

Chair
Professor John Tooke
DM DSc FRCP FMedSci

Executive Director
Dr Katie Petty-Saphon



Response to the Cooksey Review of UK Health Research by CHMS and CHDDS

The Council of Heads of Medical Schools (CHMS) and Council of Heads and Deans of Dental Schools (CHDDS) would emphasise that

- 1 A formal, realistic strategy to underpin future UK health research needs to precede detailed governance arrangements for the distribution of funds
- 2 Key stakeholders: the universities, NHS Trusts and patients as well as Government Departments and Regional Development Authorities need to be involved in the creation of the strategy both centrally and locally.
- 3 Excellence can only be achieved if policy decisions affecting service, research and education are not taken in isolation – strategic planning and policy development must recognise and implement this at all levels.
- 4 Provision must be made for a small number of world class centres of excellence as well as a real local commitment to research across the nation: internationally competitive research must continue to be supported outside the few leading centres as part of regional economic strategies.
- 5 Drivers to incentivise high quality research in the NHS must be put in place
- 6 Mechanisms to assess quality must recognize the value of improved outcomes for patients as well as citation indices in worldclass journals.
- 7 Follett principles must become truly embedded in the relationships between Medical Schools and partner Trusts: clinical academic partnerships should be strengthened through joint governance arrangements.

CHMS and CHDDS represent the UK's Medical and Dental Schools respectively and work to improve national health, wealth and knowledge generation for the benefit of patients. Future UK Health research requires a clear strategy based on a realistic academic assessment of what is actually achievable. Priorities should be informed by patients' views of what is acceptable and must focus on tractable areas of research. A formal risk strategy should be included to ensure investment in a wide spectrum of possibilities from the speculative to the secure with mechanisms to encourage inter-disciplinary research. An appropriate balance must also be struck between fundamental science and applied clinical and health services research. There must be no Government involvement in individual funding decisions with an appropriate balance struck between funding for a few leading edge academic medical centres and regional investment in research across the country. Above all a system must be created which encourages creative and talented people actively to seek out and gain satisfaction from careers committed to unraveling the basis of disease and optimising the care given to patients.

The link between basic research and patient care is absolutely fundamental and cannot be stressed too strongly. Research provides better health, better means of delivering health and stimulates innovation in drugs, diagnostics and devices which in turn contributes to the international competitiveness of the UK. It is essential that this interdependency is recognised when creating any new funding schema.

We are therefore responding to this consultation from the perspective of organisations which:

Woburn House, 20 Tavistock Square, London WC1H 9HD
t. +44 (0)20 7419 5494 - f. +44 (0)20 7380 1482
e. katie.petty-saphon@chms.ac.uk - <http://www.chms.ac.uk>

educate the 9000 new students who enter the UK's Medical and Dental Schools each year, 5% of whom will go on to become the clinical researchers of the future – the doctors who will make the breakthroughs that transform the delivery of health care and augment the nation's wealth.

employ those doctors who carry out 80% of the clinical research in the UK

Underlying our response is the absolute requirement to nurture the seed corn of the future and to educate them in a research rich environment so that they learn to question continuously and to ask 'what is the evidence that this is the best way to do this?' Only thus can innovation flourish.

It is of crucial importance to the economy of the UK that it should remain at the forefront of biomedical research - the UK is currently ranked second only to the United States – a major achievement for a relatively small nation. To compete against the rising powers of China and India we cannot afford to fail in achieving this. There are likely to be no more than six world clusters of biomedical research, including the bay area, Boston, Singapore, Shanghai and the Gulf. The UK's place amongst these is not guaranteed, and failure to secure this would have serious consequences for the UK economy.

It can be argued that the tri-partite role of the staff involved requires greater dedication and commitment than for those involved solely in service delivery. University-employed doctors need to balance their commitments to treat patients in the NHS, to teach students and to undertake research whose quality will be rigorously assessed in the RAE.

Fewer young doctors and dentists are currently seeking to enter such careers as demonstrated by the CHMS/CHDDS annual survey of clinical academic numbers (http://www.chms.ac.uk/publications_and_guidance/index.htm).

