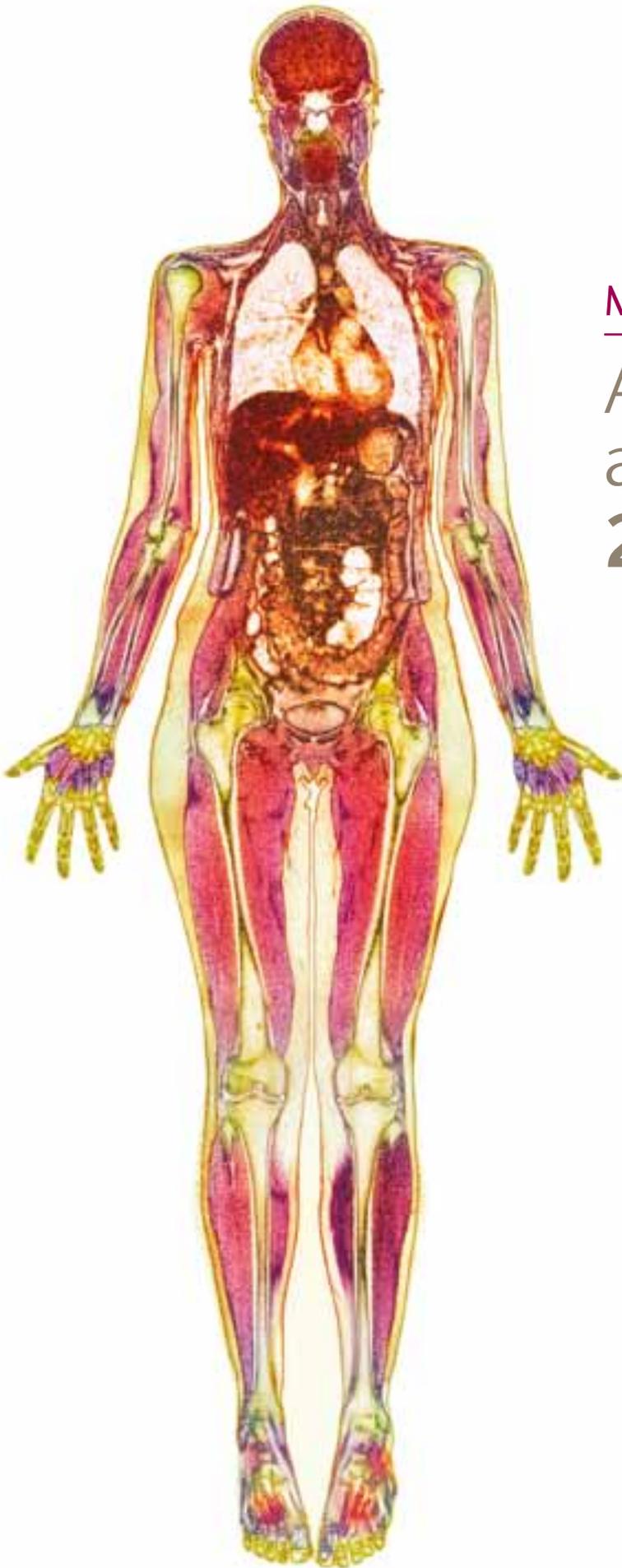


Research changes lives

MRC

Medical  
Research  
Council



Medical Research Council

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# Annual Report and Accounts **2011/12**



# Medical Research Council

## Annual Report and Accounts 2011/2012

Presented to Parliament pursuant to Paragraph 2 (2) and 3 (3) of Schedule 1 of the Science and Technology Act 1965.

Ordered by the House of Commons to be printed on 16 July 2012

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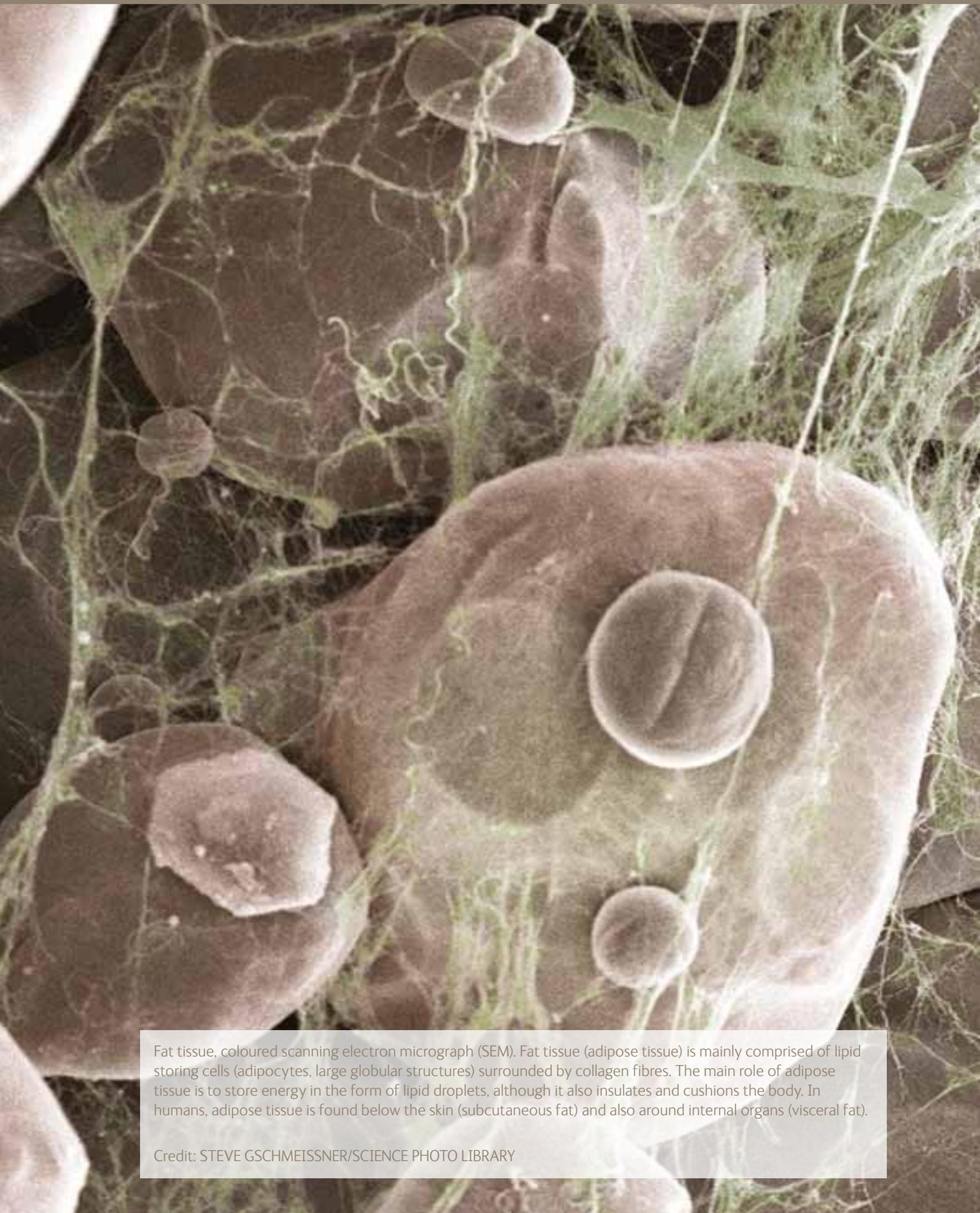
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Fat tissue, coloured scanning electron micrograph (SEM). Fat tissue (adipose tissue) is mainly comprised of lipid storing cells (adipocytes, large globular structures) surrounded by collagen fibres. The main role of adipose tissue is to store energy in the form of lipid droplets, although it also insulates and cushions the body. In humans, adipose tissue is found below the skin (subcutaneous fat) and also around internal organs (visceral fat).

Credit: STEVE GSCHMEISSNER/SCIENCE PHOTO LIBRARY

The background of the page is a photograph of a forest floor. It features several large, smooth, greyish-brown rocks of various sizes. The rocks are heavily covered with a dense layer of green moss and intricate, web-like lichen. The lighting is soft, highlighting the textures of the moss and the smooth surfaces of the stones. The overall color palette is muted, consisting of earthy greens, greys, and browns.

# Foreword

## Foreword

from the Chairman and Chief Executive



*Sir John Chisholm, Chairman*

If 2010/11 was a year of change for the MRC, then 2011/12 was a year of consolidation and progress. Our allocation in the science budget in December 2010, after the outcome of the Spending Review was announced in October, meant that our resource spending on science was maintained in real terms during 2011/12. Throughout the year we have introduced new funding mechanisms and programmes which partner a variety of other organisations to ensure that we get the best value from these resources, with each organisation playing to its strengths so that we can continue to deliver on our mission to fund world-leading research that improves the health and wealth of the UK.

In times of constraint we must find creative answers to challenges. This year we have been establishing new ways of funding science and expecting researchers to be creative too. For example, our collaboration with the pharmaceutical company AstraZeneca (see page 41) is a landmark project asking UK academic researchers to gain insight into disease by coming up with new ways to use a set of valuable, AstraZeneca compounds that are not being pursued by the company. Similarly, our new Stratified Medicine Initiative (see page 42) is asking research consortia to look at diseases in a new way, and to think innovatively about how a disease can be tackled by treating groups of patients differently.

Both these initiatives were announced as part of the **Strategy for UK Life Sciences** in December which, along with the **Innovation and Research Strategy for Growth**, set out the Government's vision for a medical science sector that delivers for people, patients and the economy, and in which the MRC plays an important role.

We want to deliver for the UK population, both by translating discoveries into patient benefits in the clinic and wider economic growth. We encourage collaboration between organisations that might not usually interact with each other, such as academic and industry researchers. MRC-funded researchers have collaborated with 340 companies since 2006 and the number of interactions continues to increase.

Successful translation is a team game and to achieve our aims we work with a wide variety of organisations. We work with other funding agencies — such as the other research councils and medical research charities — the UK's health departments and the National Institute of Health Research (NIHR), government agencies such as the Technology Strategy Board (TSB), and companies so that we can combine our strengths and ensure a seamless pipeline from basic research to delivering new treatments to patients. It is through these varied partnerships that science progresses and we can tackle some of the most pressing health issues facing society.

One example of such a partnership is working with the TSB on the formation of the TSB/MRC Biomedical Catalyst, a £180-million programme which aims to support academic and industry scientists to move their research more quickly from discovery to commercialisation (see page 41). We are also working with the Engineering and Physical Sciences Research Council (EPSRC) and the Biotechnology and Biological Sciences Research Council (BBSRC) on the new £25m MRC/EPSC/BBSRC UK Regenerative Medicine Platform (see page 31) and existing Stratified Medicine Innovation Platform (see page 42).

Many other examples of the MRC working collaboratively can be found throughout the pages of this report. We have continued to work with the research councils on cross-council programmes such as Lifelong Health and Wellbeing (see page 35) and the Environmental and Social Ecology of Infectious Diseases Initiative (see page 36). We have established partnerships with pharmaceutical companies on initiatives such as the £4m boost to the MRC-Asthma UK Centre in Allergic Mechanisms of Asthma shared with GlaxoSmithKline (GSK) (see page 29). We have set up two new centres for research into musculoskeletal ageing with the charity Arthritis Research UK (see page 30) and have jointly funded a clinical trial for a cystic fibrosis gene therapy with NIHR (see page 33).

The MRC Strategic Plan for 2009-2014, **Research Changes Lives**, published in June 2009, is a working five-year plan that guides our funding decisions. In 2011/12 we have continued to support research in the priority areas laid out in the plan. This has been a significant year for regenerative medicine, with the launch of the MRC-led UK Regenerative Medicine Strategy in March 2012 (see page 31), and the aforementioned UK Regenerative Medicine Platform. The first clinical grade stem cell lines from MRC-funded clinical grade derivation centres are now being deposited in the UK Stem Cell Bank and stem cell trials are now going ahead in humans — a satisfying outcome of our sustained investment in this area.

Recognising the importance of population-based electronic data to research, in 2011/12 we brought together a consortium of the 10 largest government and charity health research funders to jointly fund a £15m initiative to establish UK centres of excellence to research and build capacity in linking health-related electronic data (see page 61).

On a day-to-day level, we have settled in to our new Head Office premises in Swindon and London, found better ways of working with new back office systems and have begun to implement the recommendations of **Efficiency 2011-15: Ensuring Excellence with Impact**, a 2011 Research Councils UK (RCUK) report responding to the **Wakeham Review**.

We have also continued to proceed with our plans to turn more of our intramural units into university units in 2011/12. Universities provide excellent research environments and we are keen, where appropriate, to ensure that we support research in the most efficient environment. This, in many cases, will mean transferring units into university infrastructure rather than providing infrastructural services ourselves.

These remain challenging times, but the MRC is playing its part in building for the future.

**Sir John Chisholm, Chairman**



*Sir John Savill, Chief Executive*

2011/12 was my first full financial year at the helm of the MRC and I have been proud to see how we have faced the challenges brought about by our reduced administration and capital budgets, and our need to make efficiency savings so that we can re-invest as much as possible in our scientific research programmes.

Such challenges bring about opportunities for finding new and innovative ways to make sure that we fund the kinds of research that will have the biggest impact — from the discovery science that will deliver years or decades into the future to the later-stage research that is close to providing benefits for patients. This is why we invest in all aspects of medical research from fundamental laboratory studies to clinical research and across the translational spectrum.

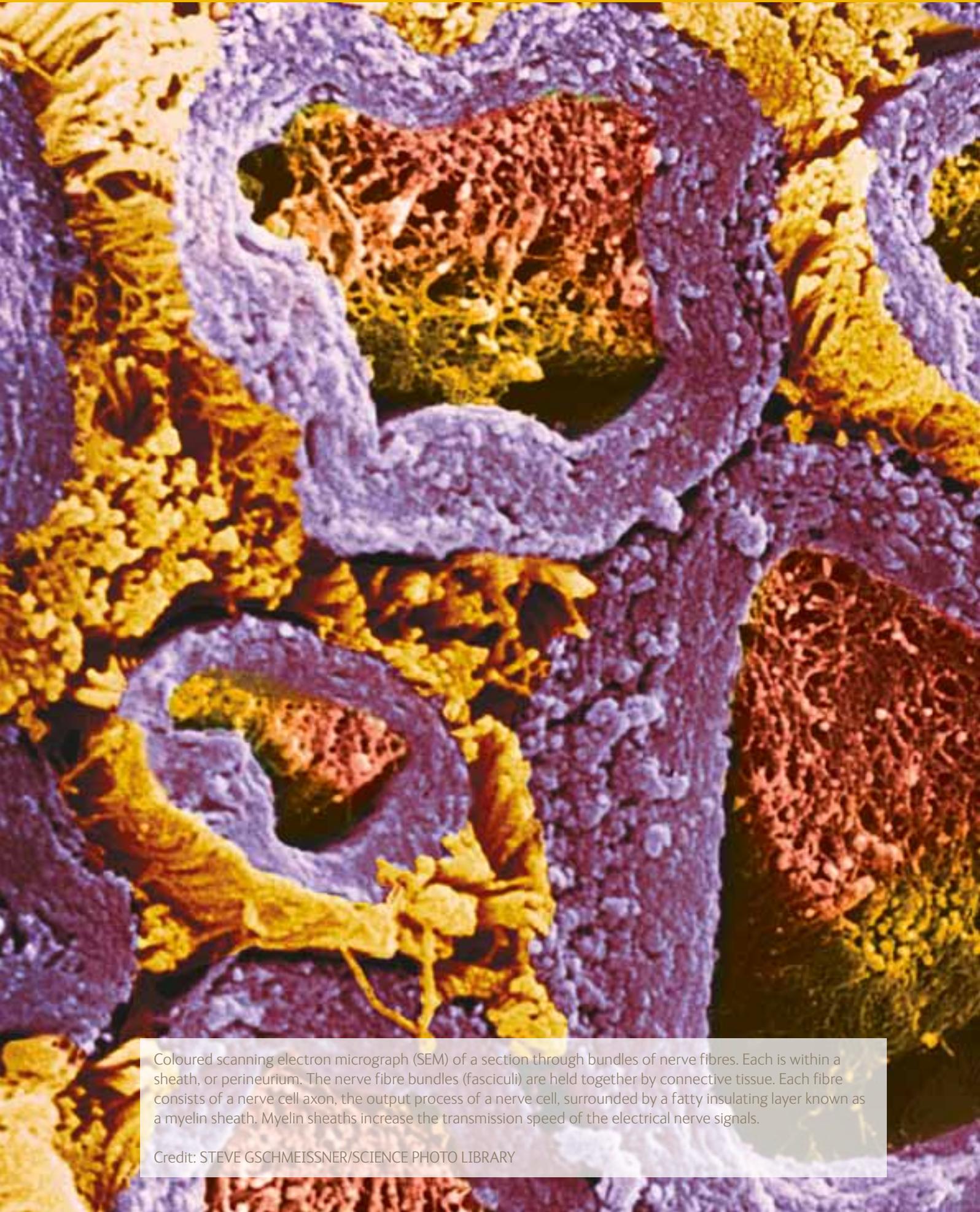
To do this well, we work with partners every step of the way, recognising that different organisations and groups of people bring varied skills, knowledge and resources — all of which are required to make real-world sustained improvements in health. It is this holistic working with the public and private sectors, charities, universities and governments that will overcome challenges in health and disease.

