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Dear Sir David

**Re: Review of UK Health Research**

The Royal College of Physicians welcomes the opportunity to contribute to this review which we believe to be critical for the future of health related research in the UK. In considering our response we have primarily sought the views of our Academic Medicine Committee although other senior College officers have also contributed their views. We wish to offer the following comments.

We note the spectrum of research involved will incorporate all academic activity relating to health matters, from fundamental biomedical research to the assessment of new discoveries and ideas relevant to front-line health care. In this sense, we believe the review aims to develop the ideas seen in *Best Research for Best Health* (1). This has not yet been fully implemented and in many areas the means by which its strategy will be applied remain unclear. While not specifically mentioned within the consultation document, it is assumed that the initiatives outlined in *Science and Innovation Investment Framework 2004-2014: next steps – A consultation* (2) are also relevant. We believe this contains many proposals that overlap with the *Review of UK Health Research*, specifically relating to the role of a technology strategy board, extensive remodelling of the Research Councils (and presumably therefore their budget) and supporting excellence in university research (specifically changes to the research assessment exercise).

In addressing the questions you have posed an element of historical prospective is likely to be helpful. In November 1971, the Rothschild review proposed that some government funds should be transferred from the independent Research Councils to government departments, which would then contract the Research Councils to do work that would more closely meet departmental needs. In time, around one-quarter of the funding for the Research Councils was transferred, but in many respects this approach was not as efficacious as was initially envisaged and in 1981 the transferred funds were restored to the MRC (3). The current initiative by the Chancellor, as outlined in this Review, seems to be revisiting this approach of centralised control of the scientific budget.



The MRC was established in 1913. The Haldane report of 1918 stressed the need for intelligence and research in government departments. Specifically, the report distinguished research needed for specific purposes of particular departments from research for the general use of all departments. The Haldane “principle” that emerged, propounded the view that scientific research should be autonomous and free from government intervention.

The RCP feels strongly that the Haldane principles should be adhered to in all new funding arrangements.

The MRC has an international reputation for rigorous peer review and scientific excellence emerging from independent thought. The principles of peer review and funding of scientifically excellent proposals must be retained. High quality, fundamental, curiosity-driven (rather than commissioned) research that may take protracted periods to reach clinical application, should remain the highest priority and continue to be funded at its present level, or preferably be expanded.

### **Addressing the specific questions raised**

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?*

#### **RCP comments:**

The strength of the MRC lies in its strategic overview of the breadth of medical sciences and related disciplines. The MRC has and does rapidly respond to new scientific discoveries, and their impact on diseases and their demographics (e.g. prion disease and avian flu). The peer-review process and the funding of high-quality scientific research and associated research governance is what make the MRC and British medical research world-renowned. The impact of the research funded by the MRC on the health of the nation is clear; examples include Magnetic Resonance Imaging (MRI) and monoclonal antibodies to treat a range of inflammatory diseases. It is important to note that the application or “translation” of fundamental scientific discoveries often takes decades, as the two examples above demonstrate.

The NHS R&D budget has been subsumed into those of a number of NHS institutions, frequently clinically specialised. The overwhelming predominance of their funds has been allocated within London. The bringing together of university/basic science institutions with clinicians in a highly focused manner has arguably been effective. The recent bibliometric analysis of highly cited publications of health research in England 1995-2004 (4) supports this contention in part.

The disadvantage of the NHS R&D budgetary system has been the lack of flexibility, in contrast to the MRC. Secondly, it is arguable as to whether or not the NHS has the means or the research governance by which to assess the effectiveness and standards of the research that has emerged from the use of its funds. Certainly until recent years little attempt was made to assess these bodies in terms of the quantity and quality of their scientific output. Thirdly, there has always been the concern, especially in the last decade, that NHS R&D funds are subserved into the provision of direct “front-line” clinical care.

