



UNIVERSITY OF  
BIRMINGHAM

Vice-Principal  
Professor Michael Clarke  
CBE MA DL

MGC/LEH

28 July 2006

Consultation Responses  
Cooksey Review Secretariat  
HM Treasury  
1 Horse Guards Road  
London SW1A 2HQ

Dear Sir

**UNIVERSITY OF BIRMINGHAM RESPONSE TO THE COOKSEY  
REVIEW**

Please find enclosed the University's response to the Cooksey Review.

Yours faithfully

A handwritten signature in black ink, appearing to be 'L.E. Hopwood', written over a horizontal line.

**L.E. Hopwood (Mrs)**  
**PA to Vice-Principal**

Enc

## University of Birmingham Response to the Cooksey Review questions

### **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 primary strengths of the MRC are its provision of excellent research based upon rigorous peer-review independent of short-term government policy through application of the Haldane Principle. It is imperative that funding of the highest quality, basic as well as applied, biomedical and medically-related behavioral science continues to be administered and overseen by its own peer group. This is the essential fuel line to translational research. The time scale of advances needs to be appreciated – research with clinical benefit ultimately is a long-term affair. The MRC is the largest public funder of clinical trials and has steadily increased its investment in randomised clinical trials, even during the recent period of severe financial constraints. It needs to ensure that other forms of health-related research continue to be funded, to pave the way for future trials. The MRC has already strengthened its commitment to clinical research specifically by establishing the Physiological Systems and Clinical Sciences Board and by more than doubling the budget of the Health Services and Public Health Research Board. The MRC has for many years run fellowship schemes to train the best clinical academics from which many senior UK clinical scientists have benefited. Such training is central to our clinical science base, must continue and should even be expanded to ensure high-quality research is maintained in medically-related professions (e.g. clinical psychology, speech and physical therapies). The MRC has made significant contributions to UK innovation and technology transfer (the development of humanised monoclonal antibodies being a notable example). The MRC enjoys a good relationship with the UK academic community, whose direct involvement in funding decisions and broader research strategies fosters a sense of transparent and accountable governance.

NHS R&D's research reputation is less well developed. Of particular concern is that NHS R&D lacks the tradition of rigorous peer-review in allocation of funds. There is also a lack of metrics-based assessment of outputs from NHS R&D funded research, which reduces confidence in its rigour. It is recognised that R&D in the NHS has suffered through the diversion of money intended for research and infrastructure support into direct patient care. The situation is compounded by the inevitably low priority afforded to research by NHS Trust managers, who are subject to intense pressures to deliver immediate healthcare targets. Thus NHS research starts from a low base: only 0.7% of total spend despite 1.5% promised. Much of this is lost in the fabric of routine clinical care and not supporting research. The NHS is therefore perceived by the academic and commercial research community to be a difficult and variable place in which to conduct research. Proposals for change outlined in *Best Research for Best Health* are helpful but will require a culture change in NHS R&D to deliver high quality outputs. Clinical Research Facilities (CRFs) are an undoubted strength of NHS R&D, largely because resource is overt and clearly addressing a need. Some NHS networks are good, e.g. Cancer, but the jury is out on others as they have only recently been established (e.g. Stroke).

The NHS R&D Programmes have however, been very successful in promoting clinical research and the evaluative culture. The regional programmes, and particular

programmes such as HTA, Methodology and SDO, have all sponsored a large amount of internationally competitive research. Furthermore, NHS R& D has also provided the service report and treatment costs that underpin many very important large scale clinical studies funded by others, such as the aneurism screening trial, the colon cancer screening trial and the ovarian cancer screening trial, all MRC studies of international acclaim.

The “NHS R&D support for science” and “priorities and needs” monies spent directly in NHS hospitals has been less successfully managed as noted above. The suspicion is that much of this money has simply gone to prop up clinical services. New arrangements for the explicit management of this money, through centres programmes and projects, are likely to be much more successful.

**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?**

Any new funding body should address the shortage of clinical academics in medicine and dentistry and the scientists working at the Life Sciences interface. Integrating clinical expertise with non-clinical (basic science) health research expertise is crucial. Basic scientists look at the same problems with a different perspective, bringing in highly relevant expertise and skills and therefore another kind of creativity and innovation. Non-clinical training careers urgently need addressing. Much good has been done regards clinical academic career structures: it is vital that non-clinical counterparts are similarly addressed so that real potential is gained and those individuals of the highest quality are first attracted and then retained.