But that does not mean we ignore individuals; far from it. Innovation is about insight and ideas as well as hard work in areas as diverse as e-health and molecular biology, clinical trials methodology and public health. We support the next generation of researchers by broadening their opportunities for development; this year we have offered MRC fellows the chance to partner with industry in new ways beneficial to both parties.

By the time we produce our next annual report we will be well into our centenary year — a time to reflect on the huge improvements in health that the MRC and medical science has delivered for the UK and global populations in the past 100 years, as well as on how we can ensure that these improvements continue for another 100 years. I believe we are in excellent shape to do so.

***Sir John Savill, Chief Executive***





Coloured scanning electron micrograph (SEM) of a section through bundles of nerve fibres. Each is within a sheath, or perineurium. The nerve fibre bundles (fasciculi) are held together by connective tissue. Each fibre consists of a nerve cell axon, the output process of a nerve cell, surrounded by a fatty insulating layer known as a myelin sheath. Myelin sheaths increase the transmission speed of the electrical nerve signals.

Credit: STEVE GSCHMEISSNER/SCIENCE PHOTO LIBRARY

A microscopic image of biological tissue, possibly a cross-section of a plant stem or a similar structure. The image shows a complex network of cells and fibers, with a prominent yellowish-brown structure running through the center. The background is a mix of purple and blue hues. A yellow rectangular box is overlaid on the left side of the image, containing the text "The MRC in 2011/12".

# The MRC in 2011/12

# The MRC in 2011/2012

## Introduction

The MRC is a publicly-funded organisation dedicated to improving human health. We support research across the entire spectrum of medical sciences, in universities and hospitals, in our own research units and institutes across the UK and in Africa.

At the heart of our mission is to improve human health through world-class medical research. To achieve this, we support research across the biomedical spectrum, from fundamental laboratory-based science to clinical trials, in all major disease areas. We work closely with key stakeholders and other research funders in the UK and internationally to deliver our mission, prioritising research that is likely to make a real difference to clinical practice and the health of the population.

Our stakeholders include the UK's health departments and other government departments and agencies, the six other research councils, the Technology Strategy Board, industry and the academic and charity sectors.

Established in 1913 and incorporated by Royal Charter in 1920, the MRC's mission is to:

- Encourage and support research to improve human health.
- Produce skilled researchers.
- Advance and disseminate knowledge and technology to improve the quality of life and economic competitiveness of the UK.
- Promote dialogue with the public about medical research.

This annual report to Parliament describes our progress in meeting our aims and objectives between 1 April 2011 and 31 March 2012. It highlights key initiatives and partnerships and outlines some of our plans for the future. Each year's scientific achievements are highlighted in our online annual review and other publications available from the MRC website at [www.mrc.ac.uk](http://www.mrc.ac.uk)

### MAKING AN IMPACT

This annual report lays out the significant activities we have carried out in the year 2011/12 in line with our strategic plan. Throughout the report you will also find 'making an impact' boxes, similar to this one, with examples of MRC achievements and impacts.

Anyone interested in learning more about our achievements and impacts might like to read our annual reviews and economic impact reports, which can be found at [www.mrc.ac.uk/Newspublications/Publications](http://www.mrc.ac.uk/Newspublications/Publications) and our yearly summaries of MRC e-Val data, which can be found at [www.mrc.ac.uk/Achievementsimpact/Outputsoutcomes/e-Val](http://www.mrc.ac.uk/Achievementsimpact/Outputsoutcomes/e-Val)

The MRC receives its core funding allocation from the Department for Business, Innovation and Skills (BIS), in line with the Government's spending review cycle. We receive additional funding from other partners to take forward collaborative projects and joint initiatives which increase the impact of our work and the public funding we receive.

Our allocation for 2011/12 was agreed under the 2010 Spending Review and our plans for allocating these resources to deliver our mission were outlined in our updated **MRC Delivery Plan 2011/12 – 2014/15**.

In 2009, we published the MRC Strategic Plan for 2009-2014, **Research Changes Lives**, which defined our role in contributing to faster and more effective ways for medical research to flourish at all stages: from working to understand the fundamental science of how our bodies work to tackling some of the most pressing health issues facing society. We identified four strategic aims (see Box page 16) and the following four chapters of the annual report details our progress towards each of these aims during 2011/12.

### The MRC's Council

The MRC's Council directs and oversees corporate policy and scientific strategy, ensures the organisation is managed effectively and makes major policy and spending decisions. Council members share collective responsibility for its actions and performance. Responsibility for implementing the Council's strategy and decisions is delegated to the chief executive.

Sir John Chisholm,  
Chairman

Professor Sir John Savill,  
Deputy Chair and CEO

Professor Jeffrey Almond  
Sanofi Pasteur, France

Professor Michael Arthur  
University of Leeds

Mr Tony Caplin  
Northwest London Hospitals  
NHS Trust

Professor Dame Sally Davies  
Department of Health, England

Professor Chris Day  
Newcastle University

Dr Annette Doherty  
Pfizer Worldwide Research  
and Development

Dr Richard Henderson  
MRC Laboratory of Molecular  
Biology, Cambridge

Professor Dame Sally Macintyre  
MRC Social and Public Health  
Sciences Unit, Glasgow

Professor Paul Morgan <sup>1</sup>  
Cardiff University

Ms Vivienne Parry  
Writer and Broadcaster, London

Lord Naren Patel  
House of Lords

Professor Michael Schneider  
Imperial College London

Mr Jeremy Clayton, Observer  
Department for Business, Innovation  
and Skills

1. Appointment commenced 1 April 2011

**MRC strategic aims 2009-2014**

- Picking research that delivers: setting research priorities which are most likely to deliver improved health outcomes (see page 28).
- Research to people: bringing the benefits of excellent research to all sections of society (see page 40).
- Going global: accelerating progress in international health research (see page 52).
- Supporting scientists: sustaining a robust and flourishing environment for world-class medical research (see page 58).

**Facts and figures**

In 2011/12 the MRC's gross research expenditure was £759.4m compared with £797.7m in 2010/11. This support for world-class medical research to improve human health and enhance the economic competitiveness of the UK included <sup>2</sup>:

- £309.9m on 1,100 grants to researchers in universities, medical schools and research institutes.
- £354.6m on 440 programmes within the MRC's own research, units and institutes.
- £86.0m on studentships and fellowships, including those in MRC's own units and institutes. There were 1,900 postgraduate students and 400 fellows in March 2012.
- £18.3m for international subscriptions.

Figure 1 shows a breakdown of MRC research spending in 2011/12 by activity and Figure 2 breaks down MRC research spending in 2011/12 by health category. Figure 3 shows commitment to new grants each year since 2004/05.

2. The data in this section was extracted to represent the situation for grants administration and profiles as at 31/3/12.

Figure 1: Estimated research programme expenditure by activity

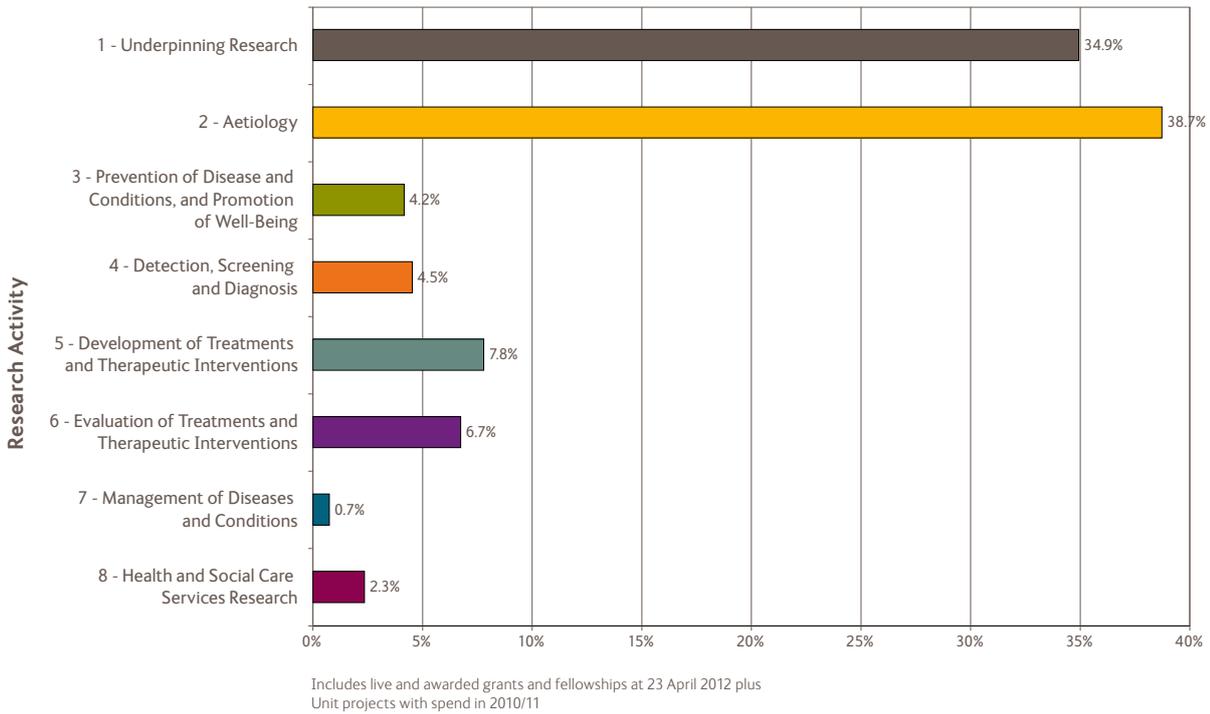
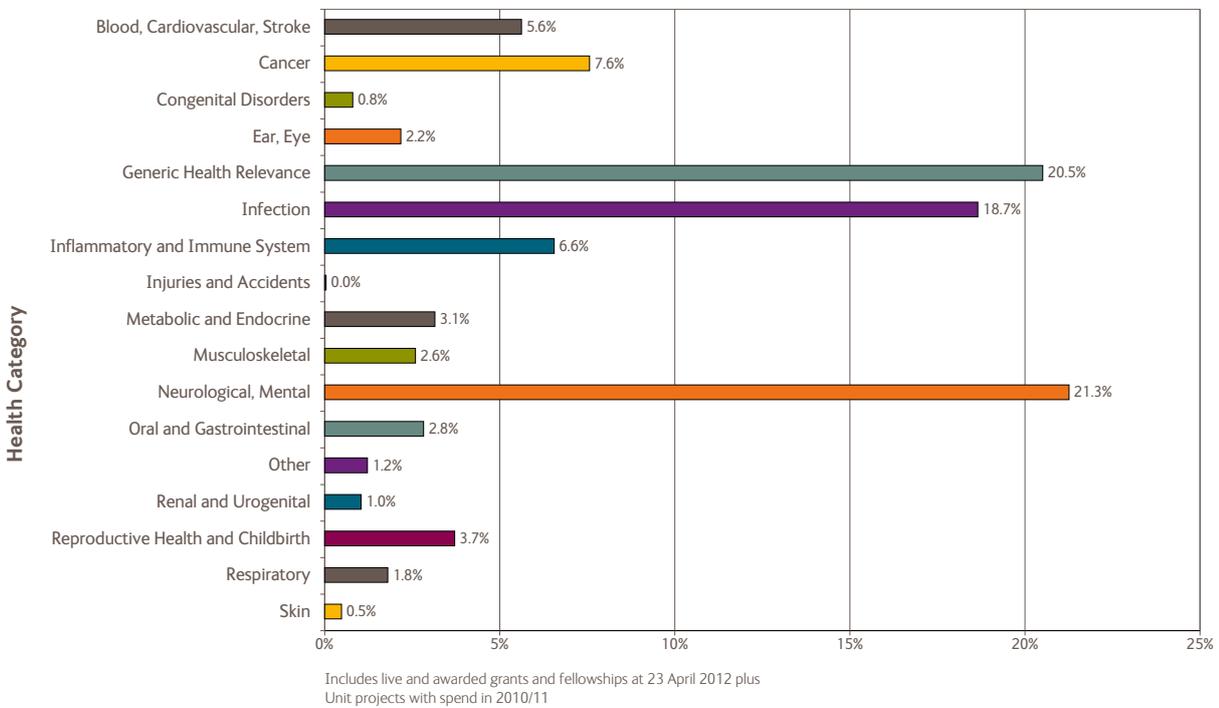
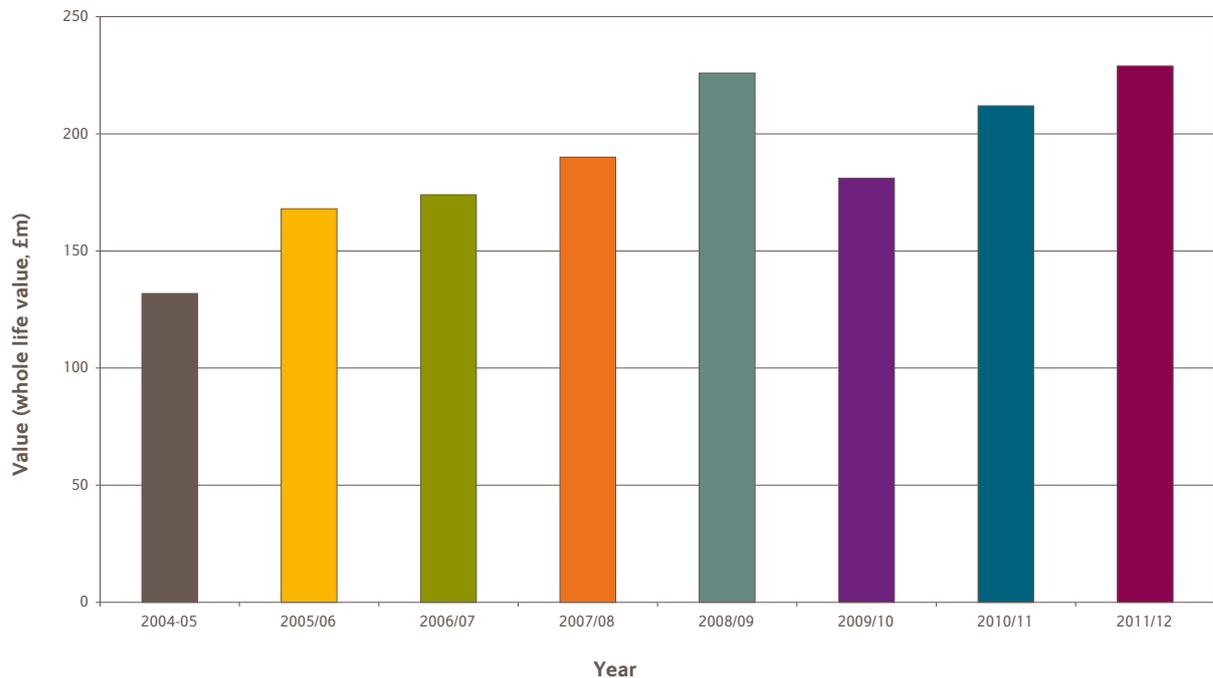


Figure 2: Estimated research programme expenditure by health category



**Figure 3:** New grant commitment by financial year

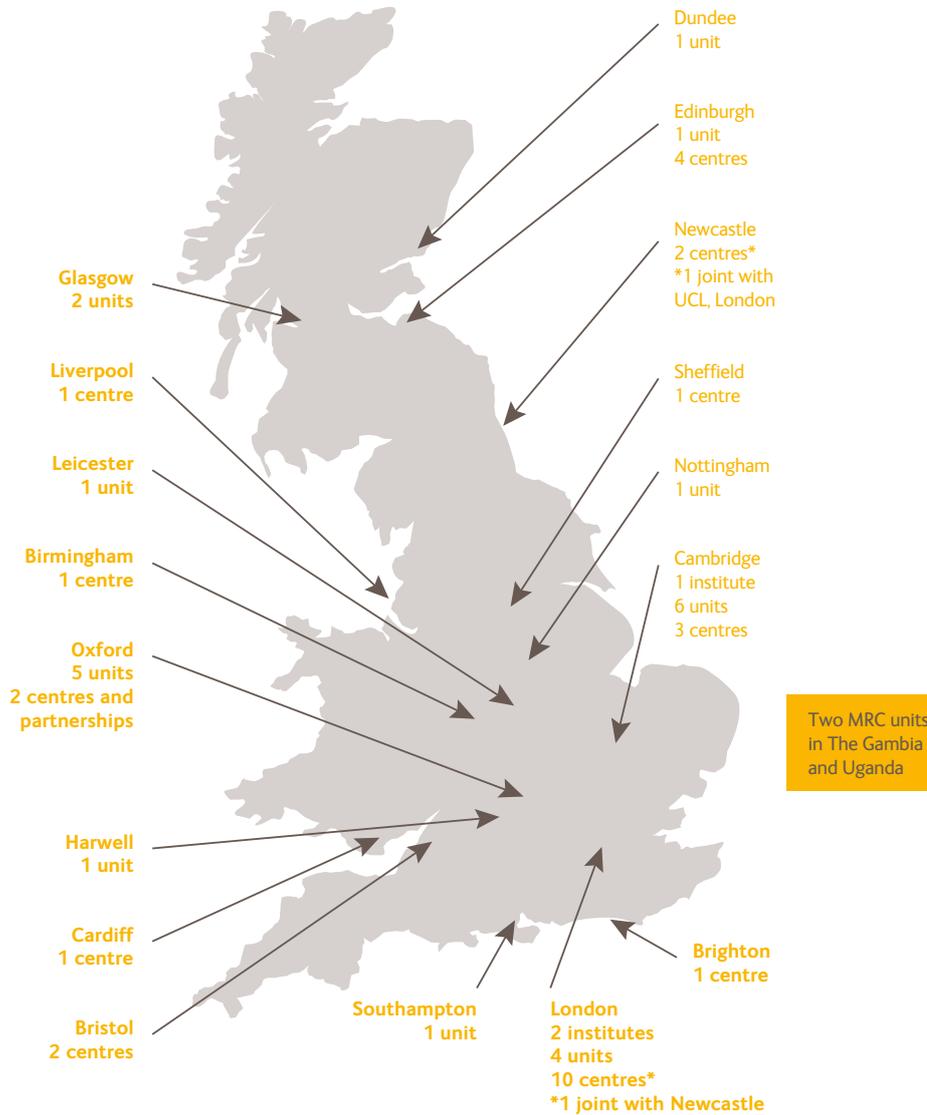
## Institutes, units and centres

The MRC's large-scale investments include three institutes, 25 research units (including two research units in Africa) and 27 centres and related charity partnerships. All institutes, units and centres are reviewed every five years.

