

Testing times: UK health research in a global marketplace



This series of Policy Briefings published by Universities UK (UUK) provides authoritative and accessible analyses of current and emerging higher education policy issues.

We aim to publish six booklets a year on major topics of the day, with an analysis of an issue, identification of policy options and, where relevant, a UUK or sector position. The booklets will draw on existing UUK policy work as well as new research that has been undertaken or commissioned.

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Universities UK has published this Policy Briefing at a time when the UK faces increased competition in the global market for health research. The UK has been a world leader in this area but other countries are rapidly developing their capacity. At the same time pharmaceutical companies are going outside their traditional markets to test new products. Meanwhile the national policy landscape has been changing. The time-lag between discoveries in basic science and the development of interventions to improve health has meant that Government and patients are demanding a new focus on research that produces results more rapidly.

The Government has underlined the priority it gives to health research by changing the way in which it releases research and development funds to the National Health Service. Following a transitional period, these funds will now be ring-fenced with the aim of ensuring that they are used as intended. The change represents a major step forward for both the health service and the universities whose research is supported by these funds. It could bring much needed stability to publicly funded research and provide a sound basis for longer term planning.

Our universities share the Government's aim of building on the UK's outstanding reputation for high quality research and are well placed to respond to the changing policy environment. They are responsible for most of the health research undertaken in the UK and are key players in the delivery of national priorities for health research. Drawing on a wide range of subject disciplines, they are uniquely well positioned to support the changing health agenda. They are fully committed to developing research capacity where it is needed, for example among nursing and the allied health professions. These disciplines are inevitably at an earlier stage in the development of their research capacity but there is no doubt that their contribution is vital to embedding evidence-based practice and improving patient care.

Inevitably any period of change raises issues for higher education to consider. Although there are many new opportunities for the sector there are also challenges, notably to traditional patterns of research. The new emphasis on more immediate benefits for patients raises questions about the priority that will be given to vital basic research. Indeed the new approach raises the issue of whether the research process can be encapsulated in a simple distinction between basic and applied research. There are also concerns about the impact of a clear Government statement of research priorities on other important research areas that may suffer a funding shortfall as a result. The purpose of this briefing is to discuss the impact of changes in UK health research policy from the perspective of the higher education sector. I hope that it will be widely read as a valuable contribution to current thinking.

Professor Rick Trainor

President
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Universities are key stakeholders in health research undertaken in the UK. They train most of the research workforce and their staff are responsible for a substantial proportion of the research undertaken in the UK. This policy briefing examines how current policy initiatives, including changes in public funding arrangements for research, will affect higher education institutions. It looks at the funding arrangements for health research, the changing policy landscape and the future prospects for universities in the changing health research climate. Background information about recent health research initiatives is detailed in the annexes.

Health research in the UK is at a crossroads. Scientists world-wide are developing expertise in health research and pharmaceutical companies are going outside their traditional markets to test new products. The UK has always been considered one of the leading nations for research, but it faces increased competition from around the globe. The time-lag between discoveries in basic science and the development of interventions to improve healthcare, have meant that Government and patients are demanding a new focus on research that produces results more rapidly. State funding is favouring research that can be translated into practical changes in NHS policies and practice.

This briefing argues that:

- universities are key players in the delivery of strategic objectives and priorities for health research;
- universities are uniquely placed to support the changing health research agenda by drawing on their expertise in a wide range of disciplines;
- universities must be allowed to play their full part in research supported by the new public funding mechanisms;
- uncertainties about the operation of the new arrangements adopted following the recent Cooksey review of health research funding need to be resolved;

- developing research capacity among nursing and the allied health professions is critical – these areas are at an earlier stage than medicine in the development of research capacity, but their contribution is essential to embedding evidence-based practice and improving patient care and delivery.

The changing funding arrangements are perceived by some as enhancing the influence of the NHS on research priorities – and may favour those universities that are already at the forefront of health research. However, the new research priorities and reformed funding streams are also opening up new opportunities.

This briefing is intended to encourage debate – and to help the higher education sector to consider how it can best exploit its strengths (see Table 1). Furthermore, the briefing should be of interest to universities' counterparts in the NHS, who are also coming to terms with changes in the traditional funding arrangements for health research.

Table 1:
Assessing the current state of
health research in UK universities

STRENGTHS
■ strong track record in research of international standing over many years;
■ measures to reduce the risk of research fraud have been adopted and are being enhanced;
■ well-qualified and committed staff;
■ increasing diversity of the sector;
■ established partnership with the NHS, which provides unique advantages for health research;
■ availability of substantial funding for health-related research from UK research charities.
WEAKNESSES
■ working with the NHS has often been difficult as its successive reorganisations create uncertainty;
■ research projects may not always translate into immediate benefits for the NHS;
■ research takes time, so universities cannot always respond quickly to market demands;
■ universities must address the demands of multiple partners – not only the health service, but also charities, research councils and industry;
■ conducting research in the UK, especially drug trials, is expensive;
■ a significant and growing problem of attracting clinical staff to work in academia;
■ increasing NHS bureaucracy may deter research in the UK;
■ differences of research funding mechanisms among research councils, research charities and the NHS.
OPPORTUNITIES
■ increased Government funding for science research is likely to be maintained for the foreseeable future;
■ research offering early benefits for patients is more likely to secure public funding;
■ developments offering a positive patient advantage are likely to be brought to the market sooner, possibly with commercial advantage to the researchers;
■ universities that form part of the biomedical research centres initiative are likely to go from strength to strength, especially in clinical research;
■ universities focusing on Government priority areas for health research are likely to benefit from additional funding;
■ the UK's leading international position in health research, which is sustained by a relatively small number of institutions, may produce continuing benefits for research activity across the whole higher education sector;
■ research developments across the world could offer higher education institutions new opportunities for international collaboration;
■ additional funding for the health service delivery and organisation programme and the health technology assessment programme is available to universities that have developed relevant expertise;
■ increased awareness by UK research charities of new university/NHS funding arrangements.