Medical disciplines whose numbers are sinking to critical levels include pathology, radiology, surgery, anaesthetics and psychiatry (see pp 10-12 and 21-22). As described on p 18 of the Survey there are severe shortages in oral medicine, oral pathology, oral radiology and oral and maxillofacial surgery. CHMS and CHDDS are working actively to address this issue and have been encouraged by the central support for recent initiatives. This needs to continue.

Our solutions?

- 1 Above all, ensure that changes introduced as a result of the review build on rather than jeopardise existing strengths, such as those so clearly demonstrated by the MRC in funding excellent research based on rigorous peer review – in the clinical as well as the basic field.
- 2 Ring fence the DH Education and Training budget just as it is proposed that the new single research fund is ring-fenced. The interdependence of research, teaching and clinical service make this essential if clinical research is not to be indirectly compromised. The current upheaval in the NHS will have dire long-term effects if education and training are not strictly protected.
- 3 Require SHAs to act strategically and enforce their long-term obligations properly to fund education and research. The National Health Service Act 1977 obliges the Secretary of State to make available, in premises provided by him, such facilities as he considers are reasonably required by any institution in connection with clinical education and research. In 2004, Dr John Reid, when Secretary of State for Health reiterated that "science and research constitute a front-line service, as they too, reduce distress and pain and save lives". In removing the ring-fencing of the MPET budget this year, the current Secretary of State is failing in these obligations.
- 4 Reinstate HEI membership of SHA Boards to ensure *inter alia* that clinical research remains high on the agenda. The Statutory Instrument laid before Parliament on 1.6.6. (No.1393) will have a profoundly deleterious long-term effect.

- 5 Change the VAT rules which currently serve as a dis-incentive to collaborative research. Teaching and clinical use of buildings for which VAT exemption has been claimed are currently disallowed, thus preventing collaboration. Appendix 1 provides details.
- 6 Include education and research in Healthcare Commission audits in order to incentivise CEOs to take them seriously.
- 7 Oblige Foundation Trusts and Independent Sector Treatment Providers to commit to education and research.
- 8 Reinstate a research culture in acute and primary care Trusts by tailoring job plans to include protected research time for motivated staff.
- 9 Include universities in the planning for Connecting for Health. Firewalls currently prevent interactions between the NHS and University computer systems.
- 10 Retain the Haldane principle, keeping individual funding decisions independent of Government and involve academics in high level strategy development so that tractable areas of research are embarked upon.

Response to questions posed by the Cooksey Review Team

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 MRC demonstrably funds excellent research based upon rigorous peer-review and application of the Haldane principle. Its reputation for funding basic biomedical research is not in question. Its record of contribution to clinical research has been underestimated (e.g. penicillin, invention of RCTs, development of MRI, heart protection study, smoking and cancer, folic acid etc) and deserves recognition. 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 for response mode funding. In the past 2-3 years the MRC has strengthened its commitment to clinical research by establishing a board with specific responsibility for clinical research (Physiological Systems and Clinical Sciences Board) and by more than doubling the budget of the Health Services and Public Health Research Board. This commitment should be enhanced by increasing the representation of clinical academics among the unit directors.

The MRC has for many years run fellowship schemes to train clinical academics from which many senior UK clinical scientists have benefited – training is central and must continue. Finally, the MRC has responsibilities for global health, including two units in Africa, which should be preserved. It is under-funded in comparison with other countries.

The NHS too has made some significant contributions, for example in the development of systematic reviews and in setting up the Health Technology Assessment programme and CHMS supports in principle the proposals for change outlined in “Best Research for Best Health”. The new National Joint Registry is also an important step forward. The creation of similar large scale registries for all new medical procedures would prove valuable in monitoring use and efficacy.

It is imperative that the allocation of NHS R&D funds follows processes that mirror the transparency and rigor that characterizes the MRC process. There are concerns that such has not always been the case in the past yet is essential if maximal value for money and high quality outputs are to be achieved.

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?