During 2011/12 the main reviews and areas of development included:

- Reviewing the three MRC institutes and agreeing their future strategic direction and funding envelopes for the next five years.
- Developing and strengthening partnerships with universities and charities.
- Closing MRC investments which are no longer part of the MRC's remit or provide the best structure to support the science.
- Attracting three new directors to lead MRC units.

**Figure 4:** The MRC's large-scale research investments as at 31 March 2012



A significant amount of change was initiated during 2011/12 including:

- Reviewing all three MRC institutes:
  - MRC Clinical Sciences Centre, London: reviewing and awarding funds for the third section (integrative biology).
  - MRC Laboratory of Molecular Biology, Cambridge.
  - MRC National Institute for Medical Research, London.
  
- Developing and strengthening partnerships, for example:
  - Transferring one unit to a university unit (MRC Human Genetics Unit, Edinburgh).
  - Working with the Wellcome Trust with the aim of funding a joint centre for stem cell research in Cambridge.

- Working with Arthritis Research UK to fund two new joint Arthritis Research UK and MRC Centres for Musculoskeletal Ageing:
  - Liverpool, Newcastle and Sheffield, directed by Professor Malcolm Jackson.
  - Birmingham and Nottingham, directed by Professor Janet Lord.
- Closing one unit (the General Practice Research Practice Framework at University College London) and two centres (the MRC Centre for Nutritional Epidemiology in Cancer Prevention and Survival at the University of Cambridge, and the MRC Centre for Neurodegeneration Research at King's College, London).
- Appointing three new MRC unit directors, to replace retiring directors, who will take up their positions in 2012/13:
  - Professor Dario Alessi at the MRC Protein Phosphorylation Unit, Dundee.
  - Professor Sylvia Richardson at the MRC Biostatistics Unit, Cambridge.
  - Dr Massimo Zeviani at the MRC Mitochondrial Biology Unit, Cambridge.
- New five-year programmes approved for two units with recently appointed directors (the MRC Toxicology Unit in Leicester and the MRC/UVRI Uganda Research Unit on AIDS) and one centre (the MRC Centre for Reproductive Health at the University of Edinburgh, which opened as a successor to the MRC Human Reproductive Sciences Unit, which closed in March 2011).
- Establishing a new MRC Centre for Molecular Bacteriology and Infection at Imperial College, London.

**Table 1:** 2011/12 reviews of large-scale investments

	Total (on 31/3/12)	Reviewed	Closed
MRC institutes	3	3	0
MRC research units* and joint units**	25	6	1
MRC university centres and related charity partnerships***	27	8	2
<b>Total</b>	<b>55</b>	<b>17</b>	<b>3</b>

\* Includes three university units

\*\* Includes two units with programmes funded by the Chief Scientist Office of the Scottish Government Health Directorates

\*\*\* Charity partnerships include Arthritis Research UK, Asthma Research UK, Cancer Research UK and the Wellcome Trust

## Boards and overview groups

Funding decisions are made by four research boards after the proposals they receive have been assessed by external reviewers. Each board is responsible for one of the four major areas of medical science that together make up the MRC portfolio. Overview groups ensure that the research boards and other funding committees develop coordinated initiatives and activities. Each group advises the Strategy Board on the allocation of funding and resources in their area. Details of board and overview group membership are available on the MRC website ([www.mrc.ac.uk](http://www.mrc.ac.uk)).

### Changes in 2011/12:

Three new research board chairs were appointed with terms of office starting on 1 April 2012:

- Professor Stephen Hill of the University of Nottingham, Molecular and Cellular Medicine Board.
- Professor Hugh Perry of the University of Southampton, Neurosciences and Mental Health Board.
- Professor David Lomas of the University of Cambridge, Population and Systems Medicine Board.

Two new overview group chairs were appointed with various starting dates:

- Professor Paddy Johnston of Queen's University Belfast, Translational Research Group.
- Baron Peter Piot of the London School of Hygiene and Tropical Medicine, Global Health Group.

## Grant funding

The MRC has a strong and continuing commitment to both basic and translational research. Decisions were made on around 1,200 grant applications during 2011/12; 327 awards were made, committing over £228m.

The following funding decisions were made in 2011/12:

- 234 research grants (£160 million) were funded through our four research boards.
- 26 awards for New Investigator Research Grants were funded (£10.7m) with a success rate of 28 per cent compared with 15 awards and a success rate of 12 per cent in 2010/11.
- 93 awards were made through calls listed in Table 2 (£52.1m)
- 42 translational research awards totalling £34.1m were funded through the boards, Developmental Pathway Funding Scheme, Developmental Clinical Studies, Translational Stem Cell Research Schemes and panels.

**Table 2:** Grant application and success rate by number 2011/12

Grants application type	Number of applications	Awarded	Success rate (%)	Total amount awarded (rounded whole life values) £m
<b>Calls and panels</b>				
African Research Leadership	6	0	0	0.0
Chronic Fatigue Syndrome/ME	10	5	50	1.6
Environmental and Social Ecology of Human Infectious Disease	15	3	20	8.5
Experimental Medicine for Mental Health	38	13	34	3.8
Indian Council	9	4	44	3.2
Joint Global Health Trials	27	9	33	21.8
Mental Health Data Share	13	6	46	1.0
National Prevention Research Initiative	29	17	59	8.7
Methodology Research Programme	50	11	22	3.5
Developmental Pathway Funding Scheme	38	18	47	11.9
Translational Stem Cell Research Committee	7	7	100	4.5
<b>Boards</b>				
Infections and Immunity Board	219	49	22	31.8
Molecular and Cellular Medicine Board	243	55	23	36.7
Neurosciences and Mental Health Board	280	72	26	44.1
Population and Systems Medicine Board	254	58	23	47.4
<b>Grand total</b>	<b>1,238</b>	<b>327</b>	<b>26</b>	<b>228.5</b>

This data was extracted to represent the situation for grants administration and profiles as at 31/3/12.

### Medical Research Foundation

The MRC continued to work in partnership with the trustees of its independently managed charity, the Medical Research Foundation (MRF). The public make bequests and donations to the MRF to support MRC research. During 2011/12 the MRC provided the trustees with advice on scientific strategy and research opportunities, and peer review support. The MRF made over £2.8 million available for new research within the MRC's remit.

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## Measuring impact

To monitor progress against the MRC Strategic Plan for 2009-2014, **Research Changes Lives** and to understand better how MRC research leads to economic, academic and social impact, all MRC-funded researchers provide feedback on the impact of their work through an online system called MRC e-Val.

2011 was the third year that researchers used the system and more than 98 per cent of MRC researchers who had held any funding from the MRC since 2006 submitted information — more than 3,000 scientists. Analysis of the MRC e-Val dataset is yielding a detailed picture of the progress, productivity and quality of the science we support. In particular, it is highlighting how MRC research contributes to the development of new medicines, technologies and improvements to clinical policies and practices, and how MRC research encourages inward investment to the UK.

MRC-funded research carried out between 2006 and 2011 has contributed to:

- More than 70 new products and interventions launched onto the market, including monoclonal antibody therapies for nine separate diseases.
- Significant influences on more than 200 international clinical guideline documents, including 40 UK NICE guidelines.
- Creation or growth of 80 companies, with 47 formed since 2006.
- Four hundred patents, with discoveries from 140 (35 per cent) of these patents already licensed worldwide.
- More than £300 million further funding for MRC groups from private sector and international funders (2006/07-2009/10).

### Research publications

Publications are an important research output, recording new knowledge, methods or insights from a synthesis of existing work. The quantitative analysis of publications, 'bibliometrics', is often used as a way to compare research productivity and quality. One key metric is the number of times that a research paper is cited by other research publications. By normalising for scientific field and year of publication, measures of citation 'impact' can indicate the extent to which research has been used by others.

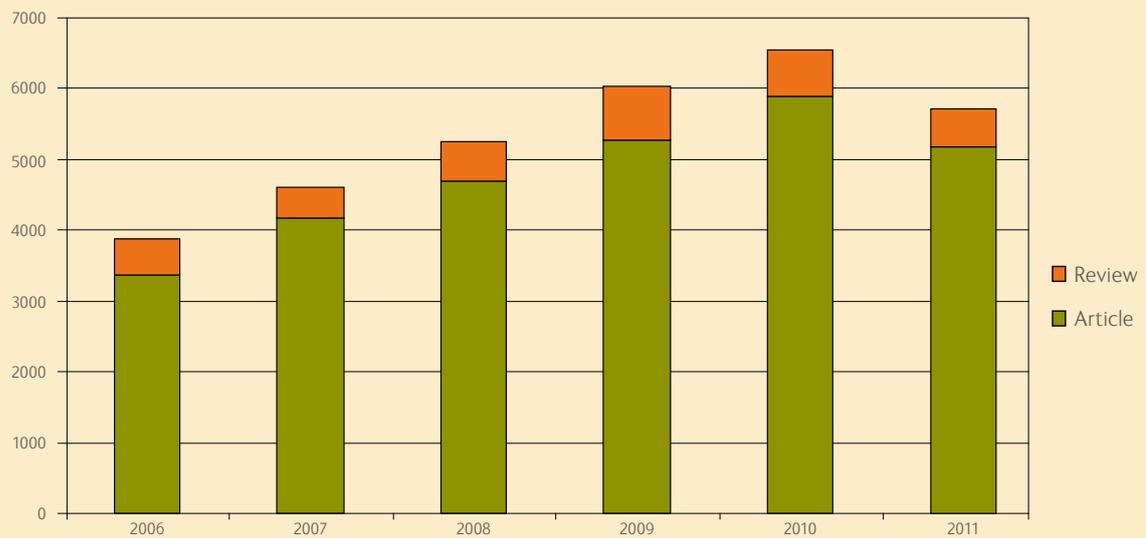
In October 2011 the Department for Business, Innovation and Skills and Elsevier published a study International Comparative Performance of the UK Research Base – 2011<sup>3</sup> which analysed UK research publications and other data about the research base. The report showed evidence of a strong and increasing emphasis on articles published in clinical, health and medical sciences.

The MRC collects data annually via MRC e-Val about publications that have arisen from MRC-funded research. The last data collection exercise was at the end of 2011 and the results are shown in Table 3.

**Table 3:** Numbers of MRC research publications reported via MRC e-Val, calendar years 2006-2011 <sup>4</sup>

	2006	2007	2008	2009	2010	2011	Total
Review	407	484	615	715	646	575	3,442
Article	3,403	4,138	4,643	5,312	5,891	5,179	28,566
<b>Total</b>	<b>3,810</b>	<b>4,622</b>	<b>5,258</b>	<b>6,027</b>	<b>6,537</b>	<b>5,754</b>	<b>32,008</b>

**Figure 5:** Numbers of MRC research publications, calendar years 2006-2011

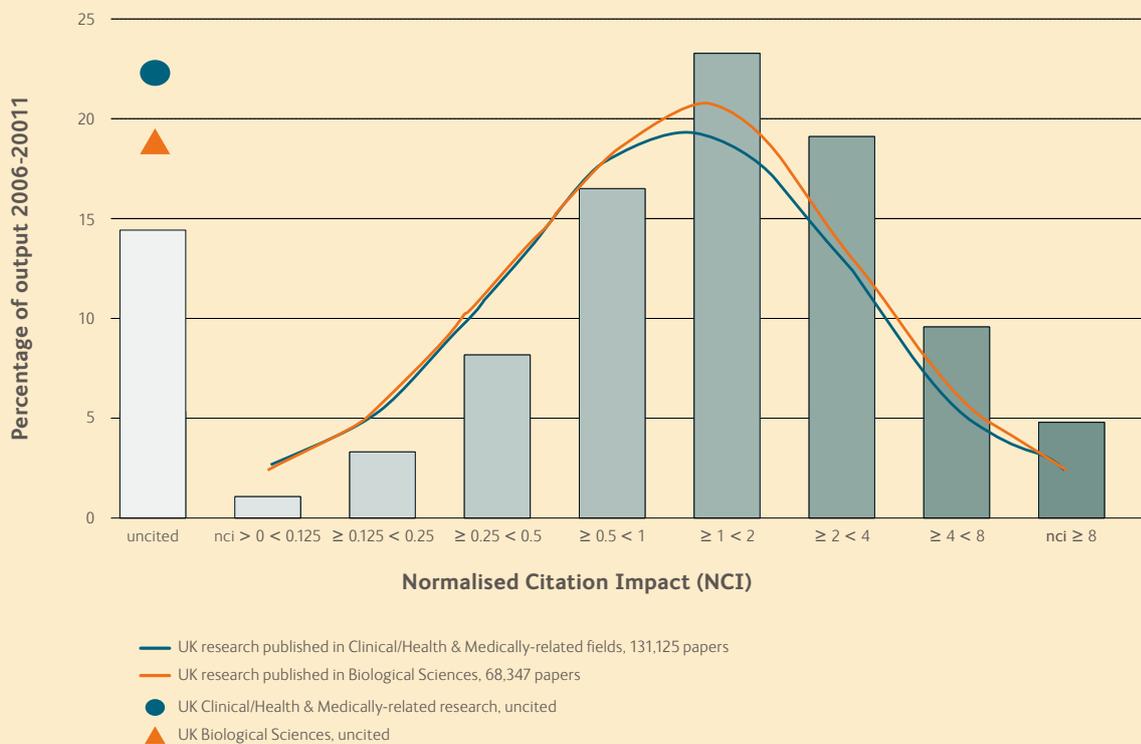


The MRC obtains data on the extent to which these publications are cited in order to measure the impact of MRC research. Using the publications reported in MRC e-Val for 2006-2010 and the 'normalised' citations taken at the end of 2011, MRC-attributed publications had an average normalised citation impact of more than twice the world average.

An impact profile is a graphic representation of normalised citation impact scores. You would expect to see a 'normal' curve on the graph, and the further shifted to the right the graph's curve is, the better.

As seen in Figure 6, publications arising from MRC funding performed better than the UK average for fields of biological sciences and clinical/health and medically-related research (data and analysis: Evidence, Thomson Reuters UK). In the figure, the bars represent the normalised citation scores for MRC-funded papers between 2006 and 2010 and the lines represent the UK average for biological sciences and clinical/health and medically-related fields. For the UK in general, approximately 30 per cent of papers are never cited. This falls to 22 percent in the clinical/health and medically-related field, and for MRC-funded research this falls further still to about 15 per cent (as shown on the impact profile below).

**Figure 6:** 2010 citation profiles for papers published 2006-2010: MRC research compared with UK research in relevant fields



- International Comparative Performance of the UK Research Base – 2011, report prepared by Elsevier for BIS, can be found at [www.bis.gov.uk/assets/biscore/science/docs/i/11-p123-international-comparative-performance-uk-research-base-2011](http://www.bis.gov.uk/assets/biscore/science/docs/i/11-p123-international-comparative-performance-uk-research-base-2011)
- It should be noted that owing to the timing of data collection in MRC e-Val, the figures for 2011 do not represent the full year and will increase slightly. The data include 'Epubs ahead of print': i.e. publications that are published electronically prior to being 'fully' published in print format.



Fat cells, or adipocytes, coloured scanning electron micrograph (SEM). Adipocytes store energy as an insulating layer of fat and the majority of the cell's volume is taken up by a large lipid droplet.

Credit: STEVE GSCHMEISSNER/SCIENCE PHOTO LIBRARY

A detailed scanning electron micrograph (SEM) of plant tissue, showing a dense arrangement of rounded, greenish cells. The cells are interconnected by a network of fine, fibrous structures, likely cell walls or membranes. The overall appearance is highly textured and three-dimensional. A prominent horizontal band of a solid green color is overlaid on the image, containing the text.

# Picking research that delivers

## Picking research that delivers

The MRC Strategic Plan for 2009-2014, **Research Changes Lives**, sets out our research priorities under two themes: Resilience, repair and replacement, and Living a long and healthy life. We aim to speed up the exploitation of the best ideas in these areas, from fundamental discovery science to therapeutic interventions. In 2011/12, the MRC continued to support world-class scientists working in fields relevant to these themes.

---

### Resilience, repair and replacement

This theme focuses on understanding more about resilience to disease, and how disease occurs and progresses so that we can develop treatments. It also focuses specifically on how we can translate emerging knowledge in regenerative medicine into therapies.