THREATS

- the development of research institutes in other countries, including India and China, could offer a cheaper option for research, especially for drug trials;
- the future rate of growth in NHS funding will not be as high as it has been during the past decade. Some NHS trusts may find themselves with continuing funding difficulties;
- the emphasis on applied research, which will offer more immediate benefit to patients, may affect public funding of basic research;
- Government intervention may drive the research agenda, reducing scientists' opportunities for 'blue skies' thinking and research;
- as the NHS formally takes the lead in making bids for funding, universities have to continue to make the case that they should be considered equal partners in research funding and planning;
- devolved Governments could pursue their own research agendas rather than working within a UK-wide framework and, in so doing, complicate the wider UK strategy;
- Government may place too much emphasis on pharmaceutical research at the expense of non-clinical and non-commercial clinical research priorities;
- increasing international competition for UK research charity funding;
- the NHS list of research priorities may exclude other important disease areas that may suffer from a funding shortfall as a result;
- further concentration of health research funding may mean that some higher education institutions have to withdraw from this area;
- retaining two funding mechanisms (the Medical Research Council and the National Institute for Health Research), even with strategic coordination, may not bridge the discontinuities between them. For example, if the Medical Research Council takes responsibility for methodological development, it would be particularly important to ensure that these methodological advances are taken up by the National Institute and are responsive to the needs of researchers in more applied areas funded by the latter.

Introduction

- 1** This briefing outlines recent developments in UK health research policy from the perspective of the higher education sector. It provides information about how and why:
 - universities are responsible for most of the health research undertaken in the UK, carried out in partnership with the NHS in England, Wales, Scotland and Northern Ireland;
 - universities are key players in the delivery of the Government's strategic objectives and priorities for health research;
 - research underpins evidence-based practice and supports patient care;
 - universities' capacities in health research are not confined to medicine, but stretch across the range of disciplines that contribute to the operation of a modern health service;
 - universities must continue to play their full part in research supported by the new public funding mechanisms;
 - effective strategic coordination of the Medical Research Council (MRC) and NHS research funding streams (at arm's length from Whitehall) is crucial to the success of the new arrangements adopted as a result of the Cooksey review of health research funding¹;
 - developing research capacity among nursing and the allied health professions will help to embed evidence-based practice in the health service and support improvements in patient care.
- 2** We now face what is probably one of the most challenging times ever for health research in the UK: there are changes in public funding arrangements, the Government is taking an unprecedented interest and the global pattern of health research is changing. Some of these changes offer exciting opportunities but as with any change they also carry threats to traditional patterns of research. Anyone with an interest in health research needs to be aware of these issues – and to consider how well suited their organisation is to meet the challenges ahead. This policy briefing is intended to encourage and inform that debate.
- 3** While this briefing largely focuses on public support for medical research, it should not be forgotten that health services need to draw on the research capacity of a range of disciplines – from lab-based research to the social sciences; from engineering to health economics; from computer science and business management to sociology and medical statistics. As the focus for health research moves towards managing chronic diseases, public health and the diseases of old age, the kinds of research skills and expertise that are needed will also change. As the SWOT analysis (Table 1) indicated, this is one of the factors that universities must take into account when working with health service partners and other health research funders.
- 4** The recent financial instability in the NHS has inevitably affected the higher education sector's attitude to collaboration with the service. In particular, the reductions in nursing and midwifery education have reduced the impetus to build up research capacity among those professions. The funding for academic posts in these areas often comes to higher education institutions from the health service. Although the direct impact was on teaching there is a risk that it has had an effect on the level of research activity.
- 5** The shakeup in the way the Department of Health releases research funds to the NHS threatens to destabilise those trusts that fail to secure grants under the new funding arrangements. In the longer term, however, ring-fencing this budget and making sure that research and development funds are used as intended (rather than supporting patient services) are major steps forward for both the health service and universities. In a health service that is moving towards devolved structures and systems, these funding arrangements could bring the stability necessary for longer term research planning. Universities can also expect to benefit from the increased transparency and accountability that the implementation of the Government's health research strategy ('Best research for best health'²) will bring.

Health research and the economy

- 6** It is no surprise to learn that the Government wants to build on the existing reputation of the UK for health research. Not only does research and development in the healthcare sector potentially lead to better care for patients, it also contributes a substantial £3 billion a year to the UK economy in terms of research and development spend³. It is essential, therefore, that UK health research continues to play an important part in the global research market. More importantly, if the UK is to continue to compete in the future, it must build on its status as a world leader.
- 7** The then Chancellor of the Exchequer, Gordon Brown, made it clear in his 2006 pre-budget speech that he was determined that Britain would be “a world-class location for future medical research, including stem cells”. He was announcing the plans to prioritise applied research that had commercial potential. But he made it clear that he saw this having an impact beyond the UK: “British science can also do more to eradicate poverty and disease around the world”, he said. The International Development Secretary was establishing a new partnership with the research councils and charities, including the Wellcome Trust and the Gates Foundation, “so that we can maximise the contribution of British inventors, scientists and researchers to this urgent global task.”⁴
- 8** Countries like China and India offer new scientific research opportunities at lower cost. Many pharmaceutical companies already use India as a centre for drug trials because it is much cheaper than the United States or the UK. India also has a network of specialty hospitals and medical colleges and an English-speaking medical profession. While research developments overseas could pose a challenge to the UK they also offer the opportunity for co-operation with researchers there, many of whom may come to work in the UK at some stage in their research careers. Such links can foster better international research relationships in the long term.
- 9** There are many reasons why the UK is still considered a good place to conduct health research. UK universities are highly regarded for the quality of their research and it is recognised that research activity is increasingly well monitored and regulated, with new initiatives such as the UK Panel for Research Integrity in Health and Biomedical Sciences being launched⁵. The panel was established by Universities UK to support researchers in working to the highest standards, primarily through the development and dissemination of a code that will draw together best practice in the conduct of research in biomedicine, health sciences and associated healthcare disciplines. Higher education institutions adopting the code will provide an assurance of the standards that their researchers will apply in conducting research; this should enable consumers and funders to have confidence in the results.
- 10** The structure of the NHS itself – a publicly funded, free at the point of delivery, universal healthcare system – offers a unique opportunity to conduct trials. In addition, the Government is keen to push ahead with its national IT programme – another unique feature offered by the NHS – although there have been considerable difficulties in implementation. Once the system is finally in place, it should be much easier to recruit patients for trials and to gather the necessary data. However, the NHS already has databases that are not fully exploited for research by UK researchers because of lack of funding. One example is the GP research database, which has been exploited substantially by overseas researchers in research areas such as pharmaco-epidemiology. While we wait for the national IT programme to deliver, it is particularly important to increase the funding available to exploit the scientific opportunities presented by existing databases.
- 11** If the UK is to continue to compete effectively on the international health research scene, its leading research centres must be able to attract the best academic staff. In line with this thinking, the Government has decided to develop new centres of excellence for research – known as biomedical research centres. These will compete with other highly regarded centres in clinical research overseas such as Harvard and Stanford universities and provide an incentive for leading researchers to work in the UK. One of the other advantages that the UK provides because of the NHS is access to the whole population. This is not available in the United States because of the lack of universal coverage and the fragmentation of American healthcare.