Health research depends on an effective tripartite relationship between research, education and service delivery. A recent joint report carried out for CHMS and the Association of UK University Hospitals (AUKUH) (Appendix 2) highlights the benefits of strong clinical academic partnerships. Ensuring that these and other partnerships are maintained, supported and developed will be a key organisational challenge for the future, particularly given the service target culture with which the NHS is now imbued. The importance of involving service-based staff in research is highlighted in the example of research into the effect of fluoride on teeth. It was, after all, a school dentist in the Lake District who, during the Second World War, noticed that children evacuated from South Shields (an area with naturally high levels of fluoride in the water) had much better teeth than local children. Partnerships are crucial to maximising these service to research, bedside to bench links.

The research culture needs to be re-invigorated and prioritised in all Trusts across the UK. It would be the cruelest disservice to the research agenda to give the money to Trusts which might simply use it for service delivery or low quality-research. Policy initiatives which consider service, education and research in isolation are unhelpful and have negative consequences.

There is a real need for the development of 'Centres of Excellence' as well as for a regional perspective. Cementing strong links between all Medical Schools, their local Trusts and Regional Development Authorities would drive local health and economic development and must be encouraged. It is essential that every Medical School in the country remains research active, whilst recognising that it will be more appropriate for some to restrict their areas of interest to certain focused fields. Such research will still be characterized by excellence and international competitiveness.

Regional Development Agencies need to build upon the good practice already found in several parts of the country. For example, in the North East the Institute of Stem Cell Biology and Regenerative Medicine (ISCBRM), a partnership of the regional development agency One NorthEast, Newcastle and Durham Universities, The Newcastle upon Tyne Hospitals NHS Trust and the Centre for Life, has been established to build world-class research strengths in the life sciences and to contribute to the North East economy. A £9.8 million grant from One NorthEast has helped to create world class facilities enabling stem cells to be produced of sufficient quality to be used on patients for therapeutic purposes. The collaborative project is also a key component of the Science City initiative, announced by Chancellor of the Exchequer Gordon Brown, to boost economic growth and high-tech jobs in the North East and in five other English cities or regions.

In Manchester the North West Genetics Knowledge Park (Nowgen), which was jointly funded by the Northwest Regional Development Agency (NWDA) and the European Regional Development Fund (ERDF), has attracted over £7 million additional world-class research investment to the North West since its creation. In addition partnerships have been established with other internationally renowned research centres in Europe and North America. The project is a collaboration between the Central Manchester & Manchester Children's University Hospitals NHS Trust and the Universities of Manchester, Liverpool and Lancaster. Patient input is integral and the Nowgen has launched an innovative programme of activities to engage the public through debates, arts and drama.

The Scottish Translational Medicine Research Collaboration which consists of four Scottish universities (Edinburgh, Aberdeen, Dundee and Glasgow) with Wyeth Pharmaceutical Co., Scottish Enterprise and NHS Scotland Grampian, Greater Glasgow, Lothian and Tayside has attracted more than £50m into clinical and biomedical research in Scotland. 50 jobs will be created at a state-of-the-

art Laboratory in Dundee and this may rise to as many as 120 over five years. The project will also result in the development of an enviable research platform in clinical drug development.

Our list of 'Solutions' at the beginning of this paper concentrates on practical steps which can be taken to facilitate collaboration and address organisational difficulties. We cannot stress strongly enough the need for a strategy which recognises the need for a long term commitment to ring fence the funds necessary to deliver both education and research. Central to this is creating a culture throughout the health service which seeks to extend the evidence base and to question the basis on which decisions are taken and care provided. Trust and private sector managers must be committed to this heightened focus on research and will need to be incentivised to become involved. Patients and the public must be actively engaged, and must understand the importance of their personal data being used and of the need for animal research and testing.

Reform of the VAT rules to re-define education and collaborative use of buildings for research as central to the delivery of service – rather than add-on business activities - could have a dramatic impact – at zero cost to the Public purse.

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?

The key Government priority for health research must be ensuring that the type of environment where research flourishes is valued and promoted within the NHS and maintained within the universities. This underlying aim more than any specific research priority will allow UK health research to fulfil its potential. The current focus on service targets is damaging the research culture which used to exist in the NHS and so time should be made within Trust job plans to release time for research.

Priorities should be set following informed, academic debate between all interested parties, which considers the existing knowledge base and assesses those areas where investment is likely to produce an outcome which will be acceptable to patients.

