible, so that the advances developed through research can be easily and effectively translated through to patient care.

NHS R&D budgets are devolved within the UK. Whilst the NHS R&D infrastructure budget in Scotland is similarly managed to the rest of the UK, the Scottish

equivalent of the DoH/NHS R & D funding, the CSO budget, although comparatively smaller works flexibly and in direct collaboration with the Medical Schools and researchers. The CSO processes can no doubt be improved but the level of support for projects through the CSO grant schemes is of much greater benefit to Scottish researchers than that provided by its English counterpart.

Without a joined up approach between the DoH and the devolved administrations, there is the serious possibility that the funding systems within the UK will become incompatible and unmanageable. In this context, the University of Glasgow would emphasise the importance of consideration of how the NHS R&D budgets can be aligned with any new funding model, to protect as far as possible the CSO's grant-giving potential, but also to ensure the benefits of enhanced funding for excellent, international and cutting edge biomedical research can be shared across the UK.

2. What do you believe are the key scientific and organisational challenges facing health research, and underpinning training, in the UK over the next decade? How might the UK Government best help address those challenges? What do you believe should be the Government's objectives for health research, and why?

Pooled funding initiatives, involving The Wellcome Trust, CR UK or other major charities, allow a co-ordinated approach to new healthcare challenges and will become more essential as the cost of research continues to grow. The MRC has already demonstrated a clear ability to work extremely well with the Wellcome Trust on two recent initiatives (the UK Biobank and the Clinical Research Infrastructure competition) and similar initiatives should continue with a joint lead by the MRC and the Wellcome Trust.

Further important collaboration is also necessary to facilitate the uptake of healthcare advances by the general population. Close co-ordination between Councils, the NHS and Research-intensive Universities will be the key to ensuring that advances developed by Universities and refined within the NHS can be made available to those people who need them. This is a model that is being developed through the Glasgow Centre for Population Health¹. Funding for these initiatives is vital and should be recognised by Government as being an effective multi-organisational way of achieving demonstrable results.

3. What should be the Government's priorities for health research? Is there anything it should stop doing or funding? What is it not doing or funding that it should do, and, in the absence of further sources of support, what can it lower in order to release the necessary funds?

Prioritising the major killer diseases is understandable. However the social and economic impact of conditions that don't kill but cause long term morbidity must be recognised and funding for research in these areas should be enhanced.

¹ The Glasgow Centre for Population Health involves academics from The University of Glasgow working in close collaboration with Glasgow City Council and NHS Greater Glasgow. The centre will undertake vital research into the public health problems faced by Glasgow's population and ensure research-led advances are translated through to evidence based policies in NHS clinics. A key objective will be to target people from deprived areas and invest in mechanisms to ensure they are able to access healthcare and fully appreciate the benefits it provides.

Neurodegenerative disorders and public health problems, such as obesity, are prime examples of areas where the effects of the associated morbidity will have an increasing impact on the economy: the University of Glasgow considers under-funding in these disease areas to be unsustainable in the long term. A further problem inherent with narrow funding foci is the creation of research-poor diseases where it is particularly difficult to recruit talented researchers. There is a danger that medical areas that fall outwith these funding streams will become “teaching only” and innovative translational research will cease.

The University of Glasgow considers that the UK’s Universities, especially those with good Medical Schools are key players in the delivery of strategic objectives and priorities for health research. Investment in University-based, or associated, research centres, programmes, fellowships and studentships give the best value for money. Research activities based solely in the NHS are less efficient and seldom cutting edge, as the NHS lacks the research expertise and skills of academic researchers and clinicians.

- 4. How should decisions be taken on the balance between the long-term economic and social benefits of a high quality biomedical research base; and the needs for research to improve healthcare and other public services? What is the appropriate balance between public funding for investigator-led and priorities led research? How do we balance funding for basic science, translational science and applied science? Is this something that should vary over time? What mechanisms should be used to make judgements about this balance?**

High quality biomedical research and research that improves healthcare are very closely linked: there will be no successful translation without very strong basic research. It follows that improvements in healthcare and other public services are also linked to strong basic research. The key is to recognise that whilst the benefits of basic research may not be realised in the short-term, the effects are likely to be of greater long term benefit than research that has more obvious immediate impact. Publicly funded agencies must recognise and resist the temptation to spend where the effect is immediate in order to increase public support for their initiatives. Whilst there is a place for softer research in finessing established treatments and procedures, the University would be concerned if the MRC’s funding streams were transferred to the NHS programmes as the loss of funding for internationally significant basic research would ultimately reduce scientific rigour and productivity.