#### Natural protection: exploring resilience to disease and degeneration

Understanding how the body protects itself from disease, and what goes wrong when this resilience breaks down, is vital for developing new therapies. We invest strongly in science studying the natural mechanisms that protect the body against disease.

The MRC Human Immunology Unit (HIU) at Oxford University is one such strategic investment in fundamental research. The HIU was the first MRC university unit to undergo a five-yearly review in December 2011 under its new director, Professor Vincenzo Cerundolo. In February 2012 the unit's plans for the next five years were agreed and the MRC awarded indicative funding of £20m for the next five years, including confirmed funding of £8m during the remainder of the current spending review period (to March 2015). The unit's mission is to foster research in human immunology and apply this knowledge to the development of better treatment strategies against infectious diseases, cancer, allergy and autoimmune diseases. To do this, research will be centred on three themes: cancer immunology, infection and immunity, and autoimmunity. Research programmes include investigations of immunology in cancer, the skin and gut, and in response to infections, multiple sclerosis and innate immunity, while programmes in imaging and metabolism will be introduced and developed.

In February 2012 the MRC awarded £3.26m to establish a new MRC Centre for Molecular Bacteriology and Infection at Imperial College London under the directorship of Professor David Holden. This will create a centre of excellence to study molecular mechanisms underlying bacterial pathogenesis and host resistance so that researchers can design new and effective vaccines and antibacterial drugs. The centre is expected to become a major focal point in the UK for young academic and clinically qualified researchers wishing to study bacterial-host interactions.

The MRC Centre for Transplantation, established at King's College London in 2007, was awarded £1.7m in February 2012 for a final five years to September 2017. Under the continuing directorship of Professor Steven Sacks, the centre aims to overcome obstacles presented by the immune system that impede the success of modern transplantation. Through strong links with three NHS Foundation Trusts, researchers and clinicians will seek to convert knowledge of inflammation, immunity and tolerance into new treatments, and diagnostic and prognostic technologies for the benefits of transplant patients.

We also fund translational research in the area of immunology. In November 2011 we announced a five-year partnership with the pharmaceutical company GlaxoSmithKline to put £2m each into a programme of research at the MRC-Asthma UK Centre in Allergic Mechanisms of Asthma. The programme will investigate how viral infection in people with asthma can lead to acute, life-threatening asthma attacks which are often resistant to treatment. Researchers at the centre will also investigate the extent to which potential therapeutic compounds can alleviate acute attacks in mouse models — thereby identifying new therapeutic targets.

Also in 2011/12 we continued our support for a variety of clinical trials in infectious diseases in the developing world, as well as our strategic support for our units in The Gambia and Uganda. Please see page 54 in the Global health section for more information.

## MAKING AN IMPACT

### Potential new drugs for 'glue ear'

Many children in the UK suffer from ear infections. Some go on to develop chronic inflammation of the middle ear, a condition commonly known as 'glue ear', which can lead to temporary hearing loss and social and developmental delays. The only reliable treatment for glue ear is the surgical insertion of tiny plastic tubes or 'grommets' into the ear.

Researchers led by Professor Steve Brown at the MRC Mammalian Genetics Unit have found that a group of existing drugs currently used to treat cancer might also relieve the symptoms of glue ear. One of the key factors in the development of chronic inflammation is a lack of oxygen reaching the middle ear. The drugs tackle this lack of oxygen and the team has shown that they reduce hearing loss and the build up of fluid in mouse models of glue ear.

The researchers need to confirm that the disease process is the same in humans and if so, they estimate that a treatment could reach clinical trials in around five years. Professor Brown said: "The fact that these drugs are already on the market means that the time and cost needed to develop them into a new treatment for glue ear could be dramatically reduced."

For more information see: <http://www.mrc.ac.uk/Newspublications/News/MRC008249>

## Tissue disease and degeneration: investigating the biology of ageing and deterioration

Seven million Europeans suffer from Alzheimer's disease, the most common form of dementia. There is no cure for the disease and numbers of people affected are expected to double every 20 years as the population ages. Dementias are the most challenging and expensive neurodegenerative diseases to deal with — it currently costs about £108bn a year to care for people with dementia in Europe. The scale of the issue was reflected in the Prime Minister's 'Challenge on Dementia', a programme of work announced in March 2012 that aims to deliver major improvements in dementia care and research by 2015.

We are committed to ensuring better research into dementia and to increasing funding for dementia research. With our partners the National Institute for Health Research (NIHR) and the Economic and Social Research Council (ESRC), we aim to double our investment in dementia research in the next two to three years. We also announced in March 2012 that we would contribute a further £3m to support the UK Brain Banks Network, which connects all UK brain banks for the benefit of donors, researchers and future patients.

The MRC is a leading partner in the EU Joint Programme in Neurodegenerative Disease Research (JPND), which seeks to tackle the growing burden of neurodegenerative diseases with research across the spectrum from new treatments to social care. In 2011/12 the MRC led the creation of a 10-year research strategy for the JPND, which was published in February 2012. The strategy's priorities will be addressed by multilateral research consortia, with each member country funding the work of its research organisations. In December 2010 the MRC funded UK researchers as part of JPND's first funding call to address the challenge of developing 'biomarkers' — substances used to measure biological processes — for neurodegenerative diseases that can be used in diagnosis and clinical trials.

We also continued to be involved in the International Network of Centres of Excellence in Neurodegeneration (COEN) initiative, which brings together leading international laboratories to undertake innovative research in the area. The MRC chairs the COEN oversight group and administered the first funding call in September 2011. We also led a working group under the Ministerial Advisory Group on Dementia Research (MAGDR) to determine the priorities for dementia research in the UK, the report of which was published as part of the group's full report in June 2011.

The decline in the function of musculoskeletal tissues — bones, joints, ligaments, tendons and muscles — is a major part of the decline in physical function and quality of life as people get older, and finding ways to reduce the pain and disability caused by ageing is a huge challenge for researchers. To address this, in January 2012 the MRC and the charity Arthritis Research UK announced a joint £5m investment (£3.75m from the MRC and £1.25m from Arthritis Research UK) in two new research centres dedicated to musculoskeletal ageing.

The MRC-Arthritis Research UK Centre for Musculoskeletal Ageing Research is a collaboration between the Universities of Birmingham and Nottingham. The MRC-Arthritis Research UK Centre for Integrated Research into Musculoskeletal Ageing is a collaboration between the Universities of Liverpool, Newcastle and Sheffield. Both will investigate the causes of, and mechanisms behind, musculoskeletal ageing and aim to develop new treatments and interventions to improve musculoskeletal health in older age.

## **Mental health and wellbeing: exploring mental health, wellbeing and disease resilience**

Mental ill health is a huge social and economic burden on people and societies around the world. It is estimated to cost around £105bn a year in England alone, where one in four people are affected by a mental health disorder at some stage in their life.

The MRC published a comprehensive review of mental health research in the UK in 2010 which highlighted the need for new, more effective treatments for mental illness. In May 2011, the MRC launched a funding call aimed at stimulating research into new treatments. In January 2012 we awarded 13 grants totalling £3.8m.

Another outcome of the 2010 review was a focus on population-based approaches to identifying the risk factors for poor mental health and the determinants of mental wellbeing. Given the substantial research council support for a large range of high-quality, data-rich, long-term cohort studies, we launched a call for data sharing projects to support the secondary analysis and linkage of existing cohort data and datasets. Seven awards for a total of £1.1m were made in February 2012.

Addiction and substance misuse are also a major issue for the UK; gambling addictions and the misuse of alcohol and drugs often have devastating effects on society and individuals. The MRC leads on research into addiction and substance misuse in partnership with the ESRC on behalf of the Office for Strategic Coordination of Health Research (OSCHR).

In October 2011, we reviewed the eight remaining research clusters established under the Addictions and Substance Misuse Initiative in 2009 to develop networks between researchers. The review showed that there has been an increase in skills and collaboration in the field. We are planning a workshop with the ESRC and stakeholders to explore opportunities for research on alcohol misuse to understand its harms and develop new interventions. Furthermore, to build critical skills in addiction research, we will establish a flagship capacity-building programme.

### **Repair and replacement: advancing regenerative medicine**

Regenerative medicine, encompassing stem cell therapies, tissue engineering and gene therapy, has the potential to deliver new treatments for a range of diseases. Regenerative medicine forms a key part of the MRC's strategy and we have committed to spending £130m on regenerative medicine in this spending review period so that we can maintain the UK's position as a leader in the field and encourage the translation of discovery science into patient and commercial benefit. In October 2011 we reiterated our commitment to regenerative medicine research after the European Court of Justice ruled that inventions involving human embryonic stem cells (hESCs) could not be patented (for more information see page 44).

In 2011, the MRC led, on behalf of the research councils and the Technology Strategy Board (TSB), the creation of a UK strategic plan for regenerative medicine, which will ensure that public sector research in the UK has a plan for future investment in regenerative medicine. The strategy was published in March 2012 and a key part of its implementation will be establishing a national programme in regenerative medicine to ensure that research council-funded science is seamlessly connected to commercial development. This programme will involve the TSB Cell Therapy Catapult centre, one of a network of centres set up by the TSB and the Department for Business, Innovation and Skills to support commercial development in areas with a large market and UK expertise.

Also launched in March 2012, the £25m MRC/EPSC/BBSRC UK Regenerative Medicine Platform will address knowledge gaps and obstacles where more development is needed to underpin the delivery of new therapeutic approaches. The MRC had already contributed £1.6m to five industry-led studies developing new tools and technologies in regenerative medicine in December 2011 as part of a TSB-led programme seeking to develop industry-academia partnerships. The Biotechnology and Biological Sciences Research Council (BBSRC) and the Engineering and Physical Sciences Research Council (EPSRC) were partners in the programme.

We also worked with the Wellcome Trust in 2011/12 to align our respective stem cell research investments, with the goal of establishing a new joint centre for stem cell medicine later in 2012 to underpin the strategy for UK regenerative medicine.

The UK Stem Cell Bank, established in 2002, is a repository of more than 80 human embryonic, fetal and adult stem cell lines from the UK and abroad. The MRC and the BBSRC fund the bank, which is hosted by the National Institute for Biological Standards and Control. The Human Fertilisation and Embryology Authority licence, which allows researchers to derive stem cells from human embryos, requires that researchers deposit a sample of the cells into the UK Stem Cell Bank. The aim of this is to maximise the use of the embryos required to produce hESCs — if there is a ready high-quality source of suitable stem cells available, scientists do not need to derive their own.

Now that hESCs are beginning to be used in clinical trials, it is vital that 'clinical grade' hESCs, which have been produced using practices that ensure purity, are made available to researchers. These cells are suitable to use in people and meet EU regulations for clinical trials. The first clinical-grade hESCs (from both Roslin Cells Edinburgh and King's College London) were deposited in the bank during 2011. Subject to characterisations and scale-up, they will be made available to researchers later in 2012. The King's College London cell line was deposited in December 2011 and represents the first output from the £3m MRC investment in clinical grade derivation centres. The three centres are expected to have provided 15-25 clinical grade cell lines by 2013.

## MAKING AN IMPACT

### The discovery of a universal flu antibody

The influenza virus has an astonishing ability to mutate, meaning that humans are constantly exposed to new strains and vaccine manufacturers are constantly playing catch-up by having to produce a new seasonal vaccine each year. Occasionally, a strain of the virus that we do not have a vaccine for will emerge, as with the 2009 'swine flu' pandemic. Therefore a vaccine that can protect against all strains of influenza is a major aim of virologists.

Researchers from the MRC National Institute for Medical Research collaborated with researchers in Switzerland to discover an antibody that can bind to and deactivate all types of Influenza A that commonly cause disease in humans and animals. The antibody targets a region of the virus that does not readily mutate, suggesting this region could be used to create a long-lasting universal vaccine.

Professor Sir John Skehel of the MRC National Institute for Medical Research, said: "It is estimated that every year millions of people are infected with influenza A viruses and, although the majority of infections are mild, those in vulnerable groups, such as the very old or the very young, may be more seriously affected and more likely to die or be hospitalised. Having a universal treatment which can be given in emergency circumstances would be an invaluable asset."

For more information see: <http://www.mrc.ac.uk/Newspublications/News/MRC008086>

### Trauma research

There is a significant need for research into trauma in both civilian and military healthcare, and the area provides an opportunity for collaboration between several disciplines to drive the field forward. The MRC is funding a series of workshops which will take place during 2012 to bring together the trauma research community to agree on research priorities with a view to shaping future MRC investment in trauma research and approaches to surgery, repair and rehabilitation in this area. The workshops, led by the University of Birmingham, will involve participants from the UK and US trauma research communities, the Ministry of Defence and other relevant groups, and will focus on areas including regenerative medicine, such as wound healing and treatment after burns, as well as rehabilitation.

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## Living a long and healthy life

This theme focuses on understanding the complex interplay between genetics, development, and life events or lifestyles in the cause and progression of disease throughout life. Using genetics, genomics and population sciences, we can learn more about how to lead healthy lives.

### Genetics and disease: understanding predispositions to disease

We know that there are links between genes and many diseases — the challenge is in determining how and to what extent genes influence disease, and carrying this knowledge through into therapeutic applications.

In some cases, this is relatively straightforward. Cystic fibrosis, a genetic disease that affects the lungs and intestines, for example, is caused by a mutation in a single gene. People with cystic fibrosis have few treatment options and a quality of life that can be seriously restricted in severe cases. In March 2012 the MRC and the NIHR awarded £3.1m to the UK Cystic Fibrosis Gene Therapy Consortium to begin a phase II clinical trial of a gene therapy treatment to assess whether it can improve the long-term health and wellbeing of people with cystic fibrosis, building on years of work funded by the Cystic Fibrosis Trust. We also committed to fund a further £1.2m to help the consortium develop a potentially more efficient delivery method for the gene therapy, which could contribute to an even more effective treatment in the future.

But the role of genes in many diseases is much more complex, and to determine their roles we need to harness the power of cutting-edge technology and approaches to look at entire complex biological systems and how their components interact, rather than the study of individual components in isolation. This 'systems biology' often involves analysing large datasets such as those derived from genomics, the study of genomes.

The MRC wishes to support research that applies a systems-biology approach to medical research. Applications in 'systems medicine' are welcomed by all the funding boards, as well as being jointly funded with the BBSRC and EPSRC where appropriate. Systems medicine research has the potential to accelerate our understanding of the mechanisms underlying human health and disease.

Many of our intramural research laboratories are beginning to use systems medicine in their work. The MRC Toxicology Unit in Leicester, for example, has put systems approaches at the heart of its scientific strategy for the next five years, planning to examine the effects of various toxic agents — such as chemicals, radiation and external biological agents — on entire cellular processes, rather than individual molecular pathways. The unit's funding was renewed in October 2011 for five years from 2012, including confirmed funding of £21m during the remainder of the current spending review period (to March 2015).

The MRC Toxicology Unit is also leading the Integrative Toxicology Training Partnership, a £2.5m national training programme set up in 2007 to improve capacity in the toxicological sciences by funding PhD studentships. The programme was renewed in October 2011 for a further five years from 2012, with £2.2m of MRC funding supporting 25 studentships in that time.

The MRC Clinical Sciences Centre has replaced its experimental clinical neuroscience theme with a theme in integrative biology (see page 64). This will bring together new physics-, chemistry- and computational-based science to develop innovative imaging approaches to analyse cellular processes, tissue anatomy and physiology and link this information with genomic and epigenomic data to build up detailed information to understand mechanisms of health and disease. The MRC Laboratory of Molecular Biology is also targeting resources to systems research to look at molecular interactions and cellular processes.

The MRC Cell Biology Unit at University College London also underwent its five-year review in 2011/12 and will receive investment over five years, including confirmed funding of £14m during the remainder of the spending review period (to March 2015), for a reshaped strategy that will integrate mathematical modelling of cellular processes with new types of computation and bioinformatics to pursue 'high-throughput cell biology'. The unit will continue to support image-based high-throughput screening to identify new drug targets and therapeutics.

### CFS/ME

Chronic Fatigue Syndrome/Myalgic Encephalomyelitis (CFS/ME) is a complex and serious debilitating medical condition with a diverse range of symptoms, including profound physical and/or mental fatigue, pain, disturbed sleep patterns and gastrointestinal problems. CFS/ME affects around 250,000 people in the UK, each experiencing their own personal combination of symptoms.

The MRC has recognised that CFS/ME research has been a challenge. The mechanisms underlying CFS/ME are poorly understood, and research needs to be targeted to these mechanisms to improve understanding of this complex condition. The MRC launched a funding call for high-quality, innovative research into CFS/ME in February 2011, and funded five research collaborations in December 2011. The call was aimed at addressing key priorities in research into CFS/ME, as well as bringing in new researchers from other fields. The success of this approach is reflected in the high quality of applications and the fact that 14 researchers new to CFS/ME will now be funded to work in the field.

## Lifecourse perspective: researching health from childhood to older age

By 2030 almost a quarter of the UK population will be over 65. Ageing is associated with increased risk of illness and disability and our ageing population represents a challenge for health and social care provision, as well as a societal challenge to develop strategies to ensure that older people maintain physical and cognitive function and a good quality of life.