Investment should be made in developing a central pool of biostatisticians and other experts who could advise on protocol design so that the quality of research undertaken is enhanced.

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, translational science and applied science? Is this something that should vary over time? What mechanisms should be used to make judgments about this balance?

Research should be seen as a continuum from bench to bedside, into the community and back again. An example of this is the pioneering diabetes research carried out at Peninsula Medical School which was recently recognised with the award of the Queen's Anniversary Prize. What began as a basic science project looking at the genetics of people with one particular form of diabetes resulted in the development of new treatments and the education of frontline medical staff to help provide them.

It is difficult to assign weightings to the different elements of such projects and a long-term outlook is essential. Central control could be extremely damaging and should not be attempted. It needs to be understood that the timeframe necessary to resolve different problems will vary and will be dependent both upon the current knowledge base and on the availability of talented people with creative ideas, working in an environment that fosters innovation. The clinical academic sector, drawing on its specialist skills, must be engaged in identifying and validating proposed targets for research funding.

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?*

Dissemination of information and acceptance of the need to change practice is indeed a challenge but there are examples of good practice which should be extended. In Scotland the Scottish Royal Colleges have set up SIGN – an intercollegiate network that reviews evidence and disseminates evidence-based protocols. The Royal Colleges' and Specialist Societies' networks have an important role and there are examples of national audits which have resulted in changes in practice - see for example www.entuk.org. Widespread high quality audit with clinical academic input could prove an effective mechanism to move to evidence based practice and resonates with the CMO's desire to see a resurgence of such activity. Indeed clinical academics who are also central to the workings of organisations such as NICE have a central role here too.

Medical Schools have an important role in inculcating the centrality of such evidence-based practice and the requirement for life-long learning. Improved access to electronic information will be helpful here but more could be done to require the need for dissemination of information – for example, grant proposals should include an element for the resources to communicate the results of the project subject to the appropriate resourcing for such activity. Through such mechanisms and others there is an opportunity for the new strategy to take a lead in embedding evaluation principles and 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 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 there are number of anomalies that limit the interaction between bench and bedside. A prime example is current VAT arrangements, which result in financial penalties to universities when undergraduate teaching and clinical trials are carried out in research buildings funded by charities and on which VAT exemptions have been claimed. This limits the cross-fertilisation of ideas and contradicts the aims of this review. The detail of this issue is explained fully in appendix 1.

The RAE can act as a disincentive for NHS funded clinical academics (whether they are funded by the NHS, HEFCE or other sources) to pursue research for patient benefit. A study comparing two types of cement used in hip replacements, for example, may not be recognised by the RAE. As the RAE is reformed, it will be important to give weight to outcomes, in terms of the quality of patient care, alongside the output of researchers. Indeed CHMS welcomes the progressive changes which have been made in the RAE that now encourages interdisciplinarity and collaborative research and seeks to value research that brings practical benefit.

Links across the translational spectrum from bench to population will be facilitated by research training for some that develops a portfolio of skills. It is likely that future health research will draw more heavily on the physical and social sciences; clinicians skilled in these domains will become more important. The new system should have mechanisms for incentivising and evaluating interdisciplinary initiatives that are required to secure translation. Given the importance to health research of high quality basic research in other areas, e.g. the physical and social sciences, it is crucial that connectivity with the other Research Councils is maintained and that the new body/fund remains part of RCUK

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

In many other countries governments have recognized the interdependency of the tripartite mission of service delivery, research and education and have sought to develop policy initiatives which take account of this essential link. Recent Department of Health initiatives have failed to acknowledge the vital inter-relationship of education and research in delivering improved patient care and risk destroying a culture which provided such a fertile ground for previous UK research success.

Innovation hubs within the NHS should be open to ideas from outwith the health service. Links could be established for collaborative research in which a formula was found to, for example, pay less for an innovative product or treatment in exchange for access to patients or facilities. The status of educators and researchers should be raised and incentives, including improved environments and security of funding, created for those pursuing research careers. The new Institution should develop a strategy which includes funding projects from the speculative to the secure. There is a history of success in following this route as demonstrated by the Henry Wellcome Anniversary Awards. Initiatives to reduce bureaucracy must continue. Mechanisms to provide support for worldwide patent applications and renewals from SMEs should be developed.