Health research and patients

- 12 Current Government initiatives are not simply about trying to improve the UK's competitive position. The Government also wants to see the results of health research translated into tangible benefits for patients. Prioritising research into fatal diseases is understandable, but the social and economic impact of conditions that may not kill but cause long term morbidity and disability must also be addressed. This will inevitably bring changes in the conduct of research – the current bias towards hospital-based research will adjust to ensure that the expanding primary care sector can sustain and utilise relevant, high quality research.
- 13 Patients are an integral aspect of research – and the universal nature of the NHS provides a unique environment for clinical trials. Two specific projects are now believed to be making Britain an attractive place to conduct research. As mentioned above, the NHS IT programme, 'Connecting for health', which is an information system holding the records of 48 million patients from the cradle to the grave, will give researchers access to patients for the purpose of conducting clinical trials and will be attractive to the pharmaceutical and biomedical sciences industries. It offers the potential to make Britain *the place* to develop new therapies and monitor treatment safety on a larger scale than anywhere else. Similarly, the UK Biobank is the world's largest comprehensive cohort study, with around half a million volunteers. It enables researchers to study genetic and environmental influences on health and disease in middle and older age⁶.
- 14 Changing patterns of demography and disease mean changes in research priorities too. The National Institute for Health Research (NIHR) has recognised the importance of collaboration with universities, and has introduced measures to sustain and extend working relationships between university research departments and the NHS. The new biomedical research centres, which are intended to become centres of research excellence, will mean that in collaboration with universities the NHS will take a lead in determining the areas of research that should be pursued.
- 15 As in any time of change, there are not only opportunities but also threats. Among them is that of funding levels. Although more public money has been made available, some researchers fear that most of it will go to applied research at the expense of basic research. They argue that there must still be room for 'blue skies' thinking.

Defining health research

- 16 Almost inevitably, given the proportion of money spent on it, clinical research becomes the main focus of any report on health research. But the remit of this briefing is much broader than that, covering the vast amount of health-related research conducted in the UK as well as pharmaceutical trials. There are, for instance, institutes for health and social care research, for sexual health research, for health economics, health management, nursing, public health, mental health, dental health and for children's health. Most, if not all, of this research is carried out in universities, often in partnership with NHS organisations and leads to new treatments, improved standards of care, and improved monitoring of health outcomes. This is what makes UK universities so well placed to support the changing health research agenda, drawing on expertise in a wide range of disciplines.
- 17 Changes in the scope of health research have been accompanied by a debate about the funding priority to be given to different types of research. The Government is very keen to encourage research which can be translated into direct patient benefit and has coined the term 'translational research' to describe this. However this description could also be applied to some basic research – the results of stem cell research, for instance, can be translated into procedures of practical use to patients. It is a battle of semantics, but the received understanding is that translational research tends, by its nature, to be applied research.
- 18 There has always been a tension between applied and basic research, and the amount of money that goes into each. One concern is that the current emphasis on applied research may skew the balance between the two. Some commentators worry that unless sufficient public money continues to be put into basic research, there will be little to translate into benefits for patients in ten years' time. In other words, applied research constantly needs to be fed by the outcomes of basic research.
- 19 In this context, setting priorities represents a challenge for policy makers. However, it must be noted that the basic versus applied research debate is becoming increasingly irrelevant and inappropriate both for scientists and policy makers. The complexity of the research process reflects the wide range of knowledge and funding linkages between academia, industry and Government and this cannot be captured by a simple linear model.

20 Reflecting its current priorities, and in line with the recommendations of the Cooksey review, the National Institute for Health Research has recently announced various measures to encourage translational research⁷. These include its new research centres (see Annex 2). It has also identified the following seven research priority areas, covering mental health, cancer, stroke, diabetes, medicines for children, dementias and neurodegenerative diseases, and primary care (see Annex 2).

