



Universities Scotland

Response to Cooksey Review of UK Health Research

Universities Scotland welcomes the Cooksey Review of UK Health Research, which we believe to be of central importance to the future of health research and to the economy as a whole. This response has been developed following wide consultation and focuses on issues that are of key relevance and concern to universities in Scotland. Universities UK has submitted a response reflecting the views of Higher Education Institutions throughout the UK, with which we fully concur. This response first considers some general points, and then responds to the specific questions raised in the consultation document.

The following points summarise the key elements for Universities Scotland:

1. It is essential to safeguard the health research base of Scotland as an important element for economic development and as part of the healthcare agenda.
2. The current funding arrangements for health research, including support from the MRC and major medical charities, work well within Scotland.
3. The current funding through the CSO, when combined with MRC and charity funding, is a vital ingredient in supporting Scotland's health research.
4. Scottish HEIs must continue to have access to UK-wide research funds in order to maintain their competitive edge and international reputation.
5. 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.
6. A diversity of funding streams in health research (MRC and other Research Councils, multiplicity of medical charities, NHS) has ensured that the UK has an outstanding international reputation for health research which is second only to the USA. This comparative advantage must not be jeopardised.
7. Universities Scotland recognises that current funding for translational medicine is inadequate and ways should be found to stimulate better partnerships between HEIs, NHS and industry.
8. Universities Scotland 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.

The breadth of HEIs' contributions to health R&D from all subject disciplines.

This is a key point. Health, healthcare and Health Services R&D span a wide spectrum, from policy formation, resource allocation and performance in the use of resources, management, therapeutic development and professional development through to training, basic science, translational and clinical research. Thus, for example, music, drama and art therapy, management research and environmental and ergonomic engineering can sit alongside and interact with more immediately recognisable scientific and clinical research. Funding mechanisms in future will also need to recognise this diversity, and it will remain important to ensure that the, often modest but nonetheless important, research activities of a wide range of disciplines can compete for R&D resources in the health field.

Governance arrangements for the new merged fund and the principles for its implementation.

Universities UK has covered this issue much more fully in their response, with which we agree. Universities Scotland would like to add some comments on how this issue might affect their own members.

Any governance arrangements for a merged fund run immediately into the complication that the MRC resources are deployed on a UK-wide basis, whilst NHS R&D funds are allocated by DoH and devolved Executives with political decisions on the level of resource allocation and management arrangements made by devolved Executives in regard to their populations. The MRC, and to a lesser extent other Research Council, arrangements are beneficial in supporting a UK-wide market in health related research and securing the best possible return from their investment. The decisions on NHS R&D resource allocation in devolved Executives, quite properly, are made reflecting the identified needs of their client populations. It is difficult to envisage how these conflicting approaches can be reconciled in a singular governance arrangement, but:

- Whatever governance arrangements are adopted should protect the ability of HEIs to bid for Research Council resources in a UK-wide competition and the political rights of devolved Executives
- The outputs of research activity, however and wherever produced from publicly funded research, should be available for the benefit of health, health status, healthcare delivery and health services organisation for the UK population as a whole.

Impact on Scottish Executive Health Department and Department of Health research funding

The strategic aspect of Health Research manifest in the UK Clinical Research Collaboration and in the DoH NHS R&D Strategy, *Best Research for Best Health*, may provide opportunity for devolved Executives and the DoH to reconcile their strategies and wider objectives, and to concert activity,

with resource allocation – provided appropriate accounting rules are observed – being of second order importance. In principle, there is no hindrance to Scottish Executive commissioning research in other parts of the UK; while some DoH research funds are restricted to English NHS Trusts, others can be used to commission research in Scotland. (which it does, for example, in the Edinburgh based National CJD Surveillance Unit).

There is no direct impact on Scottish Funding Council funding for HE research, although some initiatives, such as the Nursing, Midwifery and Allied health Professions (NMAP) Research Capacity and Capability Partnership Scheme, assume a steady or improving level of funding from other sources such as the MRC; if these sources were threatened by the proposed changes, this could in turn threaten the SFC-supported initiative.

Many of our members have expressed concern that NHS R&D resources, allocated through formula systems to NHS operational units, are sometimes diverted to support operational priorities. This is especially a concern with Department of Health funds, but also to a lesser extent with SEHD funds. SEHD allocates funds differently to the DoH, and has been more responsive to such concerns. It must be acknowledged that much healthcare and health services research is coincidental to the operation of services and use of resources in supporting operations is not necessarily detrimental to R&D, but in general this is a valid point and it would be helpful to see more constructive application of resource, consistent with agreed strategies and objectives. In particular, within the healthcare services there may be more scope for 'D' as an outcome of 'R'.