Regional consortia should be built up to pump prime local initiatives and must involve networks of universities, Trusts, industry and development agencies.

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 more effectively used to support the work of NICE, facilitate innovation and collaboration with industry and address market failures in the application of healthcare?

Strategic planning and policy development must recognise the benefit of strong partnerships between universities and the NHS and must seek to nurture a research culture for economic and social as well as healthcare benefits.

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 not be under-estimated. Clinical academics are central to this collaboration as they already hold honorary contracts with the NHS in addition to their substantive contracts with universities: ever stronger links between Trusts and Universities must be forged. In this context, it is disappointing that the NIHR seeks to differentiate between full and honorary faculty members. It is essential that there should be equality of access to NIHR funds whether or not individuals are funded by the NHS, by the Funding Councils or from other sources.

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?

In Denmark there is recognition that excellence in service and in academic activity requires strong links to economic planning and coherent policy development. This strategic lesson, recognizing that policy decisions affecting service, research and education cannot be taken in isolation – could be the most important one to be learned from this Review.

The National Institutes of Health (NIH) in the US obviously 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 (Nature **441**, 1, 4 May 2006). This highlights the need for ring-fencing within the proposed single fund as well as the clear application of the Haldane principle.

10. *In implementing a 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.*

It is possible that there may be no need to merge the two organizations. For the moment the most acceptable model for the sector would probably 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. The Chair of the over-arching Board must have experience and vision and detailed knowledge of the breadth of research carried out in the NHS, universities and industry – it is unlikely that such expertise will be found outside the Medical Schools.

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 Connecting for Health NHS IT system, and to what extent should it do so?*

Whilst research networks have indeed proved successful in cancer, there is a danger in assuming that they offer the only route forward. Researchers need to be fully engaged in assessing the most appropriate mechanism to tackle different issues.

An effective IT infrastructure is imperative but 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?*

CHMS emphasises the importance of drawing on the whole of the UK to feed the British clinical science base; restricting the MRC remit to England alone would limit excellence and reduce competition. Conversely, Medical Schools in the devolved administrations strongly support the need to retain access to UK-wide research funding.

The NHS R&D systems in the devolved administrations have provided an important local stimulus to clinical research and its translation into health and wealth gain. For example, in Scotland the Chief Scientist's Office at the Scottish Executive Health Department has played a leading role in developing a £50M, five-year translational medicine collaboration with Wyeth Pharmaceuticals, aimed at developing more intelligent approaches to Phase II drug development and fuelling experimental medicine in Scotland. This is a close partnership between the four University Medical Schools, the four related NHS Health Boards and the regional development agency, Scottish Enterprise, which contributed £18M. This development depends on an NHS R&D system that receives a smaller percentage allocation than England, but which has maintained locally organised funding for research and research training, has developed a transparent system for providing Health Boards with activity-driven but flexible support for science funding, is instituting new ear-marked funding for NHS posts in a network of clinical research facilities, and is also able to fund long-term units in health sciences, for example partnering MRC in support of the Glasgow Social and Public Health Sciences Unit.

In Northern Ireland DHSSPS R and D is distributed through a peer-reviewed competitive funding stream focusing on health priorities in Northern Ireland. Full economic costing is applied. Ensuring, through local mechanisms, that regional priorities are addressed means that it will be necessary to ring fence this stream of funding.

In Wales R & D funding represents only 0.47% of the NHS Wales budget, compared with 0.9% for England. It would be helpful if the Welsh Assembly Government could look into this and develop closer links with those developing NHS R & D strategy in other parts of the UK. Researchers across the UK need to have equality of access to research funds and the DH must ensure that funding is provided to cover the full economic cost of conducting research in a clinical environment whether in England or a devolved nation.