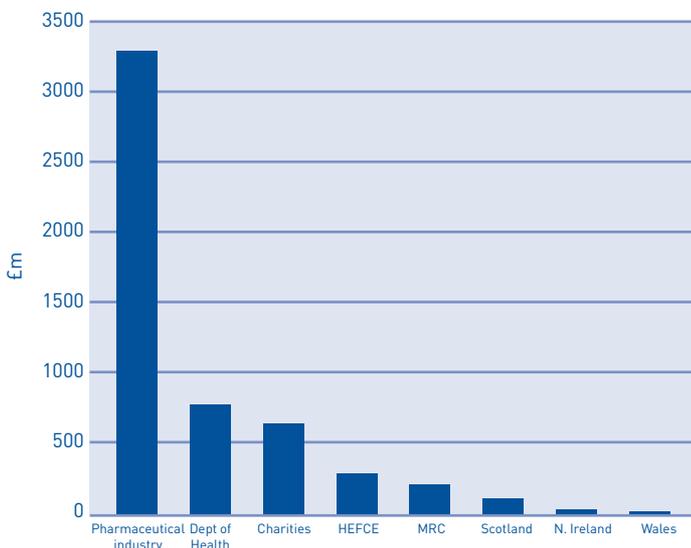
Funding arrangements

21 In the UK, health-related research is funded from the following main sources:

- the Department of Health and its equivalents in the devolved administrations;
- the higher education funding councils
- the research councils (primarily the Medical Research Council), which are Government-funded;
- the pharmaceutical industry;
- charities (for example Cancer Research UK, the British Heart Foundation, the Wellcome Trust).

22 Additional funding is also available through the European Commission's framework programmes and the UK's small business research initiative.

Chart 1:
Where health research funding comes from (2006)



Source: A review of UK health research funding, Sir David Cooksey, December 2006

England: the Department of Health

23 The Department of Health's total budget for health research in England was £753 million in 2006-07. In the past, it has been difficult to establish how these funds were spent because hospitals were traditionally given research funding as part of their total budget rather than these funds being separately identified. The department is now trying to make the funding mechanism more transparent. NHS trusts must now bid for research funds rather than receiving them as part of an annual allocation. This ring-fencing is a welcome development that will protect research and development funding in the long run – but the change is being introduced gradually, and its impact on higher education institutions has not yet been assessed.

24 The National Institute for Health Research was established by the Department of Health to deliver the Government's health research priorities as set out in 'Best research for best health'⁸. The Cooksey review recommended that the National Institute moves from being a virtual organisation to a real agency by 2009.

Health departments in Scotland, Wales and Northern Ireland

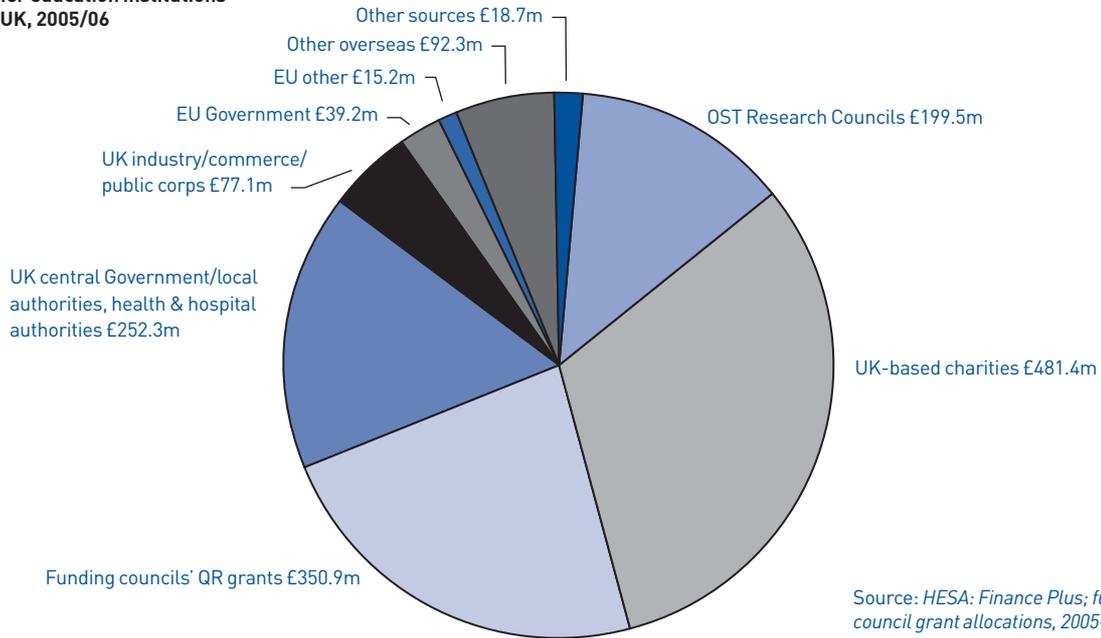
25 The devolved administrations have their own health research budgets. As in England, universities also receive funding for health research from the higher education funding councils (or their equivalent). Universities can also apply for health research funding from funders with a UK-wide remit.

26 Health is a devolved responsibility in Scotland, falling to the Scottish Government Health Department. The Chief Scientist Office, which spends £17 million a year on research projects in the NHS in Scotland out of a total budget of £60 million, is within the health department⁹. Researchers in Scotland can also apply to the Medical Research Council for funds although this remains the responsibility of the UK Government.

27 The Northern Ireland Office Department of Health, Social Services and Public Safety has a total budget of £12 million a year for health research¹⁰.

28 Wales also has its own health research funding streams, including £4.4 million a year for clinical research within a total budget of £20 million. The Wales Office of Research and Development for Health and Social Care (WORD) administers this¹¹.

Chart 2:
Health related research income
in higher education institutions
in the UK, 2005/06



Source: HESA: Finance Plus; funding council grant allocations, 2005-06

Who does the research?

- 29** Most health research is carried out by university staff, often working in collaboration with colleagues in the NHS. Most clinical academics combine their university roles with clinical responsibilities in the NHS. In these cases, the arrangements about who pays their salary, and what proportion of their time is spent on each aspect of their post, can be quite complex. Just over 1,000 of the 4,000 clinical academics in the UK are NHS funded.
- 30** The Higher Education Funding Council for England is also part funding, with the NHS, up to 200 new clinical senior lectureships over a five-year period, costing a total of £100 million¹². In addition, it has also provided research capacity building funds for nursing since 2002. However, continuing concerns about career pathways for medical and nursing researchers remain. A recent report about training and support structures for nurses recommended a coordinated clinical academic training path in nursing. In medicine, new funding has increased the number of clinical researchers by 20 per cent since 2003¹³.