The priorities in research funding

The priorities in research funding should be determined by a series of needs. The health status of the UK population – in which there are distinct regional and inter-national differences – will necessarily predominate, but other priorities are:

- Basic science – the research which will influence the future
- Translational and clinical research
- Infrastructure and technological capacity for research (notwithstanding JIF and SRIF, the UK's infrastructure remains in need of replacement and new investment. It would be sensible, as has been the case in recent SFC policy, for whatever governance machinery is put in place to encourage research pooling, particularly in access to major and expensive technologies)
- Policy formation and health services research
- Underlying all of these will be a priority for economic growth and development in relation to research with potential for commercial development and marketing.

Eligibility for funding from the merged budget.

Eligibility for funding from the proposed merged budget should not be restricted. Reference has been made above to the multi-disciplinarity of HE interest in health related research and to the principle that geography should not necessarily ring-fence resource allocation.

Some of our post-1992 members and some without medical schools have expressed concerns that if funding is focused on institutions that are already in receipt of Research Council Funding, then newer institutions may be unable to break through these barriers. Many of them are currently investing substantially in building research infrastructure, and developing a sound research base, but are not as yet recognised by the Research Councils as centres of excellence. This is particularly true in the disciplines of nursing, midwifery and allied health professions, which are not yet well accommodated within the Research Councils. Since research underpins the need to provide students with the most up to date information, there could be a potentially serious impact upon the teaching in Universities that have a restricted access to research funding. In addition, less widespread funding could result in a greater concentration of research into narrow areas, which could limit the inventiveness of our researchers in the long term.

Response to questions in ANNEX B to Sir David Cooksey's letter of 4th May 2006.

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

Universities Scotland 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, Universities Scotland 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. Universities Scotland 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.

What MRC clearly is not is a Research Council focussed directly on clinical priorities, and this is perhaps one of its weaknesses. These comments hold both for the grants given by the Research Council, and the Research Centres supported by the Council.

NHS R&D programmes on the other hand are limited to researchers operating within the NHS structure, and there is often little engagement with colleagues, for example, in the HE sector. The processes of peer review applied to MRC projects are generally less rigorous for NHS programmes, and opportunities for collaborative research are often missed. NHS R&D is inevitably concerned with local priorities, and opportunities to make an international impact are therefore often lost.

One of the most significant weaknesses of DoH/NHS R&D funding is that it has been subject to many revisions over the last few years, few 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 Universities Scotland's opinion, the NHS R&D funding is currently not performing optimally and we would welcome changes to the system to emulate those of more prestigious health 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 Chief Scientist Office budget, although comparatively smaller, works flexibly and in direct collaboration with the HEIs 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.

The weaknesses described above are also found, to a lesser extent, in the NHS R&D budgets within the devolved administrations and Universities Scotland would emphasise the importance of considering how these budgets can be brought together within, or aligned with any new funding model to protect as far as possible the CSO's grant-giving potential, but also to ensure that the benefits of enhanced funding for excellent, international and cutting edge health research can be shared across the UK. 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.

Training needs for the NHS and social care are notoriously difficult to meet, requiring the provision of programmes from HEIs on terms and conditions that often fail to meet economic realities. There

is a frustration within the HE sector that the NHS and social care sector cannot crystallise their requirements in a clear way so as to facilitate new training programmes.

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, Cancer Research 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.

The proposed pooling of MRC and NHS resources, if properly managed, could also be seen in this light, as it should provide a means to tackle the problems of focus and clinical relevance outlined above. It may also provide a means for proper funding of the full range of research and training activities in which HEIs engage with the NHS and other partners. These activities cover a breadth of disciplines, for example business management and IT that would normally sit outside the remits of the MRC and the NHS R&D budgets.

Further important collaboration is also necessary to facilitate the uptake of healthcare advances by the general population. Close co-ordination between Councils and the NHS 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, for instance, through the Glasgow Centre for Population Health, which 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. Funding for such initiatives is vital and should be recognised by Government as being an effective multi-organisational way of achieving demonstrable results.

With regard to training, there needs to be much greater coordination of the requirements of the NHS and Social Services with the FE and HE providers. Research training is now provided for many graduate-level clinically related disciplines, such as nursing, midwifery and the allied professions. Postgraduate entry conversion courses, mostly at Masters level, in subjects such as Physiotherapy, Nursing, Radiography, Art Therapy and Occupational Therapy, are becoming increasingly important within the new university sector. However, opportunities for intercalated degrees and joint clinical / research responsibilities are still largely limited to the medical profession. This is a funding / planning issue that urgently needs to be addressed. A priority area must be to support the building of capacity for research in a much wider range of disciplines than is currently the case. That could be helped by a more sensible approach being taken by the NHS to the recognition and approval of science degrees in a number of disciplines. Some of the current difficulties in attracting and retaining staff centre on an outdated and inflexible approach to degree

structure that could be solved relatively simply by the design of top-up Continual Professional Development rather than an insistence on complete approved programmes.