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?*

**RCP comments:**

The key scientific and organisational challenges facing health research and underpinning training really relate to three areas. Firstly, the interface between clinical training and academic training remains unclear. On the one hand, greater regulation of clinicians, greater accountability and processes of revalidation are emerging. Secondly, by contrast, the greater demands of an academic career, the uncertainties involved therein, and the marrying together of effective academic and clinical training remain something with which the JCHMT, the Royal Colleges and UKCRC are in active dialogue to try and achieve. If this proves difficult, a greater divorce between those supplying clinical care and those working in basic and clinical sciences may emerge, which would be disastrous to the future of medical research in the UK. Facilitating training programmes that reflect this combined need, and enabling basic scientists and clinician researchers to train and work together, are priorities. Thirdly, translational research should be strengthened and bureaucracy minimised.

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?*

**RCP comments:**

The Government's priorities and objectives for health research should be:

Governed by informed epidemiology, evidence-based medicine and an ability to respond rapidly to change. It is clear that in certain places (e.g. Scotland) a much greater awareness of healthcare priorities has been established. This is not to say that basic, translational and applied research should be directed purely towards areas of greatest need, but these should certainly not be effectively ignored, as has been the case in the past by both the Research Councils and NHS R&D.

Involving a greater degree of international collaboration. It is unclear as to whether or not the EU funding initiatives in healthcare science have been effective. Clearly, this is one area that requires further examination and development. Similarly, transatlantic collaboration between the NIH and MRC (or whatever replaces it) should be a priority, so that directed research carried out on a national/international level can emerge and preclude the continuation of derivative, 'me too' health-related research.

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?*

**RCP comments:**

The balance between the long term economic and social benefits of a high quality biomedical research programme and the need for research to improve healthcare is clearly key. Where clinical questions arise, the quality of the evidence base (also see the Cochrane collaboration) should be interrogated. If no information is available to guide decisions by the Institute, such research can be specifically commissioned. The Government must recognise, however, that good research with a high quality impact on the health of the nation more often emerges from investigator-led innovative research than from centrally directed research programmes. To quote Samuel Broder (former director of the US National Cancer Institute): "If you had demanded that the NIH solve the problem of polio not through independent, investigator-driven discovery research but by means of a centrally directed program, the odds are very strong that you would get the very best iron lungs in the world ... you wouldn't get the vaccine that eradicated polio". If too great a proportion of funds is used for large clinical (Phase III/IV) trials and/or centrally directed programmes of work, then there is a danger that we will lose the innovative investigator-led research that is the bedrock of medical science. The present MRC Council and Board system has robust and effective mechanisms to meet the above challenges. The introduction of a further MRC Board that oversees commissioned (yet peer-reviewed) medical research would be one way forward.

Identifying integrated groups and individuals working in focused areas should be possible by bringing the organisations of the MRC and NHS R&D together. Reflecting this in the biomedical research centre initiative (1) should be a priority.

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?*

**RCP comments:**

Examples include: MRI and monoclonal antibodies (see comments under Q1 above), the impact of molecular genetic advances on medical diagnosis/screening and pre-implantation genetics (e.g. for BRCA1 and breast/ovarian cancer, Menin and c-ret for multiple endocrine neoplasia, and numerous other cancer-susceptibility genes).

It is therefore vital that practising front-line clinician scientists working in an academic environment together with informed scientific opinion lead on the development of healthcare research policy. Public and patient involvement should also be developed to inform this process.

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?*

**RCP comments:**

Better links should be forged between basic, translational and applied researchers through the initiatives outlined in *Best Research for Best Health*.

The proposed National Institute of Health Research, a national guiding body for healthcare scientific strategy, biomedical research centres combining scientists and clinicians, and the reward of clinicians practising in the NHS for producing applied research should facilitate this process. Incorporation of engineers, physicists and social scientists into biomedical research centres should further this aim; and the EPSRC-funded Life Sciences Interface Doctoral Training Programme is a good example of such an initiative.