- 31** There are nearly 40,000 academic staff in the UK involved in teaching and research in medicine, dentistry or health (see Table 2 below). This is out of a total of 160,655 academics employed in the UK¹⁴.
- 32** University staff whose salary costs are supported by funds from the National Institute for Health Research are part of the Institute's 'faculty'. These funds are awarded through competition and after extensive academic peer review, so recipients will be engaged in high quality research that is relevant to the NHS, patients and the public. The National Institute will be inviting selected individuals to honorary membership of the faculty in future using criteria that will be developed in 2008.

Table 2:
Medicine, dentistry and health
academic staff by cost centre
group and grade, 2005/06

Grade	Teaching only	Teaching & research	Research only	Neither teaching nor research	Total
Professors	10	3,420	45	30	3,510
Senior lecturers & researchers	240	6,155	365	15	6,780
Lecturers	2,255	9,045	675	30	12,005
Researchers	20	255	11,460	5	11,745
Other grades	3,915	855	640	210	5,625
Total Medicine, dentistry & health	6,445	19,735	13,185	295	39,660

Source: HE Planning Plus 2007 (HESA)

- 33** The factors influencing national policy on health research were discussed in the introduction. They include increased international competition, changing patterns of disease and demography, patient expectations of improved care and the Government's desire to demonstrate value for money on public investment.
- 34** Recent Department of Health initiatives mean that the mechanisms for university-health service engagement are changing. The UK Clinical Research Collaboration, the National Institute for Health Research, various clinical research networks and biomedical research centres are described in Annex 2. They will support priority areas of health research which better reflect the UK's changing pattern of demography and disease – cancer, mental health, coronary heart disease, ageing and older people, public health, genetics and diabetes. The recent review of healthcare in London, undertaken by Lord Darzi, the recently appointed Health Minister, has made recommendations for the development of academic medical centres where academic and health service management would be fused¹⁵.

The Cooksey review of UK health research funding

- 35** In May 2005, in parallel with these changes, the Treasury announced that it wanted to find the best method of administering a new single, ring-fenced fund for health research that would be formed by merging the Medical Research Council and the National Institute for Health Research budgets. Sir David Cooksey, a venture capitalist, and former chairman of the joint healthcare research delivery group (which co-ordinated the research functions of the Department of Health and the Medical Research Council) was appointed to lead the review.
- 36** Sir David saw this review as a major opportunity to remove some of the hurdles faced by pharmaceutical companies which wanted to carry out trials in the UK and to see their developments come to market sooner than was currently possible. In his report, which was published in December 2006, he called for more structured co-ordination between the NHS, the Medical Research Council and the healthcare industry to ensure that more research was translated into tangible benefits for patients¹⁶.
- 37** Contrary to the Government's suggestion, the report did not support the merger of the separate research funding streams of the Medical Research Council and the National Institute for Health Research. A merger, it was argued, would inevitably mean that the larger Medical Research Council would dominate. The reason was that NHS research and development funding was actually greater than the Council's budget. In addition, because the Council tends to focus on basic medical research, such a move would jeopardise the future development of translational and applied research. However, it was equally possible that a merger could have resulted in the NHS dominating the Council.
- 38** As an alternative, Sir David suggested setting up an Office for Strategic Coordination of Health Research (OSCHR). This will take a strategic view of health research funding, develop a comprehensive spending review bid for the whole of health research and determine strategy. It will not have any direct funding responsibilities but will apportion funding between the Department of Health and the Medical Research Council. This will leave the existing reporting structures intact and the Office for Strategic Coordination of Health Research would then report annually on progress. These arrangements have now been implemented.
- 39** Cooksey's other recommendations included:
- the Medical Research Council and the National Institute for Health Research should establish a joint translational medicine funding board to direct money towards projects that promise health benefits and innovation;
 - the National Institute for Health Research should move from being a virtual organisation to an executive agency of the Department of Health by April 2009;
 - public funding should be concentrated on areas that would make most difference to patients, the nation and the pharmaceutical industry;
 - drugs should be brought to the market more quickly – it currently takes an average of twelve years – and to do this clinical trial procedures should be streamlined. Conditional licences should be granted for drugs prior to full licensing, the National Institute for Clinical Excellence should be involved at an earlier stage and its recommendations should be implemented.

- 40** When the Cooksey review was published it was, almost inevitably, seen as something of a compromise. In an editorial in the *British Medical Journal* Nick Black, professor of health services research at the London School of Hygiene and Tropical Medicine, wrote: "Given the disparate nature of those concerns, the strategy is a masterful attempt at coherence."¹⁷
- 41** Universities UK, meanwhile, welcomed the fact that the review had listened to its concerns about bringing the two research budgets together. However, it remains concerned about how the new structures will operate in practice and about their relationship with Government. Others share these concerns, as was demonstrated by the House of Commons Science and Technology Committee report on the Cooksey review. It highlighted uncertainties over the role of the Office for Strategic Coordination of Health Research in setting targets and objectives for research. It was also concerned that basic research might suffer at the expense of translational research¹⁸.

Frequently asked questions

- 42 While Government interest in health research has never been greater, recent changes have inevitably raised a number of concerns among many working in the field. This section discusses some of these concerns and gives a Universities UK view on them.

Question 1: How real is the threat that health research might go outside the UK?

Answer: Real enough, if you look at drug trials. Some pharmaceutical companies are increasingly looking to the Indian market to test products. But as with other research a massive shift is unlikely at the moment and some argue that British politicians are unnecessarily concerned about the threat from India and China.