The University of Glasgow recognises that some MRC funded activities require co-ordination with the NHS programmes in order to be truly effective. Translational research requires collaboration with the NHS and there is great scope for enhancing the productivity of the MRC’s translational budget if co-ordination between its funding and the NHS R&D budgets can be effectively managed. It is the University of Glasgow’s opinion that this co-ordination should be kept separate from the MRC’s basic research budget so that the essential flow of innovative ideas and thinking does not dwindle.

- 5. In your experience, how have the results of publicly-funded health research in the UK been used, both in the development of new treatments and to influence / change wider policy and healthcare practices? What lessons can usefully be learned to improve the uptake of advances in science and medicine?**

The UK's publicly funded research has delivered some very robust results which compare favourably with that funded by its contemporaries, such as the NIH in the US. For example, several major new cardiovascular therapeutic and prophylactic measures have been introduced world-wide on the basis of the UK studies/evidence. World-class research, however, requires world-class funding and the recent increases in the Science budget as outlined in the Next Steps document should continue to be developed. It is essential that this trend is addressed if the UK is to maintain its leading edge in biomedical research.

6. How might better links be forged between 'basic', translational and applied researchers, working across the whole field of health research, from the laboratory bench to the front line of the NHS? How might better links be forged across disciplines, e.g. with engineers, physicists, and social scientists?

At present the NHS research agenda is governed by national initiatives, which do not necessarily marry well with local priorities or research strengths. Improving links between researchers and facilitating the translation of basic research to practice requires the development and resourcing of mechanisms that positively encourage the NHS, and other healthcare providers, to collaborate with, and capitalise on, the research and teaching agendas of their local medical schools.

The key to developing better interdisciplinary links within healthcare research is to support academic medicine and to provide funding for the training of outstanding clinician scientists with the capacity to lead multidisciplinary teams. This can only be done through well supported medical schools with excellent mentorship and career progression for young academics. Such programmes should include a broad spectrum of PhD opportunities with clinicians working at the laboratory bench together with basic scientists, engineers and computer scientists to allow access to the knowledge and expertise that these disciplines bring to the medical field. However, with a few exceptions, progress in the understanding of disease mechanisms whether basic, translational or applied will require the expertise of clinicians and other healthcare workers and the University of Glasgow would argue that this is where the resources should be focussed.

7. How can the Government encourage translation, entrepreneurship and innovation in health research to improve public services in the UK?

There is a lack of appropriate funding for translational research or innovation. The MRC's Follow-on Fund schemes, whilst very helpful in advancing some technologies, do not provide realistic funding to translate, for example, a risky drug discovery project to the point where it is a proposition of interest to industry. Drug discovery projects, which may translate to new therapeutics, stall because

the risk-averse biotech/pharma community is reluctant to engage/invest at this early stage of the research and development. Schemes such as the Wellcome Trust's Seeding Drug Discovery and Translational Awards help provide some bridge funding in this area but additional funding schemes are required to help drive forward these riskier novel projects and encourage more collaborative research between universities and biotech/pharma at this early stage.

8. How can UK health research funding be most effectively used to provide the appropriate infrastructure for basic, translational and applied research, whether funded by the UK public sector or other sectors? How can UK health research funding be most effectively used to support the work of NICE, facilitate innovation and collaboration with industry, and address market failures in the application of healthcare?

One successful model for instigating effective collaborations between many sectors i.e., public funding, major charities and pharmaceutical industry are the Wellcome Trust Clinical Research Facilities, which have led to significant improvements in research infrastructure for biomedicine. Each of the five Wellcome Trust-funded Facilities has long-term R & D staff and running costs funded from the NHS R & D funding streams.

The great majority of large randomised trials leading to evidence based medicine are too expensive to be wholly publicly funded and will remain the domain of industry. Easier partnership between industry and academia plus other partners would facilitate long-term advantage for the UK medical research. A key issue is the lack of absorptive capacity on the business and industrial demand side. The University of Glasgow applauds the announcement that R&D tax credits will be extended to larger enterprises as a sensible step to address this but we would further urge Government to take the next logical step by supporting company investment in R&D through funding: healthcare research is in the public good and arguably deserves public funding.

Scotland's Translational Medicine Research Initiative (TMRI)² also demonstrates that Universities and the NHS can co-operate with industry to undertake vital biomedical research. Wyeth's decision to establish the TMR laboratory in Scotland was based on the internationally-leading academic research we conduct with funding from the research councils, charities and Scottish Enterprise and relies on the close-links between Scottish HEIs and their NHS partners. It is imperative that nothing is done when reconfiguring MRC and NHS R&D that jeopardises the quality of research in our Universities or makes it more difficult to access research funding in collaboration with industry.

9. What lessons should the UK learn from other countries in making the proposed changes to the institutional arrangements for the funding of health research?

