EXECUTIVE SUMMARY
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This analysis compiles information about the expenditure on health relevant research in the UK. Comprehensive information about research undertaken in 2009/10 and supported by the 12 main public and charitable funders of health research in the UK was used to examine health relevant research activity in detail.

The monitoring and strategic co-ordination of health research is important given that it represents a substantial part of the UK science base, and has been shown to provide an exceptional rate of return to the UK economy1.

For the first time the total expenditure on health relevant research and development by UK businesses, public sector organisations and not-for-profit organisations is estimated using data from ONS, HESA and the UKCRC. Our estimate for the total expenditure on health-related research and development, performed by UK public, private and not-for-profit organisations (although not necessarily conducted in the UK) in 2009/10 is approximately £8bn2. This represents almost a third of all research and development expenditure in the UK. Over half of this (approximately £4.5bn) is carried by the private sector, leaving in the region of £3.5bn of activity in the public and not-for-profit sectors. Significant complementarity is seen between the private, public and charitable investments in health research.

Using the Health Research Classification System (HRCS), almost 12,000 peer reviewed awards from the 12 participating publicly and charitable funded organisations were categorised in detail. These awards total £1.6 billion of direct expenditure on health research in 2009/10. Taking into account a further £824m of spend on research infrastructure, this totals just over £2.4bn of expenditure in support of health research in the UK for that year. It is suggested that this “bottom-up” analysis includes almost all public and charitable funded health research in the UK, and is estimated to cover a significant proportion of the fundamental and translational health research occurring in the UK. We also suggest that the remaining £1.1bn of research performed in the UK outside of the private sector largely comprises quality related funding for Universities from the UK funding councils, overseas funding for UK research and NHS supported clinical academic posts.

Comparisons were made with expenditure on health research in 2004/05 using a UKCRC dataset published in 2006. Several significant differences were noted between the 2004/05 and 2009/10 portfolios:

- Overall annual funding for health-related research included in this analysis was larger by just over 50% in real terms (from £1bn in 2004/05 to over £1.6bn in 2009/10). It was noted that part of this increase was due to the move to full economic costing, but that both public and charitable funding agencies had been able to significantly increase the support available for health research.
- 60% of the health research portfolio analysed in detail is focussed on the basic understanding of health and disease. Areas relevant to “underpinning” and “aetiological” research received over £226m more funding in 2009/10 compared to 2004/05 in real terms. Although the proportion of overall funding allocated to these areas was lower in 2009/10 compared to 2004/05 they remain the areas against which most funding is allocated.
- Within the areas of “underpinning” and “aetiological” research, there was more research with relevance to methodology in the 2009/10 portfolio compared to the 2004/05 dataset.
- Funding in real terms for prevention research, an area identified as in need of expanding in 2006, had more than twice as much funding in 2009/10 compared to 2004/05 (from £27m to £61m), and the main focus of this was on primary prevention research.
- An additional £131m in real terms was spent on research categorised as treatment development and treatment evaluation in 2009/10 compared to 2004/05. These categories represent more translational areas.
- Spending on respiratory medicine research was almost three times higher in real terms in 2009/10 compared to 2004/05 (changing from a small portfolio of £10m in 2004/05 to £28m in 2009/10).

2 See Appendix 3.
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- Funding for research categorised as relevant to oral/gastrointestinal diseases in 2009/10 was twice that of 2004/05 (a real terms change of £15m to £30m).
- £100m more was spent in real terms on research relevant to cancer in 2009/10 compared to 2004/05 (total spend in 2009/10 £320m), and £35m more on research relevant to neurological diseases (total spend in 2009/10 £161m).
- The proportion spent on research for mental health (total spend in 2009/10 £90m) and infectious diseases (total spend in 2009/10 £177m) was higher in the 2009/10 dataset compared to the 2004/05 portfolio.
- Between the two datasets, five years apart, there were small differences in the distribution of health research funding across UK regions and cities. Both Oxford (+1%) and Cambridge (+0.5%) had a higher share of total health research funding, whereas the share of funding for London institutions was the same at just over a third of the total (33.4%).
- £25m more health research funding was identified for institutions based in Wales in 2009/10 compared to 2004/05, in real terms. Similarly £43m more funding for health research for institutions in Scotland was identified 2009/10 compared to 2004/05. Funding for institutions in Northern Ireland was £4m higher in 2009/10 compared to 2004/05 in real terms. In England, research funding increased by £474m in real terms over the same period.
- The exercise compiled details of almost £60m of funding provided to support health research outside the UK.

The changes reflect in part the impact of a number of initiatives aimed at boosting clinical research and experimental medicine, including joint initiatives developed under the auspices of the UKCRC and OSCHR. This co-ordination is aimed at delivering a step-change in the way that health research is supported to the benefit of patients, the NHS and the wider healthcare economy.

The funding organisations contributing data to the analysis have different drivers and approaches to funding research and will use the findings from the analysis in different ways.

HRAF proposes that a process for the regular compilation of portfolio data, and a community of practice to enhance the use of the HRCS nationally and internationally should be established. Preliminary discussions have already taken place under the auspices of the European Medical Research Council (EMRC), to highlight and encourage use of the HRCS across Europe. In addition HRAF will explore approaches to automate the coding of awards using the HRCS to make future analysis easier, cheaper and more systematic.

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3 The Office for Strategic Co-ordination of Health Research (OSCHR) http://www.nihr.ac.uk/about/Pages/about_oschr.aspx
5 European Medical Research Council (EMRC) special policy brief 43 “Health Research Classification Systems – Current Approaches and Future Recommendations” (2011) http://www.esf.org/fileadmin/FlipBooks/emrc_sbp43/emrc_sbp43/assets/seo/page1.html