We aim to understand the factors that influence healthy ageing throughout life. Part of achieving this is our £10.5m per year investment in cohorts. Some of these are birth cohorts following participants from birth (and sometimes earlier) to track the determinants of health and wellbeing. For more information on the MRC and cohorts (see page 61).

The MRC leads on the Lifelong Health and Wellbeing (LLHW) cross-research council programme which funds multidisciplinary research into the factors over lifetimes which influence health and wellbeing in older age. The partners are the AHRC, BBSRC, EPSRC, ESRC and the four UK health departments.

The aim of the LLHW is to focus on key areas in ageing research that can only be tackled with a cross-council, multidisciplinary approach. These priority areas: physical activity in older people; extending working lives; sensory loss; and mobility and independence, were identified in **A Strategy for Collaborative Ageing Research in the UK**, the MRC-led strategy that directs LLHW research in the current spending review period. In early 2012 the LLHW programme held a series of expert think tanks in each area to inform the direction of funding over the coming years. The outcome of this process will be reported in next year's annual report.

In April 2011 the LLHW programme built on previous work establishing research centres, collaboratives and networks by spending £11.5m on seven five-year research grants in areas including the menopause and the mechanics of ageing tissue, and 10 two-year pilot studies on a varied range of topics. Also in November 2011 the existing LLHW multidisciplinary research centres and collaboratives held a showcase of scientific advances and research impact to date.

Aside from the LLHW initiative, most MRC funding in ageing research is spent in response-mode through our research boards. Strategic funding, however, includes the MRC Lifecourse Epidemiology Unit, Southampton. The aim of the unit is to use epidemiological methods to reveal how we can prevent common chronic diseases by looking at the different factors that are important at different stages of the lifecourse.

## Lifestyles affecting health: tackling lifestyles detrimental to health

Behaviours such as smoking, drinking alcohol, poor diet and lack of exercise are known to have a significant detrimental impact on health and life expectancy, contributing to the development of chronic disease such as type 2 diabetes, heart disease, certain cancers, stroke and dementia.

The MRC has managed and led the National Prevention Research Initiative (NPRI) since its establishment in 2004. The NPRI is a consortium of 16 government departments, research councils, and medical research charities aiming to research, develop and implement public health interventions that influence behaviours and reduce people's risk of developing chronic disease.

In November 2011 the National Prevention Research Initiative (NPRI) funded its fourth round of grants, supporting 19 research projects in topics as varied as evaluating the effects of different alcohol pricing policies; assessing the impact of affordable social housing at the 2012 Olympic Village on residents' physical activity; examining the effectiveness of weight-loss programmes; and developing smoking prevention programmes for adolescents. The MRC contributed £2m to this £10m round, which brings the total amount spent on prevention research by the NPRI to £33m.

## MAKING AN IMPACT

### Validating an anti-smoking treatment

Smoking has a considerable burden on the health system: it causes cancer, cardiovascular disease and chronic obstructive pulmonary disease. It is notoriously difficult to stop smoking and products that can help people quit are in great demand.

A clinical trial funded by the NPRI, a consortium managed by the MRC, found that a pill, Tabex®, can more than triple the chance of someone quitting smoking for 12 months compared with a placebo. In a trial of 740 people, 8.4 per cent of those who took Tabex® abstained from smoking for a year, compared with just 2.4 per cent who were given the placebo.

What's more, Tabex® costs the equivalent of just £1.50 for a month's supply in countries such as Russia, where it has been available for years. The trial is the first time that researchers have gathered robust clinical evidence on the effectiveness of Tabex®. Professor Robert West from the UCL Department of Epidemiology and Public Health who led the study said: "With more than a billion smokers worldwide and lung cancer still one of the top killers, we're extremely encouraged that the benefits of Tabex are comparable with those of other smoking cessation treatments, but at a fraction of the cost."

For more information see: <http://www.mrc.ac.uk/Newspublications/News/Archive/MRC008199>

## Environment and health: exploring the impact of environment on health

The MRC works with the BBSRC, ESRC and the Natural Environment Research Council (NERC) on the Environmental and Social Ecology of Infectious Diseases Initiative (ESEI), associated with the wider cross-council Living with Environmental Change programme which aims to identify the most pressing economic and social challenges brought about by environmental change, and coordinate funding to respond to those challenges. ESEI is establishing new interdisciplinary ways of studying how we should respond to threats from new and emerging pathogens so we can anticipate, prepare for and control future outbreaks. In July 2011, ESEI funded three research consortia with a total of £9m to carry out five-year research projects to tackle big questions in the ecology of infectious disease. These grants are the results of five preparatory 'catalyst' grants funded in 2010 to bring the consortia together to develop their ideas. Funded areas include tracking an emerging species of malaria parasite causing disease in humans and modelling the movement of pathogens through urban populations.

The MRC is also working on developing strategic priorities for environmental health research. Many diseases are caused or worsened by exposure to environmental factors such as airborne pollutants. In February 2012 we ran a workshop with scientists, policymakers and other research funders using the effect of air pollution on chronic diseases as a well-studied example to explore priorities for environmental health research. The workshop explored critical gaps in research linking exposure to biology of disease, such as the need to improve biomarkers of disease.

## MAKING AN IMPACT

### **Assessing the side effects of drugs in older people**

Many prescription and over-the-counter drugs have the side effect of blocking a key brain chemical called acetylcholine. Often these drugs are taken by older people but the long-term health effects of taking drugs with this 'anticholinergic' activity had not been systematically investigated.

The MRC Cognitive Function and Ageing Studies (CFAS) project studied more than 13,000 men and women aged 65 and over, half of whom were using at least one medication with this side effect. Each drug that the participants were taking was scored for its anticholinergic activity. The project researchers found that those people taking drugs with the highest scores were more likely to have died by the end of the two-year study than those taking no anticholinergic drugs (20 per cent versus 7 per cent). Groups of drugs with the greatest impact included antidepressants, tranquilisers, bladder medication and antihistamines.

Professor Carol Brayne, principal investigator of the MRC CFAS project at the University of Cambridge, said: "It is important to scrutinise medications given to older people very carefully to try to minimise harm as well as gain the desired benefit. The admirable wish to give the best possible treatment for individual conditions has to be balanced against the fact that in many older people with multiple conditions, this will lead to accumulated risk."

For more information see: <http://www.mrc.ac.uk/Newspublications/News/MRC008017>



Lung lining. Coloured scanning electron micrograph (SEM) of mucus-producing cells (round) and cilia (hair-like) lining an airway of the lung. Mucus secreted here traps bacteria, dust and other particles. Rhythmic movements of the cilia serve to move the mucus and the trapped particles away from the gas-exchanging parts of the lung, and towards the throat, where they can be expelled.

Credit: DR TONY BRAIN/SCIENCE PHOTO LIBRARY

The image features a detailed, high-magnification microscopic view of biological cells. The cells are characterized by a complex network of fine, radiating filaments and larger, more rounded structures, all rendered in a warm color palette of oranges, yellows, and reds. A prominent, solid orange horizontal banner is positioned across the middle of the image, containing the text "Research to people" in a clean, white, sans-serif font. The banner is slightly offset to the left, creating a small white margin. The overall composition is dense and textured, emphasizing the intricate nature of the biological structures shown.

# Research to people

## Research to people

The second aim of Research Changes Lives is bringing research to people. This encompasses the translation of research from laboratory to healthcare settings as well as communication about research, and ensuring that the right regulations, ethics, governance and relationships with decision-makers are in place to realise the full benefits of research for people and the economy.

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### Translation of research

The MRC's translational research agenda aims to speed up the progress of discoveries in the laboratory into products and interventions that benefit the public and patients and improve the economic productivity of the UK. The MRC works with the NIHR and the devolved health departments to ensure that we have integrated funding schemes, infrastructure and facilities to provide a pathway for research from laboratory to standard patient use.

In 2011/12 we continued to be guided by our 2008 translational research strategy, shaping or establishing programmes to best meet the needs of researchers aiming to move their research from the laboratory and into clinical studies.

Under the auspices of the OSCHR, we lead on the themes of experimental medicine, methodology and regenerative medicine, with NIHR leading on clinical evaluation and trials. We work together on developing the human capital needed to deliver the translational research agenda.

### Experimental medicine

Collaborations — between institutions, disciplines and sectors — will be strongly featured in the Experimental Medicine Challenge Grants, a new funding scheme that will support ambitious and innovative research tackling particular gaps in knowledge about human disease mechanisms. Such studies should aim to produce new mechanistic insights into human disease with the potential for new therapies to be produced, or for findings to be 'back translated' to the laboratory. The MRC will make £20m a year available for the scheme, which was launched in February 2012.

### Methodology research

Methodology research is the study of how to best design, analyse and evaluate medical and health research. Methodology research helps to ensure that discoveries are more quickly turned into benefits for patients and the general population, and that health research and policy are built on the best possible evidence. Currently the MRC and the NIHR put £5.5m into the MRC-NIHR Methodology Research Programme (£4.5m from the MRC and £1m from the NIHR). The programme has been successful in funding high-quality investigator-led proposals and is continuing with its aim to improve commissioned research, guided by a new advisory committee. Patient-reported outcome measures, an assessment of health status and health-related quality of life that comes directly from patients, continues to be a focus of this needs-led work.

The MRC also funds eight Hubs in Trials Methodology Research, which are linked in an overarching network to improve the design, conduct, analysis, interpretation and reporting of clinical trials. In October 2011 the network held a national conference showcasing and discussing a wide range of clinical trial methodology research among 450 healthcare practitioners, statisticians, trial managers, industry representatives and regulators.

## **Developmental Pathway Funding Scheme/ Developmental Clinical Studies**

In March 2012 we merged our Developmental Pathway Funding Scheme (DPFS, which supported preclinical development) and Developmental Clinical Studies (DCS) scheme (which supported early-phase clinical trials) to reflect the need for a single funding stream that could take a discovery through preclinical studies and into patients. The merged DPFS/DCS scheme will have a commitment budget of approximately £35m a year and by the end of March 2012 had received 75 outline applications.

This year, the DPFS funded 18 new projects at a total commitment of around £12m. These projects included the development of new diagnostic tools for hearing, premature birth and acute kidney injury; the improved delivery of anti-cancer agents; and the development of novel therapeutic interventions for conditions such as cancer, acute lung injury, infections and retinal deficits.

The DCS scheme funded £15m of research across a range of disease areas, including depression, cardiovascular disease, infections and multiple sclerosis. Many of the studies use innovative approaches such as gene therapy and advanced imaging technologies, as well as more conventional approaches such as vaccines. A significant number of studies focus on 'repurposing' existing drugs for new disease indications, an approach which has the potential for rapid clinical adoption.

### **The TSB/MRC Biomedical Catalyst**

In December 2011 the MRC also announced, in partnership with the Technology Strategy Board, the formation of the TSB/MRC Biomedical Catalyst, a £180m programme which aims to support academic and industry scientists to move their research more quickly from discovery to commercialisation. The jointly-funded programme will link the current activities of the two organisations together, providing a continuous set of support and funding opportunities for scientists to commercialise their work, and deliver growth to the UK economy and benefit to patients. It will focus particularly on taking initial research in universities through to small- and medium-sized businesses.

## **Industry collaboration**

Successful translational research is often dependent on collaboration between academic and industry scientists. In 2011/12, the MRC continued to support the MRC Industry Collaboration Award (MICA), which enables academic-industry partnerships to apply for funding through other MRC schemes. Seven MICAs were awarded in 2011/12.

The MRC is also looking to support academic-industry collaboration in innovative ways. In line with this outlook, a landmark partnership between the MRC and pharmaceutical company AstraZeneca was announced in December 2011 as part of the Government's Life Sciences Strategy. Under this new type of collaboration, the MRC will fund

academic scientists to use 22 deprioritised AstraZeneca compounds to investigate disease mechanisms. The MRC allocated £10m to fund the three-year research projects; outline applications were assessed in February 2012, with subsequent full proposals due to be considered in the autumn of 2012.

A similarly novel MRC-funded partnership is a new programme of research at the MRC-Asthma UK Centre in Allergic Mechanisms of Asthma which will exploit the strengths of academic and industry partners. The MRC and pharmaceutical company GlaxoSmithKline have agreed to put £2m each into the programme (see page 29).

### MRC Technology

MRC Technology (MRCT) is a key partner in our translational strategy, working to translate cutting-edge scientific discoveries from MRC units and institutes into products and managing our intellectual property. During 2011/12 changes have been made to MRCT governance to strengthen its independence from MRC, following the adoption of new articles of association effective from 31 January 2012. The organisation will now work with the MRC under contract. In 2011/12 licensing income to the MRC from all sources was £78.9m during the year (2010/11 £65.8m).

MRCT provides management of both new intellectual property and commercial opportunities arising from research by MRC staff, and the management of existing MRC intellectual property and ongoing licensing arrangements. In 2011/12 twenty-three patents were granted and 169 agreements were signed.

MRCT has also managed the intellectual property issues involved in the transfer of the MRC Human Genetics Unit to the University of Edinburgh, and the closure of the MRC Human Reproductive Sciences Unit and opening of the MRC Centre for Reproductive Health in its place.

As well as handling MRC intellectual property, MRCT provides services to the research community. One example is the MRC Centre for Therapeutics Discovery (CTD) which provides specialist translational infrastructure and expertise in small molecule and antibody drug discovery. During 2011/12, the CTD advanced a number of projects towards a clinical endpoint, including highly potent antibodies for potential use in the treatment of fibrosis and drug screens against molecular targets implicated in cancer, hypertension, Alzheimer's disease and diabetes.

### Stratified medicine

Stratified medicine is identifying subgroups of patients with a particular disease who may respond differently to treatment, or have a specific mechanism of disease. Guided by diagnostic tests, it allows clinicians to treat patients based on their subgroup, ensuring that patients get the treatment best suited to them at the right time. As well as benefiting those particular patients, this approach helps to prevent inappropriate or overuse of drugs and other kinds of treatments. It can also guide the development of new therapies aimed at different disease subgroups.

Diseases must first be 'stratified' before stratified medicine can be used on any large scale. The MRC is continuing to lead on the stratification of rheumatoid arthritis and chronic obstructive pulmonary disease (COPD) as part of the MRC/Association of the British Pharmaceutical Industry (ABPI) Inflammation and Immunology Initiative, set up in 2010/11.

During 2011/12 the academic-industry research consortia set up under the initiative have progressed well, beginning to establish their working practices and cohorts of well-described patients. The two consortia, one focusing on chronic obstructive pulmonary disease (COPD), and one on rheumatoid arthritis and other inflammatory joint diseases, are being funded for four years (£6m for COPD and £3.5m for rheumatoid arthritis). They represent a new way for the MRC to bring together academic and industry scientists to identify gaps, opportunities and ways of working collaboratively to develop and implement solutions to pressing problems. Their collaborative success is demonstrated in the number of partners involved: four pharmaceutical companies, 14 universities and one NHS Trust make up the COPD consortium; and 13 industry partners and nine universities make up the rheumatoid arthritis consortium along with the National Physical Laboratory and the MRC Biostatistics Unit.

A similar consortium may also be established for diabetes, obesity and metabolic medicine — workshops with academic and industry researchers and other stakeholders have been held during 2011/12 and a funding decision will be made in 2012/13.

In December 2011 we launched the Stratified Medicine Initiative to broaden this disease-specific approach to other diseases. We expect to commit £60m over four years for research consortia — including approximately 15 industry partners — that form themselves around diseases where taking a stratified approach will deliver benefits to patients in the short term. These dynamic research consortia will stratify diseases and identify the underlying mechanisms that differ between disease subgroups. Thirty outline applications in diverse disease areas were received for the call and, by the end of March 2012, six proposals had been shortlisted: one in hepatitis C, two in asthma, one in Gaucher's disease and two in rheumatoid arthritis. We will also work in disease areas where stratified medicine is needed but currently less developed in order to help form consortia. Seven disease areas have been identified where the MRC will provide funds to carry out networking activities and develop ideas: epilepsy, psoriasis, multiple sclerosis, schizophrenia, hypertension, transplantation and primary biliary cirrhosis.

In 2011/12, the MRC also continued to work with the Technology Strategy Board (TSB) on the TSB Stratified Medicine Innovation Platform, which was established in 2010 with partners including TSB, the Department of Health, the Scottish Government Health Directorate, Cancer Research UK, Arthritis Research UK and the National Institute for Health and Clinical Excellence. In May 2011 the MRC and TSB announced the first joint investment from the platform, with £3.7m going to seven major company-led research projects investigating the identification of 'biomarkers' — substances used to measure biological processes, including disease — in inflammatory disease.

## Regulation, ethics, governance and working with decision makers

### Engaging with policy-makers

The MRC plays an important role in influencing policymakers in the UK and Europe. We monitor and influence changes to legislation and regulations to ensure that UK medical researchers can continue to do the best science possible without too heavy a regulatory burden, and to maintain public confidence in medical research.

In October 2011 the European Court of Justice ruled that inventions involving human embryonic stem cells could not be patented. The MRC produced a response to this ruling and briefed the Department for Business, Innovation and Skills to inform the UK position. We reiterated the MRC's commitment to regenerative medicine, including human embryonic stem cell research, as part of our strategic plan and to mitigate any concern in the academic and investment communities that the ruling would lessen the appetite for therapies involving human embryonic stem cells. The MRC will continue with our commitment to spend £130m on regenerative medicine research in the current comprehensive spending review period. UK regulatory frameworks have not been affected by this ruling and the MRC will continue to work with the Government to clarify its future implications. For information on the MRC and regenerative medicine, see page 31.