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. 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: Universities Scotland 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.

Health status and health policy research has not been so prominent and invites higher priority with non-traditional sources brought in to play. The £1bn p.a. fund runs the risk of being seen as the ring-fenced 'health' research fund. Research funding under AHRC, ESRC, BBSRC, EPSRC auspices and from private and not-for-profit organisations may all be brought in to play.

Universities Scotland considers that the UK's Universities, especially those with good Medical Schools or faculties/schools of Nursing, Midwifery and Allied Health Professions, 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.

Maintaining the process for the support of investigator-led research is important, as is the capacity for practice-focussed research within the NHS. However, there should be emphasis placed on a closer collaboration between HEIs and the NHS, and closer collaboration between the MRC Research Institutes and HEIs. The government priorities should include capacity building in the NMAP sector, and should give greater weight to those activities most likely to affect clinical practice. There should also be thought given to the funding of clinical trials in areas unlikely to be funded by the major drug companies. Many potentially useful pharmaceuticals are not thoroughly researched because their commercial prospects make them unattractive to the larger pharmaceutical companies. In such circumstances, government initiatives are the only likely way forward.

Government funding of Health R&D represents a much higher percentage of socio-economic objectives R&D funding in the UK [15%] than other leading western European nations, but sits noticeably below the US [24.8%] and both UK and US remain noticeably at variance with other

leading developed economies in having a much greater proportion of government funded research focused on defence. There appears to be scope for redeployment.

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?

Decisions on balance are ultimately and rightly political but need to be informed by expert consideration and advice. Within general strategic guidelines, the MRC is well placed to provide such advice.

Research to improve healthcare and health status impacts of other public services will also be influenced politically, but may need a ring-fenced fund, variable over time, and a series of strategic guidelines, to protect opportunity for research. Resourcing of this aspect of health related research should pay due regard to diffusion and adoption of new techniques and technologies – ‘D’ as well as ‘R’.

It is unlikely that there can be a definitive balance between investigator led and priorities led research. This is a matter for judgement by well informed machinery against the background of political decisions and strategic direction. The two do not stand distinct; there is fluidity of boundaries and much inter-relationship between investigator led and priorities research. 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 may 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, Universities Scotland 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.

Universities Scotland 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.

If translational and applied science are to be supported to the extent they deserve, it is essential that their intrinsic importance is recognised, and that funding streams are established that do not

constantly put investigator-led research in direct competition with them. This would also ensure that the essential flow of innovative ideas and thinking from basic research does not dwindle. The RAE currently drives a set of behaviours that result in a relatively small proportion of outstanding science, and a large bulk of routine work. Greater thought should be given to supporting truly novel (indeed, risk-taking) projects through all research strands.

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 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.

Healthcare practices are notoriously slow and difficult to change. Awareness of scientific advances amongst clinicians is often limited, and too few clinical staff (medics and NMAP) are fully trained in scientific disciplines. Where research results clearly have implications for practice or policy, it would be helpful to express them in clear and less esoteric language and for the original investigators to have links with others whose focus is on dissemination. It should also be much easier for clinical staff to be trained to PhD level in scientific disciplines, and it should be much easier for qualified scientists to train for clinical posts. The US PhD /MD combination is a model worth consideration and results in clinical staff with a very different approach to that found in the NHS. The combined funding council could take a real lead here by making funding available for these cross-over opportunities.

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 resorting of mechanisms that positively encourage the NHS, and other healthcare providers, to collaborate with, and capitalise on, the research and teaching agendas of their universities.

The key to developing better interdisciplinary links within healthcare research is to provide funding for the training of outstanding health professionals and clinician scientists with the capacity to lead multidisciplinary teams. This can only be done through well supported nursing and 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 so there should be a substantial focus of resources in this area.

The responses in the above sections refer to the need to broaden the research engagement between the NHS and the full range of disciplines within HEIs. Almost no area should be excluded – the growth of activity in Art Therapy and Music Therapy indicate the possibilities that exist even in apparently unlikely combinations of disciplines. Clinicians very often have joint appointments between the NHS and Universities. Serious consideration should be given to joint appointments and secondments of scientific and NMAP staff. The most direct driver of behaviours is of course money. Specific funding for joint NHS / HEI cross-disciplinary projects would almost certainly bring results (as has happened in Scotland with the three collaborative Health Research Centres).