Examples of research fraud in other countries can only undermine confidence in placing research projects in these parts of the world. While the UK is not immune to incidents of research fraud, in common with the United States and several other countries, it has taken positive measures to reduce them. The UK Panel for Research Integrity in Health and Biomedical Sciences, which Universities UK established, is developing a code of good practice for researchers and has recently set up a telephone hotline for reporting research fraud¹⁹. These measures should bolster confidence in the quality of health research carried out in UK – the panel is supported by the four health departments as well as the funding councils and the Association of British Pharmaceutical Industries.

Question 2: Will basic health research lose out if applied research is in vogue?

Answer: Many of those working in the field of basic research fear that their funding may suffer as a result. Basic science, they argue, is essential as the first stage towards what will become applied research in the future. Universities UK does not believe that public policy should be based on a simple linear model of research activity. Applied and basic research are not discrete stages in a single process, but form part of a complex process of interactions.

Question 3: What will happen to health services research?

Answer: The opportunities here are growing, and universities are well placed to benefit, since they can offer a range of expertise to support research for the service delivery and organisation programme and the health technology assessment programme. Many non-clinical research projects can make huge differences to healthcare – its efficiency, methods of delivery and cost effectiveness.

In its response to the Cooksey review, Universities UK has continued to argue that the university contribution to health research is not limited to medicine and that funding mechanisms need to recognise the broader expertise that the health service can draw on²⁰.

Question 4: Are the health research priorities in NHS research and development programmes the most appropriate ones?

Answer: A great deal of effort does go into priority setting in the NHS. Some priorities are set through the Department of Health's policy-related programmes but many are set by consultation with those working in the NHS – it is largely a bottom-up process. Where the situation is perhaps less clear is in the formation of disease specific research networks. It could be argued that some important disease groupings have been omitted.

Commercialisation has a limited role in influencing research priorities in the NHS research and development programme. They have influenced the setting-up of the clinical research networks to facilitate clinical trials but many of the other programmes are comparatively little influenced by commercial considerations. There is widespread recognition that research does not necessarily have to be a money earner for the commercial sector but is also about improving the functioning of the NHS.

Question 5: Is health research funding sufficient?

Answer: It is better than it has ever been, and the decision to ring fence funding for health research is widely welcomed by Universities UK. In the past, NHS funding that should have been invested in research was often diverted into patient care instead, as health service budgets were cut. This should not happen under the new arrangements. But many trusts face continuing financial difficulties, which leaves universities wondering whether their NHS partners will be able to fund clinician researchers adequately on a longer term basis.

Question 6: Can the UK attract sufficiently qualified clinical staff to do the research?

Answer: This issue has been a long-standing concern of members of Universities UK. Despite attempts to encourage clinicians into research there are still problems recruiting staff. Salaries in academia make it a less attractive career path for a doctor who might otherwise pursue a more lucrative career working as a consultant in the NHS combined with private practice. The British Heart Foundation says it is funding posts that are being filled by academics from overseas because UK candidates have not applied.

Universities UK believes that the Government will have to continue to address the need for additional funding incentives in some clinical specialties. In surgery, for example, clinicians can make more money in the private sector than in academia, and in primary care they make more money as general practitioners than academic GPs.

Equally it is important that training programmes are more flexible. Currently it is difficult for doctors in training, and other health professionals, to take time out for example for a master's degree. This issue is addressed in one of the recommendations of the independent enquiry into modernising medical careers chaired by Sir John Tooke and its adoption will certainly be important for improved recruitment²¹.

Question 7: How will the development of centres of excellence affect other universities?

Answer: While such centres are an essential move in ensuring that the UK has a presence internationally, there is an inevitable concern that other universities could lose out as a result.

All but two of the eleven biomedical research centres announced in December 2006 are based in the South-East. The other two are in Newcastle and Liverpool. For universities with new medical schools, this concentration is a concern – and risks undermining the health service desire to embed evidence-based practice in service delivery. It may mean that universities which do not acquire 'centre of excellence' status have to diversify or concentrate on other areas of health research. They may also need to collaborate with partners in the UK or in other parts of the world.

- 43** Whatever future scenarios develop, health research is becoming much more politicised in the twenty-first century. That means more Government and public scrutiny for individual researchers and their sponsors and their employers.
- 44** Universities undertake most UK health research in partnership with the health services in England, Wales, Scotland and Northern Ireland. As the NHS formally takes the lead in bids for NHS research funding, universities have to continue to make the case that they should be considered equal partners in research funding and planning.
- 45** Universities UK believes that its members must continue to demonstrate how effective UK health research is and grasp the opportunities that may emerge in this new environment. For some, it will mean improved funding and wider opportunities. For others it may mean new partnerships, different sources of support and new ways of engaging in applied and translational research.
- 46** We believe that universities are well-placed to meet these challenges – their networks have been strengthened by the European Commission’s development of the European Research Area, with a £53 billion research budget across all sciences up to 2013. Framework Programme 7 includes health as one of its key themes, and will direct over 6 million euros into this topic. In addition, the UK Department for International Development has announced £100 million a year in framework funding to address the millennium goals of tackling poverty and inequality worldwide. Some of this funding will cover health research, although it is only sufficient to support networking and will not support research activity as such.
- 47** Work on research ethics and integrity, which has been fostered by Universities UK, encourages a greater trust in UK-based research. The pharmaceutical and biotechnology industries continue to look to the UK as base for research and development. However, other countries are developing their own capacity as well, and the three current chief competitors – the United States, Canada and Germany – may soon be joined by China, India, South Korea and Singapore. So while politicians and the public develop a greater interest in, and more understanding of, the importance of UK health research, it is possible that in future more university research partnerships will be global in nature and span.
- 48** We believe that the key to ensuring appropriate funding levels will be working effectively in partnership with the NHS, where expectations about the role of health research and its impact on patient care are rising. Researchers who can deliver clear innovations that improve patient care or make high quality evaluations of innovations will be successful in attracting funding.
- 49** New relationships and collaborative structures are emerging between higher education and the health service. The merger of St Mary’s and Hammersmith Hospitals, under the aegis of Imperial College, to create an academic health science centre, is an indication of the type of approach that may be adopted. However, issues of regulation, governance and financial accountability will have to be resolved before such models can be applied more widely. Similarly, the biomedical research centres and research centres for patient safety and service quality are examples of collaborative working which, if successful, could be adopted on a more extensive basis. However, there is undoubtedly a need for more collaborative, strategic ventures between the NHS and universities to address questions that do not easily fall under the academic health sciences.
- 50** Universities in the south-east benefit from its dynamic economy, which has attracted the pharmaceutical and biotechnology industries. This, combined with the great proportion of public research funding going to centres in the south-east, means that universities in the rest of the country will have to be innovative in the way they develop their research priorities and partnerships. A critical factor for them will be the need for the NHS to implement evidence-based practice throughout the system. Concentrating research in a relatively small number of centres must be reconciled with the need to disseminate new treatments and techniques among clinicians across the UK.
- 51** These changes offer enormous opportunities – as well as potential threats. At a time of change, it is important for those working in health research to be innovative and vigilant – complacency is not an option.