This year, we have also engaged with the Home Office as they transpose into UK law the EU Directive 2010/63/EU on the protection of animals used for scientific purposes. This directive came into force in November 2010 and must be transposed by member states into law by November 2012. The MRC has engaged with the Home Office directly and through consultation, both as part of the Bioscience Coalition, a coalition of the UK's key bioscience organisations involved with the use of animals in scientific and medical research, and separately, to ensure the views of the MRC and the wider academic medical research community are taken into account. We will continue to engage with the Home Office as the directive is transposed into UK law to make sure that our researchers can continue to do high quality science and that the highest animal welfare standards are maintained.

The use of human tissue is important in many kinds of medical research but, at present, human tissue samples lie in various collections from large tissue banks to small collections, making access by academic and industry researchers difficult and some duplication inevitable. Regulations around tissue storage, consent and approval are improving but various initiatives have not always been coordinated, leading to a complex picture.

Now the UK funders of research using tissue resources have come together to create a common vision for investment and make sure that donated material is used appropriately and optimally. In 2011/12, the MRC worked with the National Cancer Research Institute (NCRI) to produce a report for that vision on behalf of the UK Clinical Research Collaboration (UKCRC) Experimental Funders Group. Following the report, the MRC and UKCRC partners agreed to work on the two-year STRATUM (Strategic Tissue Repository Alliance Through Unified Methodology) project, an AstraZeneca-led group funded by the TSB to address areas including collecting public views and issues around consent.

The MRC has continued to support the All-Party Parliamentary Group on Medical Research in partnership with the Academy of Medical Sciences, the Association of Medical Research Charities, Cancer Research UK and the Wellcome Trust. The group provides a network and forum for parliamentarians interested in medical research, and

an opportunity for the MRC to inform them about challenges and opportunities in medical research and how they might help to address them. In 2011/12 the MRC helped to organise APPG events, including breakfast briefings on the use of animals in research, public health, and the health and social care bill. Also in 2011/12, we began an initiative to engage MPs with the medical research being funded by the MRC in their constituency or region.

**Table 4:** Consultation and inquiry submissions 2011/12

Body	Number of submissions
Government departments and agencies	18
Parliamentary Select Committees	12
Regulatory bodies	0
International bodies	2
Other bodies	5
<b>Total</b>	<b>37</b>

## Ethics

We aim for the highest standards of research governance and ethics, upholding and shaping policies as they are created. Part of the MRC's work in promoting the highest standards of practice in research is our MRC Ethics series of booklets. **The Good Research Practice** booklet was last updated in 2005, since which time several new UK and international guidelines and codes of practice have been published. A draft of the updated booklet was put out for consultation in January 2012. Together with the other Research Councils and Universities UK we have been developing a new Research Integrity Concordat.

In July 2011, the MRC, BBSRC, and the Wellcome Trust jointly published a review of research using non-human primates, chaired by Sir Patrick Bateson. This review was carried out following a recommendation of the 2006 Weatherall report into the use of non-human primates in research. The panel reviewed all research funded by the four bodies from 1997 to 2006 and recognised that the past decade had seen improvements in the standard of animal welfare and husbandry. The panel made 15 recommendations for further improvements which the funders responded to in July 2011 and we are now working together with the BBSRC, the National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), and the Wellcome Trust to implement these recommendations.

### The MRC Regulatory Support Centre

The MRC Regulatory Support Centre (RSC), based in Edinburgh, provides medical researchers with training, tools and guidance to navigate the research governance landscape. In 2011/12, more than 2,000 researchers accessed training and e-learning through the centre, including a new e-learning module on Research Data and Confidentiality, which focuses on the use of healthcare records in research. More than 44,000 researchers worldwide have used the online resources, such as the Stem Cell Tool Kit (developed in partnership with the Department of Health) to learn independently about requirements and the centre has helped resolve the specific issues of 120 people.

## Open access

The MRC strongly supports the open access model of publishing, and since October 2006 has had an open access policy, requiring that all MRC-funded research be published in the open access repository UK PubMedCentral (UKPMC) within six months of publication in a journal. During 2011/12, the MRC has worked closely with other research funders to develop a common approach to open access. The MRC has worked with other research councils to review the statement of principles established in June 2006 and develop a harmonised policy, which is unlikely to bring any major changes to our current mandate but will bring the policies of other councils more into line. It is anticipated that the new RCUK policy will be published by summer 2012.

In parallel, the MRC has also been involved in a task force set up by the European Medical Research Council (EMRC, part of European Science Foundation) to analyse current issues in relation to access to biomedical research in Europe, and provide a number of recommendations to facilitate better access to medical literature. As well as recommending that EMRC members adopt a clear statement supporting open access publishing, the briefing will also propose the setting up of a common repository connected to PubMedCentral for all European biomedical literature, and that the current UKPMC platform be extended to become Europe PMC. The final publication of the briefing is planned for the beginning of July 2012.

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## Communication

The MRC communicates with a wide variety of groups, including our own unit and institute researchers, grant-funded researchers, Government, the private sector, charities, the media and the general public. We are committed to raising awareness of medical research in general, and of the science that we support, so that our research contributes to the wellbeing of the UK population and the country's economic prosperity, and so that we maintain public confidence and trust in the MRC.

During 2011/12 we continued to implement our communications strategy, produced in 2010 to support the 2009-2014 strategic plan. We aim to inform, engage and influence via a project-based approach; working wherever possible and appropriate with our partner organisations to share best practice and efficiently use resources.

### External communication

We encourage MRC-funded researchers to get involved in communications work with the public. In 2011/12, MRC scientists at all career levels were involved in presenting medical research to the public, and more than 15,000 people took part in MRC-run events at science festivals across the country. We also support our researchers with public engagement, writing and media training. In 2011/12 we added workshops to encourage researchers to write and edit Wikipedia pages, thereby reaching a potentially huge worldwide audience.

Our press office issued more than 70 press releases, new stories and statements in the year and MRC discoveries featured in more than 2,500 articles in the UK media. We also extended the reach of our digital and print media channels, attracting 414,000 website visitors, 3,500 Twitter followers and around 6,500 readers of the e-distribution of our **Network** magazine. The MRC also ran a campaign during 2011/12 to promote collaborations between

academic and industry researchers, producing a bespoke section of the website and print materials, and securing networking, promotional and speaking opportunities for MRC senior management.

MRC's annual open Council meeting took place in Cardiff in July 2011. Around 70 MRC-funded researchers and other stakeholders from Wales and the west of England heard presentations on MRC strategy and new funding initiatives followed by a question and answer session, and had the opportunity to meet Council and Management Board members informally over lunch or tea.

### Internal communication

As a large organisation of more than 3,000 staff across the UK and more than 1,000 staff in Africa, we also put significant effort into our internal communications, ensuring that all staff understand the MRC's strategic objectives and their role in meeting them. We do this through various internal communication channels, including newsletters and a web-based portal. We relaunched our internal newsletter with the new name **MRC Life** in February 2012 and its focus was extended to reach out to the entire 'MRC family' in institutes, units, university units and centres. We now also circulate the **Team Briefing** of MRC policy news to all MRC research organisations. Efficient internal communication was particularly important in 2011/12 as we adjusted to receiving services from the recently introduced RCUK Shared Service Centre, and more units considered the transfer to becoming university units.

### Public and patient involvement

We want the MRC to be an organisation that listens to, and understands, the perspectives of patients and the public so that our policies, decisions and communications are informed and, where appropriate, influenced by their views. In this time of increased public scrutiny on the spending of taxpayers' money, this type of dialogue is all the more important. We are developing a new strategy for public and patient involvement which aims to improve the way we work with patients and the public, as well as ensuring that the mechanism we use to do so is of the highest standard.

Members of the existing MRC Public Panel, a network of lay people with an interest in medical research, were involved in various activities in 2011/12, from joining the UK Stem Cell Bank steering committee to looking at ways to improve the MRC website. Also in 2011/12, the MRC renewed its partnership with Genetic Alliance UK with the aim of increasing the profile of genetic conditions. We also rejuvenated a partnership with the Progress Educational Trust to improve public understanding of developments in genetics, assisted conception and research using embryos.

The MRC also led the involvement of patients and carers in setting the research strategy for the EU Joint Programme in Neurodegenerative Disease Research (JPND, see page 30) by holding a workshop with EU-wide patients' organisations in May 2011 as part of the JPND strategy-setting exercise. In addition, a public consultation on JPND was held in summer 2011. Similarly, the access procedures for researchers gaining data and samples from UK Biobank (see page 61) underwent web-based public consultation in July 2011, with comments going on to shape the final procedures.

### MRC awards

We ran the Max Perutz Science Writing Award for MRC-funded PhD students for the fourteenth year, encouraging early-career researchers to think about how to communicate with the public. We announced the winner and highly commended entrants at a ceremony in September 2011, attended by the Minister of State for Universities and Science, and shortlisted entrants attended a master class by the science writer Georgina Ferry. The winner was Amy Capes, an MRC-funded PhD student from the University of Dundee, whose article focused on her research into African trypanosomiasis, also known as African sleeping sickness.



*2011 Max Perutz Science Writing Award winner, Amy Capes, with fellow shortlisted entrants; MRC chief executive and judge, Sir John Savill; judge Georgina Ferry; and Dr Max Perutz's son, Professor Robin Perutz.*

In December 2011 the MRC Council awarded the MRC Millennium Medal to molecular biologist Professor Sir Edwin Southern in recognition of the impact of his work on genetic analysis through the invention of both the Southern blotting technique and DNA microarray technology. The MRC Millennium Medal was inaugurated in 2000 to recognise an MRC funded scientist for outstanding research which has made a major contribution towards the MRC's mission to improve human health, quality of life and wealth creation.



*From left to right: Professor Mark Sansom, head of biochemistry at the University of Oxford; Professor Sir John Savill, MRC Chief Executive; Professor Sir Edwin Southern, 2011 MRC Millennium Medal recipient; Sir John Chisholm, MRC Chairman; and Professor Anthony Hamilton, vice-chancellor of the University of Oxford.*

## MAKING AN IMPACT

### Guiding treatment of Alzheimer's disease

About 750,000 people in the UK and 18 million worldwide have Alzheimer's disease, a form of dementia where people suffer problems with memory, mood changes, communication and reasoning. There is no cure for Alzheimer's but some drugs can relieve symptoms.

The drug donepezil is already widely used to treat Alzheimer's disease in its mild to moderate stages. Doctors are currently advised to stop prescribing donepezil when the disease progresses, as there has been no clear evidence of the treatment continuing to benefit patients. Research funded by the MRC and the Alzheimer's Society, and led by Professor Robert Howard at the Institute of Psychiatry at King's College London has now shown that donepezil can help people with moderate to severe Alzheimer's. In fact, the benefits of treatments were greater than those previously seen in patients with less severe disease.

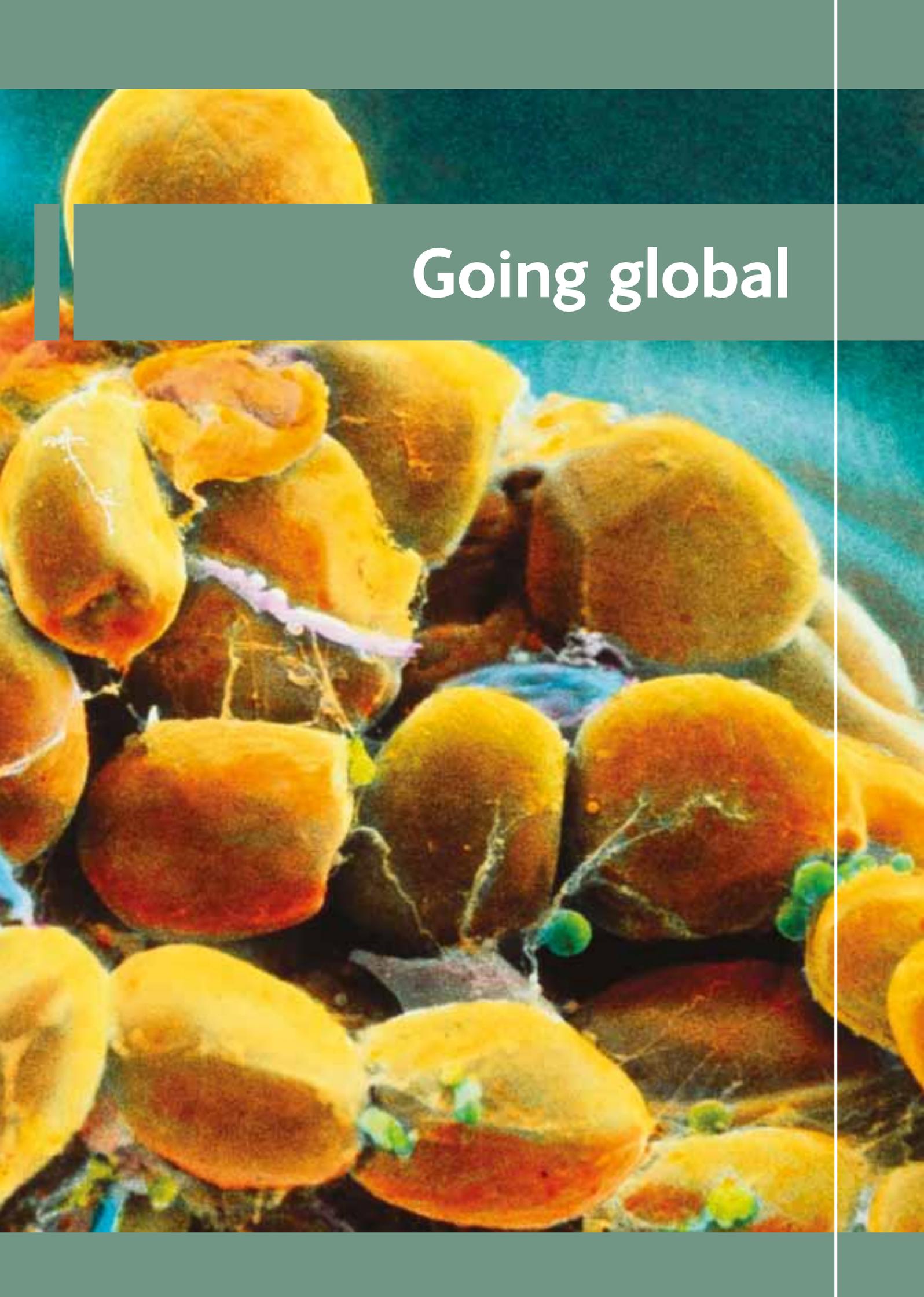
Professor Howard said: "As patients progress to more severe forms of Alzheimer's disease, clinicians are faced with a difficult decision as to whether to continue or not with dementia drugs and, until now, there has been little evidence to guide that decision. For the first time, we have robust and compelling evidence that treatment with these drugs can continue to help patients at the later, more severe stages of the disease."

For more information see: <http://www.mrc.ac.uk/Newspublications/News/MRC008493>



Coloured scanning electron micrograph of fat-storing cells, also known as adipocytes, which build up the adipose connective tissue. Connective tissue fibres are seen at top left; they have a supporting function for the fat cells. Almost the entire volume of each adipocyte is occupied by a single lipid droplet mostly formed by triglycerides. Fat not used in metabolic processes is channeled towards these cells through small capillaries; a few of them are seen as tubules.

Credit: PROF. P. MOTTA/DEPT. OF ANATOMY/UNIVERSITY "LA SAPIENZA", ROME/SCIENCE PHOTO LIBRARY

A detailed microscopic image showing numerous biological cells, likely yeast or similar microorganisms, with a yellowish-brown hue. The cells are interconnected by a network of fine, fibrous structures. Some cells exhibit small, bright green or blue spots, possibly representing specific organelles or markers. The background is a dark, teal color. A semi-transparent grey horizontal bar is positioned across the upper portion of the image, containing the text 'Going global' in white. A thin white vertical line runs down the right edge of the image.

# Going global

## Going global

The third aim of **Research Changes Lives** is to use experience, expertise and resources to encourage partnerships with and among the international community to tackle important and challenging research goals. This includes supporting scientists in developing countries to build capacity in global health.

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### Partnerships and shaping the agenda

Forging international ties means that UK researchers can access the best resources that the world has to offer, while exchanging ideas with the world's best researchers. Alongside encouraging international collaborations between researchers, the MRC represents the UK on the governing bodies of numerous international agencies, making sure that UK interests are maintained in progressive multilateral projects.

The MRC is the UK National Contact Point for academics supported by the Health Theme of Seventh Framework Programme (FP7) for Research and Technological Development, the European Union's main way of funding research. The European Commission is preparing for its next seven-year programme of research funding, Horizon 2020, which will run from 2014-2020 with an estimated budget of €8bn. During 2011/12 the MRC has worked to influence the health theme of Horizon 2020 to ensure that it is in line with UK priorities and focuses on research which cannot be achieved by individual countries.

The Council of the European Union has identified specific 'grand challenges' which should be addressed by member states under joint programmes. The MRC has led the creation of the Joint Programme on Neurodegenerative Disease Research (JPND – see page 30) research strategy and been part of the management programme to develop a strategic research agenda for joint programming in the area of 'a healthy diet for a healthy life'. The MRC consulted the UK research community in this area in 2011/12, the results of which will feed into a June 2012 conference on the topic.