Incentives, both physical and financial should be used to facilitate this process. Similarly, a reduction in bureaucracy (local and European) should be reduced to remove barriers to the rapid translation of basic science discoveries into a clinical setting.

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

**RCP comments**

Disincentives for spin-out companies started by academics should be removed.

The pharmaceutical and medical device industries should be involved directly at Board level in both university and NHS Biomedical Research Centre administrative bodies.

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, facilities innovation and collaboration with industry, and address market failures in the application of healthcare?*

**RCP comments:**

Again, *Best Research for Best Health* should facilitate the development of an infrastructure for basic, translational and applied research, providing it is applied in the widest possible sense. Moreover, the strategic management of investment in science and innovation (2) should improve this further, providing the proposed Technology Strategy Board works in close collaboration with those involved in directing *Best Research for Best Health*, specifically the National Institute of Health Research.

In this sense, the wide variety of organisations involved in, for example, improving the uptake of careers in academic medicine (see Appendix 1) provides a model of what should not be the outcome of this consultation. Thus, a single body is needed to direct the development of clinical academic medicine, which should be part of an overarching strategy dealing with healthcare technology in its widest possible sense, feeding down to the individual tasked with implementing its strategy.

A key part of this strategy must be enabling the voices of individuals active in supplying healthcare to be heard. The Royal Colleges should be encouraged to develop academic medical committees that facilitate the process of interface between practising clinicians, those in training, clinical academics, the pharmaceutical industry and central government.

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?*

**RCP comments:**

The National Institutes of Health (USA) roadmap and its equivalent at the Karolinska Institute (Sweden) may provide useful examples. Academics in both countries are struggling with a huge decrease in funding for investigator-initiated project grants, demonstrating the dangers of the points made above with regard to shifting the balance of funding from hypothesis driven to centrally-directed research.

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 of your response.*

**RCP comments:**

For reasons outlined earlier, the MRC and Department of Health/NHS R&D have for many years worked more or less independently. Their infrastructure is different, their funding streams different, their strategies and priorities are different. It is vital that an overarching strategy is developed that will bring these organisations together to work strategically for specific identified aims. A Health Research Board/Council could be formed but retain the current two funding strands for a 3-5 year transition period whilst all stakeholders become accustomed to the new funding structure.

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?*

**RCP Comments:**

It is too early yet to state whether CRNs have been successful.

The *Connecting for Health* NHS IT system will be fundamental in several ways. Firstly, it will facilitate for the first time a nationwide review of the epidemiology of disease. This will at least facilitate the identification of specific questions relating to the provision of acute and chronic care. Secondly, the use of NICE, the Cochrane collaboration and other evidence-based libraries to identify precisely where clinical scientific evidence is weak will be important. Thirdly, identifying the means by which evidence-based practice can be promoted and applied should be part of this initiative. It is by no means clear that NICE has achieved this aim to any great extent, even where evidence in specific areas of healthcare provision is extant. Without a nationwide NHS IT system, not only will the questions not emerge, but the efficacy of any research funding that is applied to specific areas of endeavour cannot be assessed. It is, of course, essential that clinical engagement with *Connecting for Health* is wide and effective.

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?*

**RCP Comments:**

Scientific excellence must remain the main criteria for funding. A single, unified approach involving both bodies must represent the best way forward, with independence from central government (i.e. Haldane) preserved.

**References**

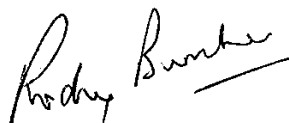
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3. Duffy MP. The Rothschild experience: Health science policy and society in Britain. *Science Technology and Human Values* 1986; 11: 68-78.
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**Appendix 1: Bodies involved in developing clinical academic careers**

This is attached separately.

I trust these comments are of use.

Yours sincerely

A handwritten signature in black ink that reads "Rodney Burnham". The signature is written in a cursive style with a horizontal line underlining the name.

Dr Rodney Burnham  
Registrar