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

It is difficult to drive translation, entrepreneurship and innovation when the key players see these activities as peripheral to their main role. For the NHS, clinical priorities will always take precedence; for Universities, blue skies research and / or teaching must take precedence. A coordinated network of business developers and IP assessors working across the HE (&FE) / NHS structures could drive this agenda forward, allowing key players to exchange best practice. However, it would be essential to get sector buy-in to the importance of these activities, and not to try to impose an externally-driven agenda.

These behaviours are again best driven by appropriate funding mechanisms, underpinned by central support. 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.

We believe the only way these aims can be achieved is by establishing distinct funding streams for each type of activity, and avoiding competition between them. The Scottish model of separate Main Quality Research and Knowledge Transfer Grants provides an excellent example of the ways in which this can be achieved, although the balance of funding for the different streams will require careful thought. Again, there needs to be appropriate support and encouragement for collaborations with industry and charity funders; in this context the challenges brought about by Full Economic Costing need further consideration.

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. Universities Scotland 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)¹ 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 undertaken by the participating universities 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.

NICE might engage more closely with the research community in considering questions of clinical efficacy being considered by it. Engagement should be with the full spectrum of research – scientific, translational, applied, social, economic. In planning a work programme, NICE may find it helpful to consult with the fund managing authority in order to co-ordinate activity.

Collaboration with industry will be influenced by control of intellectual property and potential returns to be gained from exploitation. The presence of strong, well resourced and professional technology transfer machinery, with a clear remit for commercial partnership, exploitation and development will be necessary.

¹ 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 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.

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?

Universities Scotland 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 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 is 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.

Health is a wider issue than the province of the healthcare services. Finland has achieved notable success in lifestyle and the improvement of health status by macro-co-ordination of policy and targeting of research and investment in change.

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.

Universities Scotland 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 Universities Scotland.

If the merged fund is to be effective and productive, it should be managed by a single entity able to deploy funds to achieve optimum return and to foster dissemination and adoption of proven new techniques. The scale of resources being managed and the health and economic benefits expected suggest that the Chief Executive of the managing authority should have an accountability to a department headed by a minister of cabinet rank and that department should also have clear responsibility for co-ordination of research priorities and programme funding with other departments and devolved administrations.

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, Universities Scotland 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. The MRC enjoys a level of respect and demonstrable excellent performance in encouraging, planning, resourcing and executing the highest quality research in relevant basic science, translational and clinical research and social conditions underlying health status problems. With an extended and re-defined role it will be well placed to perform the management role for the joint fund. 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?

The two are not necessarily dependent but the NHS IT system is a helpful tool in the dissemination and diffusion of innovations and their adoption at an early stage.

Processes of education, training and dissemination need to operate through a series of media and methods – formal teaching, reflective learning, the traditional journal and other paper media and effective leadership. The IT system can help underpin all of these.

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?

Universities Scotland considers this very important and is concerned that it could potentially lead to some very divisive and damaging effects for health research throughout the UK. 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 DH/NHS R & D funding, the CSO budget is very small and incompatible with its English counterpart. The only way to maintain the excellent input to UK health research by Scottish HEIs will be to align the CSO's budget with DoH's with the resulting ring-fenced fund dedicated to clinical research. Universities Scotland would stress that the comparative benefits of the CSO's grant-giving powers for Scotland should be protected as far as possible in this process. Such a fund could also improve access from researchers in devolved parts of the UK to schemes such as the Service Delivery and Organisation R & D programme, or to the Health Technology Assessment programme. 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.

There should be a series of strategic concordats, which spell out objectives, methods of working, constraints, clear and unambiguous communications arrangements and the volume of resources to be allocated to objectives of healthcare and health status and social and economic development by devolved administrations.

There should be an understanding on the part of the Research Councils that they have roles to play in achievement of the objectives of the devolved administrations, without being bound to resource allocation on a geographical basis, which may be wasteful and sub-optimal in results.

Perhaps there is scope for a dual funding model, in which all institutions contributing to healthcare research receive a formula based allocation (i.e. devolved), and in which access to responsive-mode funding (i.e. non-devolved) is widened. Thus, NHS colleagues might have to make rather more grant applications to a national body, while Universities might receive an increased allocation of QR (and / or KTG) to reflect their health-related research. If the response-mode funding is directed towards joint projects, this might provide the means to drive collaborative developments.

In practice, evidence suggests that – viewed on a UK basis – research funded by Research Councils in devolved administrations is often disproportionately greater than formula-based allocation would suggest. This is indicative of the strength of a UK level RC system and the

intellectual strength evident in devolved administrations. Economic development does not conform with political boundaries.