The MRC was a founding member of the European Molecular Biology Laboratory (EMBL) and continues to represent the UK on its council. We provide around 17 per cent of the flagship European centre's annual budget and in 2011/12 agreed as part of the council to a 2 per cent per annum budget increase for the 2012-2016 period.

One of six international funders working to rapidly respond to new or re-emerging infections, the MRC contributed seed funding to the new International Severe Acute Respiratory Infection Consortium (ISARIC), launched in December 2011 under the auspices of the Heads of International Research Organisations (HIROs) group. ISARIC is a consortium of researchers working in twenty existing clinical research networks which will focus on finding the best ways to treat patients and prevent transmission of severe respiratory infections capable of causing an epidemic or pandemic.

Antibiotic resistance is an escalating health issue that threatens our ability to control bacterial infections. Since 2008 the MRC and the Canadian Institutes of Health Research Institute of Infection and Immunity (CIHR-III) have been collaborating to bring UK and Canadian researchers together around the problem of antibiotic resistance. A joint

call was issued in 2010/11 with both MRC and CIHR-III contributing £2m each. In April 2011 two consortia with team leaders from both the UK — the University of Cardiff and the University of Warwick — and Canada were funded. These four-year awards will combine the research strengths in both countries to address various aspects antibiotic resistance that will have an impact on clinical and public health.

UK researchers have a long history of collaborations with researchers all over the world and the MRC has a good track record in supporting partnerships that are beneficial to both partners and in line with MRC strategy. However, partnerships with China are less well developed, and China has become a strategic focus as its investments and outputs in science have increased. Building on a lot of preparatory work in recent years, in September 2011 the MRC hosted a workshop in partnership with the Natural Science Foundation of China which brought together UK and Chinese researchers in the area of stem cell science — a strategic priority for the MRC. In January 2012, the MRC announced a £400k initiative to fund UK researchers to establish small collaborative research projects with Chinese counterparts.

The MRC has also established a fellowship exchange scheme in the area of regenerative medicine with Israel. We announced in October 2011 that the MRC and the Israeli Ministry of Science and Technology will each provide up to £50k for the new scheme under the umbrella of BIRAX, the Britain Israel Research and Academic Exchange Partnership in Regenerative Medicine. Up to ten fellows a year will travel between the countries.

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## Global health research

The MRC is a founding partner of the Global Alliance for Chronic Diseases (GACD), an initiative set up by a group of international research funders to tackle the rising tide of chronic disease, particularly in developing countries. These chronic diseases, including cardiovascular disease (such as heart disease and stroke), chronic respiratory conditions and type 2 diabetes, account for around 60 per cent of deaths worldwide. In 2010 the MRC launched a joint call with fellow GACD partner the Indian Council for Medical Research for collaborations between Indian and UK researchers investigating how to implement new interventions in real-world settings. Three awards were made in October 2011 with the fourth and final award to be made later in 2012. All four awards total just under £3.5m. The MRC has also worked with GACD partners to launch in July 2011 a call for proposals in high blood pressure research.

In 2010, the MRC, the Department for International Development (DFID) and the Wellcome Trust launched a three-year, £36m global health clinical trials scheme, recognising that pooling resources will bring the funds and skills together that are required to make a real difference to health in developing countries. Decisions on the first year's call were made in 2011 and additional funding from DFID meant that £20m of research in a range of subject areas and countries was funded. The second call was launched in May 2011.

The MRC also continues to support key global health trials that meet strategic priorities under our own scheme. Trials awarded funds in 2011/12 included a phase III trial of treatments for a type of fungal meningitis in HIV patients; evaluating treatments for multidrug-resistant tuberculosis; and assessing ways to improve how the African health systems deal with chronic diseases. Also in July 2011 we launched a year-long highlight notice stating our

interest in receiving grant applications in the area of neglected tropical diseases, a diverse range of infections that tend to affect the poorest in developing countries, with a severe impact on health and wellbeing.

Perhaps the most visible elements of our work in global health are our two African units in The Gambia and Uganda. Through our units, the MRC supports strategically important research and builds the capacity of African researchers. In 2011/12 the MRC's unit in The Gambia continued to implement its new scientific strategy, which splits its work into the three themes of vaccinology, child survival, and disease control and elimination. The research leaders were appointed for each theme and in January 2012 an international symposium was held to raise the profile of the unit's work. Part of the scientific strategy is to attract extra funding on top of the five-year budget of £6m from both the MRC and other external sources, an aim which is currently on track with grant funding from the MRC and the Bill & Melinda Gates Foundation.



*Senior representatives from the Bill & Melinda Gates Foundation, WHO, West African Health Organisation, EU European Developing Countries Clinical Trials Partnership (EDCTP), Wellcome Trust and international pharmaceutical companies, along with officials from the Gambian Government, UN and University of The Gambia, gathered at the MRC Unit in The Gambia in January to learn more about the unit's new scientific strategy.*

In 2011/12 the MRC/UVRI Uganda Research Unit on AIDS, based at the Uganda Virus Research Institute (UVRI) secured funding for its strategic vision over the next five years as the nature of the AIDS epidemic in Uganda changes. The work of the unit will now be focused around five programmes, from basic science to social science, which together with established clinical cohorts, create a unique multidisciplinary environment on a single site.

## MAKING AN IMPACT

### **Determining treatment for shock in African children**

Many children admitted to hospital in Africa with infections such as malaria or sepsis are found to be suffering from shock, a condition where blood is not being pumped around the body properly. Up to a fifth of these children with shock die within hours of arriving.

The World Health Organization recommends that children in this condition are given large amounts of fluid rapidly via a drip. This is standard practice in many developed countries but had not been tested in Africa. An MRC-funded trial in Kenya, led by Professor Kathryn Maitland from Imperial College London and the Kenya Medical Research Institute (KEMRI) Wellcome Trust Programme, compared this treatment with giving children fluid slowly. The trial was stopped early when it was found that giving fluids rapidly did not save lives and could be harmful.

Professor Maitland said: “Large-scale clinical trials of this nature carried out to the highest levels are crucial if we are to find new ways to keep children alive when they come into hospital. Disappointingly, across all parts of the trial we found that rapid fluid resuscitation had no benefit — our only conclusion is that boluses are harmful when used for shock in the illnesses we studied.”

For more information see: <http://www.mrc.ac.uk/Newspublications/News/MRC007943>



Coloured scanning electron micrograph (SEM) of groups of human embryonic stem cells (hESCs) on their feeder cells. hESCs are pluripotent, they are able to differentiate into any of the cell types in the human body. This ability makes hESCs a potential source of cells to repair damaged tissue in diseases such as Parkinson's and insulin-dependent diabetes.

Credit: PROFESSOR MIODRAG STOJKOVIC/SCIENCE PHOTO LIBRARY

A microscopic image of biological tissue, possibly a cross-section of a plant stem or a similar structure, showing various cellular and fibrous components. The image is overlaid with a semi-transparent purple rectangular box containing the text "Supporting scientists". The background image features a mix of purple, red, and blue hues, with some greenish areas at the bottom. The text is in a bold, white, sans-serif font.

# Supporting scientists

## Supporting scientists

The fourth and final aim of **Research Changes Lives** is to strengthen the UK research base to enable the scientific community to respond effectively to current and future grand challenges in medical research.

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### Capacity

The MRC trains and develops the next generation of research leaders by supporting outstanding individuals at crucial points in their research careers. We strive to address the nation's strategic skills needs, ensuring a world-class skilled research base for the UK that can respond to current and future challenges in medical research.

The MRC supports more than 5,700 research staff, either through direct employment in intramural MRC institutes and units, or funding them through university units, grants and fellowships. At the end of March 2012, there were around 400 MRC fellows and 1,900 PhD students in higher education institutions and MRC research establishments.

We support early-career researchers by ensuring that our studentships and fellowships have the flexibility to allow our students and fellows to pursue the best opportunities for their careers. Encouraging our students and fellows to establish mutually beneficial relationships with industry is key to ensuring that the UK has a skilled workforce that delivers for the UK in terms of both health benefits and economic returns. In 2011/12, the MRC sustained a recent increase in support for our MRC Industry CASE Studentship scheme: 35 awards were made in the year, with 50 per cent of students working with small- and medium-sized enterprises.

In January 2011, we launched a new way of working with our fellows to create industry-aware researchers with the skills and knowledge to drive forward translational medicine. We created an Industry Partnership Panel made up of MRC staff and experts from industry to advise fellows face-to-face on incorporating an industry component into either their existing fellowship (by 'topping up' with a new MRC Fellowship – Partnership Award) or a new fellowship proposal. All fellowship schemes are now open to industry collaboration, breaking down perceived barriers to industry collaboration among talented MRC trainees. The MRC also agreed in May 2011 to sponsor the Technology Strategy Board-coordinated Knowledge Transfer Partnership scheme. The scheme offers the opportunity for postdoctoral researchers to carry out a placement in an academic-industry collaboration, building skills and sharing knowledge between the organisations.

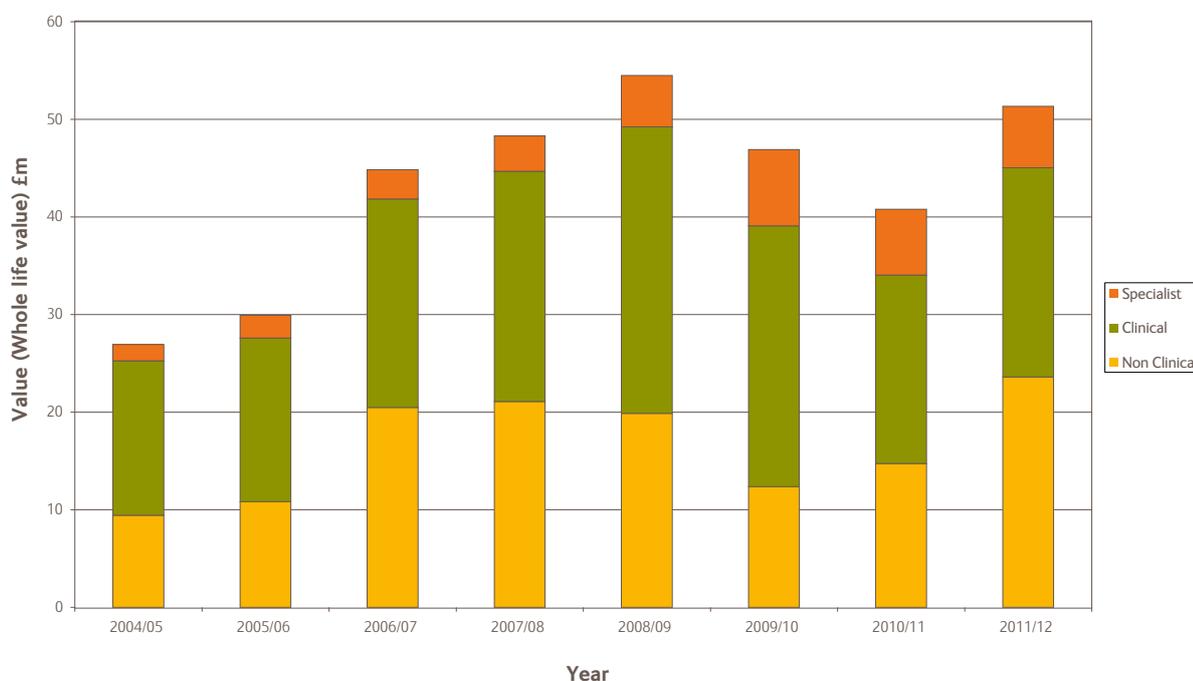
2011/12 was a good year for applications to our New Investigator Research Grants, with 26 awards and a success rate of 28 per cent, compared with 15 and a success rate of 12 per cent in 2010/11. These grants provide flexible support for clinical and non-clinical scientists while they are establishing themselves as independent principal investigators.

Table 5 shows MRC fellowships awarded in 2011/12. Around 500 fellowship applications had a final decision made during 2011/12 and 92 awards were made, committing around £51 million. Figure 7 shows fellowship commitment by financial year since 2004/05.

**Table 5:** Fellowship application and success rate by number 2011/12

Fellowship type	Fellowship agreement type	Number of applications	Number of awards	Success rate (%)	Total amount awarded (whole life values) £m rounded
Clinical	Clinical Research Training Fellowship	196	44	22	9.4
	Clinician Scientist Fellowship	58	8	14	8.8
	Senior Clinical Fellowship	15	2	13	3.3
Non-clinical	Career Development Award	133	14	11	14.2
	Senior Non-Clinical Fellowship	21	4	19	9.3
Specialist scheme	Bioinformatics Training Fellowship	23	6	26	1.8
	Career Development Award - Biostatistics	15	5	33	1.6
	ESRC/MRC/NIHR/Health Economics	7	0	0	0.0
	Methodology Research Fellowship	9	1	11	0.4
	Population Health Scientist	32	8	25	2.5
<b>Grand total</b>		<b>509</b>	<b>92</b>	<b>18</b>	<b>51.3</b>

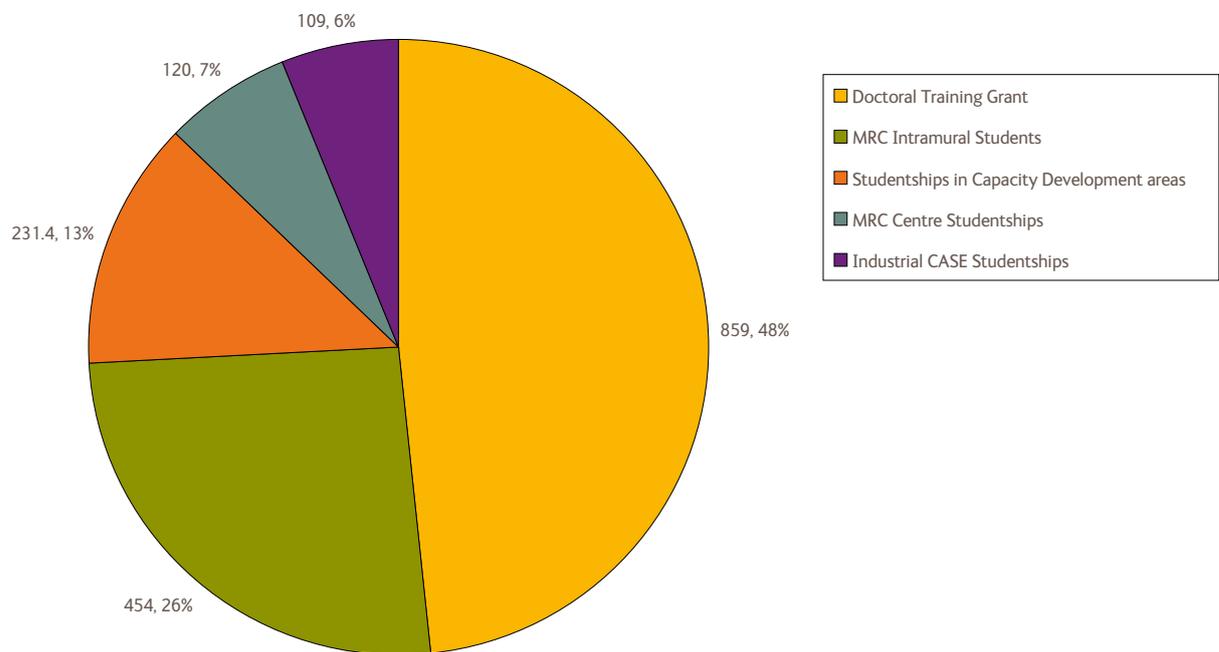
These data were extracted to represent the situation for grants administration and profiles as at 31/3/12.

**Figure 7:** New fellowship commitment by financial year <sup>5</sup>

5. These data were extracted from the systems to represent the situation for grants administration and profiles as at 31/3/12.

Sixteen universities in the UK receive a grant for PhD studentships based on their success at gaining grant income from the MRC; the more grant income, the more PhD students the university receives funding for. After a pilot in 2010, 2011 saw the roll out of a new way of working with these universities: the MRC-Research Organisation Studentship Portfolio Agreements. These agreements provide a better foundation on which the MRC can work with universities to ensure that PhD students receive the highest quality provision, that studentships fulfil both the university’s and the MRC’s priorities, and that we can monitor the outcomes of MRC investment, all the while maintaining flexibility for the universities in how they deploy the PhD students. Figure 8 shows the breakdown of the MRC studentship population at July 2011.

**Figure 8:** MRC studentship population at July 2011



### The MRC Fellows Symposium

In May 2011, the MRC held its second MRC Fellows Symposium in London, attended by MRC-funded fellows as well as MRC Council members, board and panel members, MRC senior management and industry representatives. The event brought talented MRC fellows together to exchange ideas with each other and key stakeholders, and was an opportunity for fellows to engage with the MRC and learn more about our strategic priorities.

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## Use of population-based data

The MRC invests heavily in population health research, the study of social and environmental influences on physical and mental health and wellbeing, across all our research boards.

In 2010, the MRC led a mapping exercise to determine the requirements to ensure that the UK can take full advantage of the potential of linking and analysing patient health records and large datasets. As an outcome of this exercise, in 2011, we brought together a consortium of the 10 largest government and charity health research funders to jointly fund a £15m initiative to establish UK centres of excellence to research and build capacity in linking health-related electronic data. In September 2011, the MRC launched a call for proposals for the centres, with funding decisions due to be made in June 2012.