A key requirement in any new structure will be to maintain high quality peer review systems similar to those currently operated by MRC and other Research Councils. The rigour of peer review currently applied to basic research by these Councils needs to be applied also to NHS related R&D work, with national standards being set for application across Trusts.

Health needs must be addressed through both “top down” identification of priorities with stakeholder input, and “bottom up” creativity and innovation. There is a need to strengthen and consolidate the research literate/active workforce within the NHS. Also, to optimise the international profile of UK medical research, increasing flexibility to take bold initiatives and form major partnerships. Integrated approaches to patient and public involvement need to be developed and sustained. Similarly, to reduce lead times to initiate clinical research (especially trials) and time in moving from early stage trials /implementation.

Increased efficiency through shared back office functions, support systems and information sharing is mandatory.

In any new funding structure it would be important to protect support for research training for both clinical and non-clinical staff. Continued support for the well established

programmes of research studentships and fellowships currently supported by the MRC and some other research councils is vital if a cadre of skilled biomedical researchers is to be maintained in the UK. Development of a career structure for such individuals post-qualification is also essential. This will be vital not only to NHS requirements but in underpinning UK capability in Biotechnology/Biopharma.

The government's prime objective must be to promote and fund excellence in Biomedical Research with reference to ultimate health/(wealth) benefits for its citizens (focused or serendipitous).

**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?**

Target resource to a finite extent to prevalent diseases while appreciating most major advances come through serendipitous discoveries. As always, the priority should be promoting **Excellence**. Develop a strategic overview of all UK health research strengths and needs, in discussion with the devolved administrations, even though some funds might be geographically restricted. Provide a credible independent research "response" on contentious/topical issues (e.g. Gulf War related illnesses, avian flu, CFS/ME, stem cells).

Epidemic increases in obesity, type 2 diabetes and cardiovascular disease have important social and economical consequences. It is now clear that decreasing physical activity and increasing consumption of calories and fat are at the basis of these epidemics and some related (neuro)degenerative diseases. More *in vivo* human research is needed to investigate the mechanisms of disease and design therapeutic strategies involving increases in physical activity, nutrition and metabolic drugs aiming at key enzymes and signalling networks.

The current focus on service targets is damaging to the research culture and provision should be made within NHS Consultant job plans to release research time for active clinical researchers.

**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?**

The importance of Response Mode Funding cannot be underestimated and must remain a priority. Priority-led research is best encouraged by providing incentives for investigator-led initiatives in particular areas using priority-based funding calls. The ideal funding balance to achieve the desired goal (the best possible research) comprises: 50-

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60% basic, 30% translational, 10-20% applied. Basic science is fundamental to any subsequent translational and applied developments. Government funding should focus first on basic science with developments in translational and applied science drawing in further support from industry and the NHS, such that there is no direct need for a competition for funds between basic and applied areas. The division between basic science, translational research and applied science should be balanced such that it leads to an optimal flow of new ideas and inventions into future healthcare and patient treatment.

Care is needed to link funding schemes to co-financing by industry and commerce. Some countries (e.g. the Netherlands) have gone too far here and the UK should not follow this example.

Strategic planning and support for all areas of translation between basic and applied health research need to be improved. Likewise, to manage an effective balance between applied clinical and health services research of immediate relevance to health and wellbeing, and more fundamental laboratory or population based science – including continued support – in UK and overseas – for health research likely to benefit poorer countries.

Retaining a culture of professional, rigorous research management, and inclusive, open decision-making is essential. The principle of independence in funding decisions, and at most levels of strategy development, must also be retained.

The importance of breadth in publicly funded research must be recognised as the means of addressing changing and sometimes dramatically unexpected health needs as was recently exemplified by the emergence of SARS, with the UK being fortunate to have coronavirus expertise at Bristol University.

**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 importance of NICE-commissioned research can be highlighted; that if implemented might reduce costs (e.g. abuse of ACEI, HRT etc). Universities have an important role in inculcating the centrality of such evidence-based practice and the requirement for life-long learning. Timescales over which successes should be judged is exemplified by the work of the late Sir Richard Doll, who began to investigate the link between smoking and lung cancer in the 1940s.

Grant proposals should include an element for the resources to communicate the results of the project. Through such mechanisms there is an opportunity for ensuring research outputs are translated into healthcare benefits across the country.