2001 – The Department of Health launches the first clinical research network which will focus on cancer. These networks are intended to encourage a research environment and make it easier to recruit patients to take part in trials.

2004 – The Government announces its ten-year Science and Innovation Framework, setting out its plans to ensure the position of the UK as a leading location for health research in the global economy, and to bringing investment into the economy.

2004 – The Government sets up the UK Clinical Research Collaboration (UKCRC) to bring together health departments, the NHS, the Medical Research Council, medical charities, industry and the public to take a strategic view of NHS research and to take advantage of the potential opportunities. Its brief is to build an infrastructure for research in the NHS.

2004 – Joint Medical Research Council/Health Research Delivery Group set up as a result of the spending review in 2004 with the aim of ensuring a more-joined up approach between Government funders of medical and clinical research.

June 2004 – The Department of Health launches a clinical research network for mental health.

March 2005 – Publication of 'Medically and dentally qualified academic staff: recommendations for training the researchers and educators of the future', a report of the Academic Careers Sub-Committee of Modernising Medical Careers and the UKCRC Collaboration.

March 2005 – The Treasury announces plans for a single, ring-fenced fund for health research.

May 2006 – The Department of Health launches clinical research networks for stroke and diabetes.

January 2006 – The Department of Health launches its strategy for health research: 'Best research for best health'. It sets up the National Institute for Health Research – a 'virtual' organisation to encourage investment in health research in the UK. The Department also announces plans to set up biomedical research centres in partnership with universities. These will be leaders in their field of health research, and funding will be awarded to the NHS partner organisation.

August 2006 – The Department of Health sets up clinical research networks for dementias and neuro-degenerative diseases.

December 2006 – Eleven new biomedical research centres of excellence are created in England. These are to be leaders in scientific translation and are formed from partnerships between the most outstanding NHS trusts and universities in the country.

December 2006 – The Department of Health launches a clinical research network for medicines for children.

December 2006 – Sir David Cooksey publishes his review of public funding for health research. He recommends setting up both an Office for Strategic Coordination of Health Research (OSCHR) to take a strategic view of research and a Translational Medicine Funding Board.

December 2006 – Publication of 'Developing the best research professionals; qualified graduate nurses: recommendations for preparing and supporting clinical academic nurses of the future', by the UKCRC's Sub-Committee for Nurses in Clinical Research.

January 2007 – The UK Clinical Research Collaboration announces plans to launch five centres of excellence with a £20 million investment to strengthen public health research in the UK.

March 2007 – The Department of Health establishes a primary care research network in England.

April 2007 – The Department of Health invests more than £10 million in two research centres to drive improvements in the safety, quality and effectiveness of the services that the NHS provides to its patients and the public.

October 2007 – Publication of Lord Darzi's interim report 'Our NHS, Our Future', recommending the establishment of a new 'Health Innovation Council' to act as a guardian for innovation, from discovery through to adoption.

October 2007 – Pre-budget report and CSR settlement confirm Government commitments to increased health research funding. DIUS will provide £682 million for the Medical Research Council by 2010/11; the Department of Health will provide £992 million for the National Institute for Health Research by 2010/11.

October 2007 – UK-wide roll out of the Research Passport begins, to help to streamline systems for issuing honorary research contracts for researchers conducting studies in the NHS.

October 2007 – Bidding process for Academic Health Centres of the Future (AHCs) launched. The centres will undertake high-quality applied health research focused on the needs of patients, supporting the translation of research evidence into practice in the NHS. £50 million will be available for the pilot phase, and each centre will comprise a partnership between academia and the NHS across the widest possible local geographic area.

'Best research for best health'

In 2006 the Department launched 'Best research for best health', its strategy for health research in England and Wales. This explained how it intended to spend the £650 million a year it allocated to health research. As part of this strategy, it established the National Institute for Health Research to provide a more co-ordinated approach to NHS research and to regain control of the distribution of research funds to trusts.

The Institute has developed several different programmes of health research, including the health technology assessment programme, grants for applied research, research for patient benefit, the service and delivery programme, the invention for innovation programme, its own faculty for health researchers and research centres for patient safety and service quality. The Institute also oversees the clinical research networks and funds the biomedical research centres. It is worth noting that the Institute does not administer the Department of Health's health policy research programme, which is funded separately by the department. This programme provides an evidence base for policy-making in the department.

The Institute is a virtual organisation that oversees research projects and programmes. The Cooksey review proposed that it should become a 'real' organisation, with full time staff, in a permanent building.

