Response to the Cooksey Review of UK Health Research

The Peninsula Medical School and its two parent Universities of Exeter and Plymouth are committed to health research as a source of health gain and national wealth. The research priorities of the School reflect those identified as both NHS priorities and needs and MRC's strategic priorities. The interdisciplinary Institute structure of the School's research activities is designed to facilitate bench to bedside to population research, fulfilling the translational agenda.

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?***

MRC

The strengths of the MRC include rigorous expert peer review, career development schemes, a track record of funding excellent clinical science and recently an increasing (although small as a proportion of total MRC spend), involvement in health services research, most notably RCTs. Weaknesses relate to the limited spending on clinical research of direct patient benefit, overall limited funds available, the lack of flexibility due to the spend committed each year to the MRC units, lack of appropriate peer review for interdisciplinary research and lack of clarity of the division of basic research between this research council and the other basic councils eg BBSRC.

Whilst the rigorous peer-review by the MRC is laudable and worthy of emulation in any new arrangement, the decision-making by Boards is not infrequently at variance with the balance of the peer review. Whereas this may reflect limited available funds the influences and specific views that lead to that outcome are often not transparent. Such non transparency should be eliminated in any new process.

NHS R&D

There is enthusiasm for the new strategy (Best Research for Best Health) which builds upon a strong background of high quality commissioned and responsive research. There is a sense by some that NHS R&D funds lower quality research than the MRC, but this probably reflects in part the type of research funded rather than its quality with health services research being perceived by many to be "soft" research. Unless ring-fenced the funds are vulnerable to service pressures. Regional responsive funding played an important part in capacity development in the Peninsula and we welcome its return.

NHS R&D has provided increasingly rare opportunities to fund pilot studies and initial observational work. Any new fund should retain this potential upon which substantive applications often depend.

NHS R&D training schemes for clinicians, scientists and those in professions allied to medicine provide an excellent opportunity for those in the health service to develop their research skills. In the Peninsula such schemes were responsible for the development of two key members of the School's strongest research group.

If a unified fund is to be adopted the rigour of the MRC (with the above provisos) needs to be employed to make funding decisions against a clear and coherent strategy to prosecute translational research, and balance in a considered way the spectrum of basic to applied research endeavour. Importantly academics, including clinical academics, need to be

involved in strategy setting for they are most likely to know if a particular health priority is tractable in research terms at the present time or if, for example, more basic understanding is required.

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?***

The main challenges are:

i) Protecting the health research budget from service pressures.

ii) Adopting the minimal bureaucracy to ensure good research governance.

iii) Ensuring that the tripartite roles of the clinical academic (research, teaching and service) are understood and supported.

iv) Ensuring that health care organisations appreciate research and are incentivised to pursue high quality research that directly or indirectly helps fuel service transformation. The workstreams of UKCRC are attempting to address many of these issues but too little progress has been made on the incentivisation front and it is inevitable that research will fall down the agenda in new NHS organisations focused on financial stability.

v) Ensuring that doctors, clinical scientists and nurses in training identify research as a vital part of their training.

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?***

Government's priorities for health research must be closely informed by patient priorities. The way in which those needs are interpreted must take account of whether the topic is capable of being addressed, which the academic community is best placed to inform.

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?***

These are fundamental issues that underpin the funding strategy. Until there is clarity on these points it is difficult to be certain what is the best nature of any unified fund or the optimal governance arrangement for such a fund. The answers to the questions will also vary from disease to disease. For example, in some conditions we have the means to

control the disease yet know less about how to optimise care delivery or ensure concordance with therapy.

It is inevitable that Government will want to identify research priorities but academics, including clinical academics, must play a key role in determining where on the translational research continuum money should be invested to secure the best health advances. Clinical Science is a cyclical process leading to a continual evolution of the therapeutic approach as new understandings emerge. It would be naïve to believe that the central importance of fundamental clinical science will diminish as therapy becomes more sophisticated. It is more likely that integration with other research disciplines such as physics and engineering (diagnostics, assistive technologies), and the social and human sciences will become more relevant.

One example of the interdependence of basic and applied research is the work of one of the School's own researchers, Professor Andrew Hattersley. Understanding the functional significance of a gene defect in an uncommon form of neonatal diabetes has released those children from a lifetime of insulin injections, allowing them to be treated with tablets.

Understanding basic cell processes is important in the search to identify future therapeutics and to understand the underlying mechanism of disease. However many such projects are so removed from human health that they overlap with many other areas of research and thus with the BBSRC and EPSRC. Exploration of ways to maximise the efficiency of these overlaps will be important in driving the basic science agenda forward.

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?***

NHS R&D collates this information for their research programmes and it is available on their websites. There is, nonetheless, a collective responsibility to do this better and it should be an obligation of grant funding for researchers to contribute in this way assuming such initiatives are resourced. The ultimate barrier to evidence based practice is the patient if he or she will not adopt the treatment proposed. This clearly reinforces the need to involve patients in priority setting (see 3).

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?***

To forge such links it is crucial to train some researchers who are familiar with both basic and applied methodologies. Staff appointed to work across disciplines jointly supervised by both disciplines and thus joining both clinical and scientific teams are the key to establishing productive interdisciplinary research.

The lack of such a cadre of researchers means that it is harder to get translational initiatives or integrated research proposals sympathetically reviewed for their translational strengths. The current RAE structure also perpetuates undisciplinary silos of activity.

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

Entrepreneurship and innovation require a less risk averse approach to funding, underpinned by a risk strategy that is prepared to ensure a proportion of funding is available for blue skies research or newer researchers with exciting ideas. Alteration of the RAE outcome measures to allow researchers the flexibility to spend time on risky research which may not produce the required outputs in the time required will be crucial.

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 mechanism might be for a proportion of the NHS R&D contribution to support the full economic costs of conducting research in the health service environment. The risk portfolio for any new fund needs to acknowledge that "high risk" investment may lead to greater strides e.g. the success of the Henry Wellcome Anniversary Awards.

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 Canadian experience of a merged fund illustrates the importance of determining the funding strategy before the mechanics and governance arrangements to ensure smooth implementation.

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 answers to these questions rely on the nature of the explicit funding strategy. It is important that links are retained with the other Research Councils as these disciplines will be of increasing significance to medicine. Although dual ministerial accountability has its vulnerabilities if it drives greater synergy between the DH and DTI over health research and education it would be welcomed.

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?***

An effective IT system and population database is crucial if we are to prosecute fully a national health research strategy and take advantage of new genetic knowledge. The lack of interface between NHS and University systems must be resolved 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?***

Researchers across the four nations should have equal access to the MRC element of the fund. The distribution of NHS R&D element is harder if the fund is truly joint and argues for national NHS R&D monies being used largely to support the infrastructure/FEC of research primarily fuelled by peer reviewed funding from other sources. An alternative would be to remove the devolvement of the NHS R&D funding so that all pots were available to all in a fair and transparent process.