**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?**

The ideal forum for this is the University/Medical School/University Hospital structure. Multidisciplinary research is being fostered through specific research calls - e.g. imaging, biosensors, bioinformatics, brain sciences - and should continue to be so, responding to changing demands and requirements as they arise. It is vital to foster links across disciplines (chemical sciences, physical sciences, mathematics, computing, economics, psychology, social sciences etc.) and between basic and applied biomedical science. This can be facilitated in some cases by cross-council initiatives (e.g. the recent ESRC-MRC initiative).

Links across the translational spectrum, from bench to society, will be facilitated by research training for selected individuals to develop a portfolio of skills. Given the importance to health research of high quality basic research in other, non-traditional areas it is crucial that connectivity with the other Research Councils is maintained – if not increased - and that the new body remains part of RCUK.

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

Increased dialogue and overt partnerships with Industry is key; Wyeth in Scotland provides a paradigm for how this can work. Common NHS IP (rather than Trust driven) might facilitate these ventures. Providing an even stronger body of professional input to knowledge transfer and IP exploitation, across the breadth of health research, including at a preclinical level, would also be useful. Innovation hubs within the NHS should be open to ideas from outside the health service. Mechanisms to provide support for worldwide patent applications and renewals from SMEs should be developed. There are lessons to be learnt from the activities of MRC Technology, Cancer Research Technology and certain Universities, which now have over twenty years of experience in technology transfer.

Entrepreneurial guidance should be included in the research training of clinical/scientist researchers. An example that could be used is the successful Medici fellowships which could be adapted to clinical training; see <http://www.midlandsmedici.org/>

**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?**

High quality laboratory and clinical research accommodation (e.g. CRFs, JIF-funded initiatives) and Clinical Trials Units are central. Major funding streams for research, resources, support costs, infrastructure, training, etc. need to be in balance and efficient.

There is a need to provide appropriate support for the research priorities of charities and industry. It is essential that the full economic cost of supporting research both in the NHS and in Universities is recognised and fully funded across the country. The importance of regional initiatives to drive inward investment and local economic gain must be recognised.

**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 National Institutes of Health (NIH) in the US offer one possible basis for the structure of health research at a national level. Funding is allocated by peer review with 10% of the budget channeled into the 27 institutes. However, the recent controversy surrounding the NIH Roadmap indicates how strategic prioritisation of translational research can be perceived as diverting funds away from basic biomedical research and open up charges of government interference. This highlights the need for ring-fencing within the proposed single fund as well as the clear application of the Haldane principle.

The formation of the Canadian Institutes for Health Research (CIHR) has boosted Canadian biomedical science and energised interactions between basic and applied fields. However it's management has been criticised, particularly for lack of transparency in funding decisions and for supporting too many programmes over too wide a range of objectives. While CIHR sits within the Canadian Health Department, that Department has no direct responsibility for running a health service.

Thus, neither the CIHR nor the US NIH has the opportunity to become embedded in a comprehensive national health service.

**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.**

A whole-scale merger would be hugely counterproductive and result in antagonising, if not alienating, entire swathes of the health research community. NHS R&D is currently abused and at risk in an NHS with underinvestment where priorities lie in service rather than R&D. It is vital that a budget outside this volatile environment is ring-fenced for biomedical research. Without this there will be no translational research.

In any merged budget it would be important to maintain clear ring fencing to protect areas of investigator led research and funding for training studentships, fellowship schemes etc., as indicated above. It would obviously be helpful to rationalise MRC and DH funding mechanisms thereby avoiding gaps and duplication.

Probably, the most acceptable model would be an over-arching Board (with a highly respected **independent** Chair) with joint accountability to DTI, via OSI and to DH. The joint fund must be administered according to the Haldane principle with independence from political pressures. The retention of links with DTI and membership of RCUK will

also facilitate inter-Research Council initiatives. It will be vital to retain the appropriate balance between funding for basic and more applied studies and so some ring-fencing will be necessary.

**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?**

Networks serve a useful purpose but basic lead funding for research remains essential. Cancer is good because it is funded by CRUK but who will fund Diabetes, Children's Medicine, Mental Health, Stroke, etc? Researchers need to be fully engaged in assessing the most appropriate mechanism to tackle different issues.

An effective IT infrastructure is vital, but the lack of integration between NHS and University systems must be addressed as a priority.

**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?**

This statement is simply not true: the NHS R&D budget is not currently devolved.

In England the DH must ensure that funding is provided to cover the full economic cost of conducting research in a clinical environment. The new institution should develop relationships with the devolved administrations that allow it to have an overview of national research capacity, even if some funds are regionally restricted.

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On behalf of the University of Birmingham

Name: Professor Michael Clarke  
Vice-Principal

Signature:  .....

Date: 28 July 2006