Table 3:
How the National Institute for Health Research spends its budget

NHS Research and Development Funding, 2006-07

Area	Amount £m
Research programmes	70
Infrastructure initiation	58
NIHR systems	7
Faculty trainees	17
Transition funding to NHS trusts	507
Total	659

Source: Department of Health

Biomedical research centres

The Government announced in August 2005 that it intended to set up a number of biomedical research centres that would "serve as the nation's premier research hospitals and compete with other top clinical research institutes throughout the world". In 2006 the Department of Health invited NHS trusts, in partnership with academic bodies, to put forward proposals for these research centres. Their brief was "to drive progress on innovation and translational research in biomedicine and NHS service quality and safety".

The research centres are intended to be leaders in scientific translation and to be the first to adopt new technologies and treatments. They would help to give UK health research a cutting edge in international competitiveness. They are meant to encourage the development, testing and uptake of new and better ways to prevent, diagnose and treat ill-health. They will focus on "translational research" – taking advances in basic medical research out of the laboratory and into the hospital or clinic.

In December 2006 the National Institute for Health Research created eleven new biomedical research centres of excellence in England. They are in London, Oxford, Cambridge, Liverpool and Newcastle. Although the centres were selected by a competitive process, there has been some concern expressed that they bring further resources to the 'Golden Triangle' universities (in Oxford, Cambridge and London – Imperial, King's, University College), reinforcing the already high level of research concentration that exists in the UK. However, some commentators argue that such concentration is inevitable if UK institutions are to continue to compete on a world stage with the likes of Stanford and Harvard.

The new centres will share over £450 million over five years to undertake research on major diseases such as cancer and heart disease, as well as asthma, HIV, mental illness, blindness, and the specific health needs of children and older people. Funding began in April 2007, with £50 million in the first year of operation and £100 million a year for the next four years.

In December 2006 the Government set up the Global Medical Excellence Cluster, consisting of the five comprehensive biomedical research centres (located at Cambridge, Imperial College, King's College London, Oxford and University College London). The cluster is intended to ensure that there is improved co-ordination between the NHS, universities, drug companies and medical device manufacturers. It is also intended to devise flagship projects with the aim of attracting worldwide funding.

Clinical research networks

Department of Health Research and Development has set up a number of clinical research networks in the last six years to encourage research in particular areas and to make it easier for research to be carried out. There is also an overarching UK Clinical Research Network, which is intended to support clinical research and to make it easier to conduct trials throughout the UK.

The networks are in:

- cancer (launched 2001)
- mental health (launched 2004)
- stroke (launched 2006)
- diabetes (launched 2006)
- medicines for children (launched 2006)
- dementias and neuro-degenerative diseases (launched 2006)
- primary care (launched 2007), which focuses on disease prevention, health promotion, screening, early diagnosis and management of long-term conditions.

The UK Clinical Research Network is also establishing a comprehensive NHS research network. This consists of 24 networks organised on a geographical basis to cover all diseases and areas of need other than the specific conditions listed above. Initial reaction to the research networks has been favourable. The Association of British Pharmaceutical Industries said that its members feel that the networks had made it easier to conduct trials. The national cancer research network, for example, has helped to establish 40 cancer networks around the UK and the proportion of patients with cancer who have been recruited to trials to test new cancer treatments has risen from 3 per cent to 14 per cent since the cancer network began in 2001; there are currently a total of 47 trials taking place across all the networks.

Clinical trials agreements

In April 2007 the Department of Health announced an agreement with the Association of British Pharmaceutical Industry that would allow approved industry-sponsored clinical trials to start sooner in NHS primary care than they had in the past. Similar measures were taken for hospitals in 2006. There will be a standard form for pharmaceutical companies to use when applying for permission to start a trial, which should make the process of recruiting participants more straightforward.

Scottish developments

The devolved Government in Scotland has also been developing a strategy to encourage more health research and to try to translate the findings into improved practice.

There are several initiatives. The Scottish Translational Research Collaboration will oversee £50 million of funding for projects over the next five years and the Translational Medicine Research Institute, set up in April 2006, will ensure research is translated into better practice. Three research consortia were set up in 2004-05 by the Chief Scientist Office, the Health Department's nursing division and NHS Education for Scotland.

Additionally Scottish Enterprise, Scotland's economic development agency, set up three Intermediary Technology Institutes (ITI), including ITI Life Sciences, in 2003. The proof of concept programme supports the commercialisation of research.

Generation Scotland, a new programme to create more effective treatments based on genetic knowledge has been set up as a partnership between the Scottish University Medical Schools, Biomedical Research Institutes, the NHS in Scotland and the people of Scotland. Finally, the Edinburgh Centre for Biomedical Research, costing £200 million, is currently under construction.

Developments in Wales

Many of the initiatives announced in England will also cover Wales. However, the Welsh Assembly also has its own ten-year strategy for the health service, "Designed for Life", and recently published its science strategy. In December 2006 the Assembly agreed to provide an extra £3 million for higher education specifically to help lever income from charitable organisations.

The Clinical Research Collaboration for Wales, backed by £4.5 million from the Assembly, is designed to increase the quality and quantity of clinical trials and other well-designed research studies in Wales.

It has provided specific funding for a variety of research networks, including children and young people, and mental health. A further £1.6 million was allocated to new health-related research in December 2006, including projects on mental health.

Northern Ireland's approach

In Northern Ireland, the Research and Development Office is responsible for supporting health research initiatives. In line with UK-wide priorities, it encourages research that has a practical application for patients. In 2005-06 its funding was £12 million.

Although it is possible for researchers in Northern Ireland to take part in any of the clinical trial areas identified by the UK Clinical Research Network, it is also forming the Northern Ireland Clinical Research Network. It also funds the Northern Ireland Cancer Clinical Trials Unit.

There are also funding opportunities with Invest Northern Ireland and Biobusiness Northern Ireland, as well as with other UK funding bodies and the National Cancer Institute in the USA.

The Wellcome Trust has recently agreed to finance the construction of research centres in Belfast and Dublin, with the Research and Development Office picking up some of the ongoing costs for five years initially. There is a growth in all-island research too: the Irish Clinical Research Infrastructure Network is being set up, which will enable participation in European research.

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