The University would urge caution when considering creating a single funding stream for health research and would recommend that lessons are learned from the NIH model in the US. The NIH effectively has a total monopoly on medical research funding within the US and whilst this creates spending power there is also an absence of high risk/blue sky research and a tendency towards conformism which causes problems for less established researchers or disciplines. A real criticism of single funding mechanisms is that the lack of diversity in the funder

² Wyeth will invest an estimated £33M to create the world's first Translational Medicine Research Initiative in Scotland, with a further £17.5M pledged by Scottish Enterprise. The Collaboration will comprise four of Scotland's leading universities (Glasgow, Aberdeen, Dundee, and Edinburgh), Wyeth Pharmaceutical Co, Scottish Enterprise, and NHS Scotland Grampian, Greater Glasgow, Lothian, and Tayside, and will provide new impetus for Scotland to lead the world in the development of personalised medicine, bringing new treatments to patients suffering from a range of serious illnesses.

market tends to cause stagnation in research priorities and leads to a much less responsive organisation which ultimately reduces productivity. It is worth noting that Wyeth considered developing a TMR equivalent in the US, but found the funding system too inflexible. The flexibility of the current UK funding arrangements are a true strength and should not be overlooked or underestimated when developing new models.

The EU funding mechanisms also teach us that the best and most productive research is, and always will be, investigator-led. Research led by committees, or instigated with non-essential emphasis on collaboration, will always be poor value for money, and unlikely to produce breakthroughs in treatment.

In essence, the negative examples are numerous, however positive examples are more difficult to find.

10. In implementing the single fund for health research, to what extent should the MRC and DH / NHS R&D be merged or brought together? And to whom should the single, ring-fenced fund be accountable? Please provide reasons and any supporting evidence for your response.

The University can see three potential scenarios:

1. **Budgets remain separate** but mechanisms are put in place to ensure the parties work together. This could potentially cause problems with leadership for the initiative and would ultimately lead to another layer of bureaucracy. As the drivers and priorities of the two organisations are different the terms and conditions of the funding and the evaluation mechanisms could become complex and inhibitory.
2. **The DoH's R&D infrastructure money stays with the NHS** and the research funding is separated and merged with the MRC. This would significantly reduce the pot of money available for funding research and would not provide the opportunities afforded by the increased spending power of full separation.

Or,

3. **A single funding pot** could be set up with general broad objectives and directions. This pot should remain as 3 separate, but co-ordinated, funding streams; for basic research (MRC), for translational research (MRC with perhaps some NHS R&D input) and for health services research (NHS R&D funds). This model would continue to allow support across the research spectrum and is favoured by the University of Glasgow.

The NHS R&D budgets are subject to political pressures. In the past, this has acted as a barrier to effective research and has prevented the achievement of the full potential of the funding. In the cases of models 2 and 3, the University of Glasgow is of the firm opinion that the influence of these political pressures should be minimised by removing the R&D funding from the control of those in charge of the patient care budgets. The dual support funding afforded to Universities through QR and Research Council grants is essentially analogous to the NHS infrastructure and R&D budgets, respectively but the higher education funding councils act as a buffer and effectively remove the political pressures that have blighted the infrastructure funding in the NHS. The outstanding international reputation of British research,

which in most areas is second only to the USA, clearly demonstrates the benefits of this 'dual support' funding mechanism.

The separated NHS funding streams would, however, need to be sufficiently flexible to allow co-operation when required, and, whether this is achievable in an organisation like the NHS is difficult to say. If a single ring-fenced fund is developed, it would seem sensible to capitalise on the experience and expertise of the MRC by utilising their well-respected peer review processes and procedures. This would minimise the disruption to the funding streams and maximise the impact on health.

11. To what extent does the success of recent innovations in health research (e.g. Clinical Research Networks) and the proposed structures rely on the new Connecting for Health NHS IT system, and to what extent should it do so?

This is a technical a question and the University of Glasgow is not in a position to comment.

12. Given that NHS R&D is currently devolved, but that the work of Research Councils is not, how can these functions work best together to maximise the health and economic benefits to the UK?

The University of Glasgow considers this very important and is concerned that it could potentially lead to some very divisive and damaging effects for UK biomedicine. There are four ambitious Medical Schools in Scotland with Glasgow and Edinburgh scoring very high success rates in MRC funding: current award levels are proportionately higher than expected from our size. At the same time the Scottish equivalent of the DoH NHS R & D funding, the CSO budget, is small and incompatible with its English counterpart. The only way to maintain the excellent input to UK medical research by Scottish Medical Schools will be to align the CSO with DoH NHS R & D with the resulting ring-fenced fund dedicated to clinical research; it would be essential, however, to preserve the responsiveness to local, regional and national needs currently shown by the CSO. The MRC's processes should be implemented to award these funds in open competition. The alternative solution of a devolved Scottish MRC is inconceivable and its impact would be bad for Scotland and UK alike.