Consequently, CHMS believes that the proposed Single Fund should not disrupt the strengths and diversity offered to the UK Science Base by the devolved NHS R&D systems. This requirement argues against a merger (Q10) and in favour of an over-arching Board, in which the Directors of the devolved systems should have membership. Furthermore, the successes of the devolved systems further underpin CHMS's belief that translation in England might best be underpinned by regional consortia between University Medical Schools, Regional Development Agencies and major NHS Trusts, drawing on locally-organised NHS research funds

Appendix 1

VAT Exemption on new buildings – issues for biomedical research

Biomedical research in many universities greatly benefited from the Joint Infrastructure Fund (JIF), which was launched in 1998 with funding totalling £750 million from the Wellcome Trust, the DTI and HEFCE. The Fund supported research infrastructure including new buildings and refurbishment of laboratory or research-related space. Following on from the success of JIF, the Science Research Investment Fund (SRIF) was launched in 2000. In the subsequent evaluation, JIF was widely welcomed and viewed as 'a bold move that has kick-started a period of sustained investment'. In addition to the availability of funds, JIF 'created a sense of opportunity and excitement, particularly in respect of becoming internationally competitive'. However, for many universities, the success of JIF also brought financial pressures as many of the new buildings required matched funding and substantial fundraising efforts. Since these buildings were largely funded from charitable sources, and were to be used for research purposes, most universities claimed VAT exemption on building costs, which helped to reduce the additional funding which had to be raised. Although the VAT exemption status was claimed in good faith, in many cases this was decided prior to the final occupancy of buildings being agreed, and possibly without a full understanding of the implications for future research.

In brief, the main issues are:

VAT exemption places severe restrictions on activities classed as 'business use'. This extends to any commercial activity, educational activities including undergraduate and postgraduate teaching, consultancy, catering and collaboration with industry.

The opportunity costs of restricting activity in these buildings could be very high, particularly to translational research. The importance of translational research has been highlighted in various Government publications e.g. the 2006 'Science & Innovation Investment Framework 2004-2014: next steps' has a stated objective – '*to ensure the delivery of high-quality translational health research to deliver real economic, as well as health, benefits, from the UK's excellent science base*'. The restrictions in use of these buildings – many of which were specifically built for translational research – will undoubtedly delay the achievement of this objective.

Collaboration with industry is not allowed within VAT exempt buildings, even if there is no associated funding e.g. it is common for industry to supply pharmaceutical drugs free of charge for pre-clinical studies, but such activity is deemed to be 'business use'. This is an example of how restrictions in use of these buildings are severely hampering translational research capabilities. In addition, no clinical trials activity can be carried out within these buildings;

Universities have concerns about the sustainability of the buildings if they can only be funded from charity, Government and Research Council income with no potential for commercial or teaching activity because of VAT restrictions. This appears contradictory to the Government's aims of ensuring that research is sustainable, and the requirement by OST that '*institutions must, taking one year with another, recover the full economic cost (FEC) of their research activities from an appropriate mix of external and internal sources*'. Biomedical research in particular is still highly dependant on charitable funding which, despite the QR uplift, does not attract full economic cost;

The restrictions in use of the buildings are having a negative effect on the research environment of the buildings, as many researchers are having to retain space elsewhere for research and teaching purposes. Therefore these buildings, which were created to bring together scientists and clinicians, are now actually driving them apart. In addition, the restrictions on undergraduate teaching in these buildings is restricting the research projects that undergraduate honours students can undertake, with the effect of reducing their exposure to a world class research environment and therefore missing the opportunity of encouraging them to pursue research careers in the biomedical field;

The admin load in monitoring usage and maintaining records of the use of these building is very high, and is a burden on both academic and administrative staff. Indeed, many academics do not understand the complex VAT regulations, and time has also to be spent on education and training purposes.

In summary, whilst we agree that VAT exemption should not apply in buildings where truly commercial research is taking place, we feel that the current restrictions are actually proving to be counter-productive to the Government's objectives for knowledge transfer, translational research and economic benefit and should be lifted.

The DH has in the past confirmed that research and education are front line activities. If this could be recognised by HMRC so that the supply of education and research was included as a service in the list of Contracted Out Services on which VAT could be reclaimed, then this issue would be resolved.

Appendix 2

The Economic and Social Impact of UK Clinical Academic Partnerships:

Identifying and quantifying the outputs of UK Academic Clinical Partnerships

Please see: http://www.chms.ac.uk/publications_and_guidance/index.htm#SQW