The MRC also funds a rich and unique range of population and patient cohorts — the large, long-term data sets which are vital resources for academic and industry researchers studying the determinants of health and disease. In December 2011, the MRC reviewed the members of the Patient Research Cohort Initiative, a group of well-studied patient cohorts supported in partnership with the National Institute for Health Research (NIHR), CSO Scotland and the Welsh Government. The review concluded that all 11 cohorts represented a valuable resource to both academic researchers and industry, and their MRC support was continued for two years.

A new population cohort, the Birth Cohort Study, is a UK-wide study which will follow 90,000 women and their babies through pregnancy and the first year of their child's life. The MRC has provided £1.7m to the study so far, which is led by the Economic and Social Research Council and has been awarded £24.3m by the Large Facilities Capital Fund. The development phase for the study began in July 2011, with recruitment of mothers due to begin in 2013. The study will provide researchers with a rich and internationally unique data resource, comprising health and environmental data, and biological samples to provide information to help improve the health and wellbeing of children.

UK Biobank, a £90m project to collect and disseminate health information on 500,000 UK adults between the ages of 40 and 69, opened to other scientists in March 2012. Physical measurements, questionnaire data and biological samples will be available to researchers from academia and industry, in the UK and internationally, who are studying how genes, lifestyle and the environment interact to cause disease with the aim of public benefit. As the study participants age, their data can be linked up with health records, enriching a unique resource unparalleled in number of participants or detail of measurements. The project is funded predominantly by the MRC, the Wellcome Trust and the Department of Health.

### Data sharing

To use the data created by MRC-funded population health research to the best effect, we need to actively and effectively manage data sets, ensuring that they are maximised by sharing data where useful and appropriate and linking cohort data with other types of data.

For example, the electronic health records held by the NHS offer an unprecedented opportunity to maximise the use of cohort data by linking the two together. Cohort data can also be linked with socioeconomic data such as income data. Electronic patient records alone also offer an important resource for researchers to analyse health data to identify and develop more effective treatments, assess drug safety and understand disease causes.

One of the best ways of maximising the value of research data sets is to ensure that data are properly preserved for sharing and informed use beyond the originating research teams. In June 2011, the MRC published, in collaboration with the other research councils, a set of joint principles on data sharing, outlining research funders' expectations in relation to data sharing.

The MRC also continued the Data Support Service project and entered into a new collaboration with the UK Data Archive. With the support of the Science and Technology Facilities Council (STFC), the MRC Research Data Gateway was further developed into a working prototype, enabling researchers to browse data variables available in three different studies.

The gateway already holds over 45,000 variables for four case studies: Avon Longitudinal Study of Parents and Children (ALSPAC), National Survey for Health and Development (NSHD), Southampton Women's Study (SWS) and Whitehall II. Variables for a further ten cohort studies are being incorporated into the gateway.

In November 2011, the MRC issued a new policy and guidance, drafted specifically for the population health sciences and population and patient cohorts. It is based on key principles widely recognised as applicable to publicly funded research in general: OECD Principles and Guidelines for Access to Research Data from Public Funding and RCUK Common Principles on Data Policy. Future efforts in relation to data sharing and the gateway will be closely aligned with the development of other initiatives in this area, including the future Cohort Resources Facility.

## Research environment

The MRC has world-class facilities and scientists and we aim to retain these by creating environments that allow innovative research and researchers to flourish. Each of our research establishments is reviewed every five years to ensure it is achieving its goals and that it remains the best way to support research in its particular field.

### Institutes

The MRC's three research institutes carry out world-leading research, attracting a high calibre of scientists from around the globe. The MRC's model of long-term institute funding encourages ambitious, creative and multidisciplinary research.

In 2011/12, we carried out a five-year review of the National Institute for Medical Research (NIMR). The institute was allocated an indicative budget for the next five years, including confirmed funding of £119.9m during the remainder of the current spending review period (to March 2015) after receiving an excellent review. The review identified four key strategic areas (infections and immunity, integrated structural biology of disease, developmental neuroscience, and physiology and metabolism) for the NIMR.

Work on the Francis Crick Institute, to which much of the NIMR's research will move after 2015, continued as planned in 2011/12, with planning permission for the site near St Pancras granted in June 2011 and construction work starting the same month. Imperial College London and King's College London joined the venture in 2011, joining the MRC, Cancer Research UK, the Wellcome Trust and University College London as project partners. The Francis Crick Institute is a major commitment for the MRC and is central to our aim to provide world-class facilities and training environments for our scientists. The complex and ambitious project will maintain the UK's position in international biomedical research.



*Francis Crick Institute construction site June 2012*

The full review of the world-renowned Laboratory of Molecular Biology (LMB) in Cambridge was completed in 2011/12, obtaining the highest possible score for past work and future proposals. An indicative budget was set for the next five years, including confirmed funding of £117m during the remainder of the current spending review period (to March 2015). The LMB focuses on fundamental biology, but has also been exceptionally successful in commercialising discoveries in the past five years — receiving £330m for the MRC from past inventions. The next period will see increased support for early commercialisation and equipment new to the UK to maintain the LMB's position at the forefront of structural therapeutics.

Work on a new home for the LMB in a state-of-the-art, £212m building continued during 2011/12, with researchers due to move in on time in October 2012. As well as providing the space and environment for cutting-edge equipment, the building will enhance collaborative opportunities, including translational partnerships with industry, supported by new funding streams.

Decisions were also made during 2011/12 about the future direction of our third institute, the Clinical Sciences Centre (CSC) in London, after its five-year review in 2010. As part of the evolving strategy for the institute, the MRC decided in 2011 that continued support for mature clinical studies in the experimental clinical neuroscience stream would transition to the translational environments at Imperial College London, the campus in which the CSC is embedded, and King's College London. Earlier translational studies will be supported from within the CSC's new integrative biology programme and the existing CSC programmes, and will include key MRC areas such as preclinical imaging and informatics.

## Unit and centre changes

As at March 2012, we have 25 units (including two research units in Africa) and 27 centres, which bring together researchers to address key medical research challenges for which stand-alone grant support to higher education institutions would not be sufficient.

Following the successful transfer of the MRC Human Immunology Unit and the MRC Molecular Haematology Unit to the University of Oxford as part of the MRC Weatherall Institute for Molecular Medicine (WIMM) in 2010, the MRC Human Genetics Unit became a university unit on 1 October 2011. More than two hundred MRC staff and students joined the University of Edinburgh to form one of the largest centres for human genetics and molecular medicine in Europe: the Institute of Genetics and Molecular Medicine.

The unit also underwent its five-year review in 2011/12 with the conclusion that its research had thrived in the previous five years and made significant contributions to the field of developmental and human genetics. Research at the university unit will continue to be supported by the MRC — investment has been confirmed for five years, including funding of £36m during the remainder of the current spending review period (to March 2015) — and represents a long-term strategic partnership between the MRC and the University of Edinburgh.

More unit staff and infrastructure are expected to transfer to higher education institutions in 2012/13 as part of our strategy to increase the impact of MRC investments and support the best science and scientists in the most efficient and effective environments.

The General Practice Research Framework (GPRF) was closed on 31 March 2012 after the decision was taken in 2010/11 that, after four decades of excellence and leadership in primary care research, the unit's functions had largely been superseded by the NIHR's Primary Care Research Network and other networks in the devolved administrations. The MRC has worked closely with the NIHR to ensure a smooth transition of responsibility, while ongoing GPRF studies have transferred to University College London.

Centre funding for the MRC Centre for Neurodegeneration Research was not renewed in 2011/12. The MRC-supported research programmes in the centre will continue under standard grant funding to ensure that the MRC supports the best science in this strategically important area.

Following the decision in 2010 to close the MRC Human Reproductive Sciences Unit (HRSU) in Edinburgh, the MRC Centre for Reproductive Health at the University of Edinburgh opened on 1 April 2011. The centre will build on the legacy of almost four decades of research at the HRSU, continuing some of the excellent work initiated by the unit but in a more flexible funding model that will encourage researchers to foster collaborations across the university and with external partners. The centre began with £12m in grant funding from the MRC, boosted in November 2011 by a £1.9m programme grant to investigate gene regulation in reproductive health.

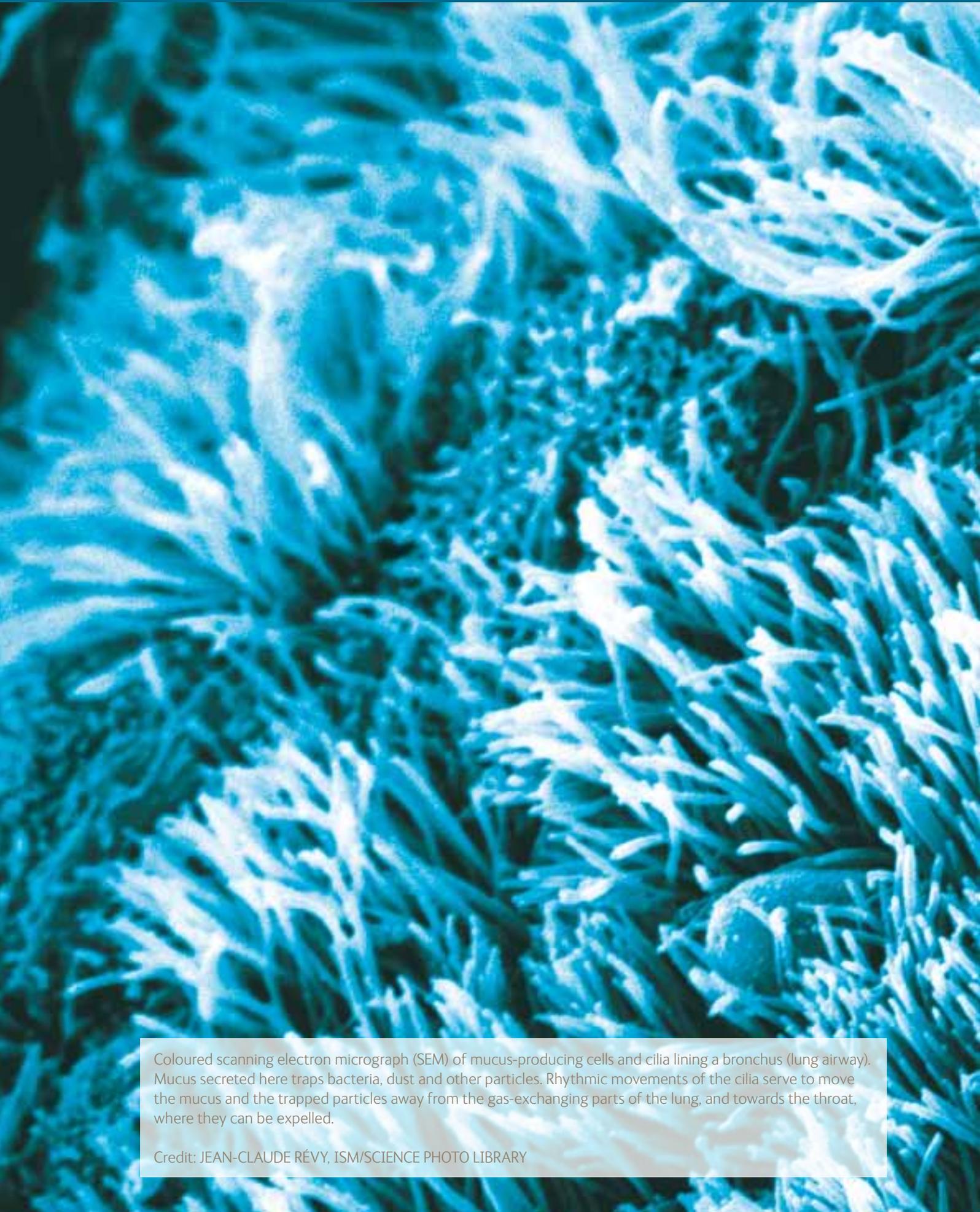
### Imanova

The MRC is exploring new ways of working with commercial and academic partners to deliver the best research environments for scientists. In 2011/12, the MRC entered into an innovative joint venture, Imanova, with Imperial College London, King's College London and University College London to collaborate on PET and related imaging research and services in London for London researchers, the wider UK community and industry. GlaxoSmithKline has transferred its PET imaging facility and equipment to Imanova and will be a key user of the imaging services. The unique partnership aims to ensure that sophisticated PET technology is available for research, as well as developing new PET techniques and tracers so that it can be expanded into other disease areas.

## MRCT governance changes

During the year there were changes in MRCT governance to further strengthen its independence from the MRC. Prior to this the Chairman of the Board of MRCT Ltd was the MRC Deputy Chief Executive and other MRC senior managers were members of the board. Following the reorganisation of MRCT's governance, the MRC has the right to appoint only one Board member (Director) out of a total of no less than five and normally not more than ten Directors. These changes ensure that the Chairman of the Board of Trustees and a majority of the Trustees will no longer be MRC employees and are independent of the MRC.

A two-year service contract was agreed between the MRC and MRCT to define the MRCT's continuing role in supporting the translation of MRC unit and institute discoveries.



Coloured scanning electron micrograph (SEM) of mucus-producing cells and cilia lining a bronchus (lung airway). Mucus secreted here traps bacteria, dust and other particles. Rhythmic movements of the cilia serve to move the mucus and the trapped particles away from the gas-exchanging parts of the lung, and towards the throat, where they can be expelled.

Credit: JEAN-CLAUDE RÉVY, ISM/SCIENCE PHOTO LIBRARY



# Management commentary

## Management commentary

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### Summary

The MRC's mission is to improve human health through world-class research. We endeavour to achieve this mission by delivering against the strategic aims set out in the MRC Strategic Plan for 2009-2014, **Research Changes Lives**. To assist us in measuring progress against the strategic plan, for the third year running, more than 3,000 MRC researchers used the e-Val system to capture the outputs of their work. This has also proved to be an invaluable tool in enhancing our understanding of how MRC research leads to economic, academic and social impact.

We have continued to support research in the priority areas laid out in the strategic plan. In 2011, the MRC led, on behalf of the research councils and the Technology Strategy Board (TSB), the creation of a UK strategic plan for regenerative medicine. In 2012, the MRC, in conjunction with the BBSRC and the EPSRC, launched the UK Regenerative Medicine Platform, and in 2011/12, the MRC led the creation of a 10-year research strategy for the EU Joint Programme in Neurodegenerative Disease Research (JPND), seeking to tackle the burden of neurodegenerative diseases with research across the spectrum from new treatments to social care.

The 2010 Spending Review awarded the MRC a science and research resource budget that was maintained in real terms in 2011/12. However, in times of austerity, we have had to identify innovative means of addressing the challenges facing biomedical science. By doing so, we will maintain our strong investment in fundamental research and research which helps to translate scientific and clinical discoveries into improved healthcare, products and services.

In 2011/12, the MRC embarked on a number of pioneering collaborations with a variety of different organisations, in order to capitalise on the strength of each partner. Strengthening academic-industry collaboration, the MRC announced, as part of the Government's Life Sciences Strategy, a landmark project with pharmaceutical company AstraZeneca to fund researchers to use compounds that are not being pursued by the company.

Successful translation to ensure that the products of basic research are effectively identified and developed remains a key priority and has benefited from fruitful partnerships with many organisations including companies, other research councils, medical research charities, the UK's health departments and the National Institute of Health Research (NIHR). One such partnership announced in 2011 was that with the TSB in forming the TSB/MRC Biomedical Catalyst, a £180m programme focused on taking research in universities and early-stage businesses through to further development.

The MRC has continued to explore new ways of working with other scientific and academic institutions to achieve the optimum research environments for scientists. In 2011/12, in partnership with Imperial College London, King's College London and University College London, the MRC established Imanova, a venture that will deliver PET imaging services in London for the London and wider UK academic communities, as well as industry researchers as and when available. GlaxoSmithKline has transferred its PET imaging facility and equipment to Imanova and will be a key user of the imaging services. Construction work is well underway on the Francis Crick Institute, a collaborative venture that has now been joined by new partners Imperial College London and King's College London.

In 2011/12, the MRC continued to experience the benefits of productive relationships with the other research councils and their umbrella body, Research Councils UK (RCUK). In particular, 2011/12 saw the initiation of the development phase for the Birth Cohort Study, a UK-wide MRC/ESRC collaboration. The MRC leads on the Lifelong Health and Wellbeing (LLHW) cross-research council programme which funds multidisciplinary research into the factors which influence health and wellbeing in older age. The MRC has also worked with the other research councils to put into practice an efficiency programme that will reduce the costs and overheads associated with research and implement the recommendations of the RCUK report **Efficiency 2011-15: Ensuring Excellence with Impact**.

The MRC has consolidated the structural changes made in 2010/11 associated with the establishment of two new Head Office sites in London and Swindon and the transfer of the MRC's human resources, finance, procurement and grant systems to the RCUK Shared Services Centre Ltd. In 2011/12, the MRC also continued to work towards increasing the impact of MRC investments through the transfer of MRC units to higher education institutions. The MRC Human Genetics Unit became a university unit in October 2011, becoming part of the Institute of Genetics and Molecular Medicine at the University of Edinburgh.

The MRC provides information on the major awards reflecting our priorities in 2011/12 in the annual report. Information on the individual research programmes supported by the MRC can be found in our online research portfolio at [www.mrc.ac.uk/researchportfolio](http://www.mrc.ac.uk/researchportfolio). The MRC's annual review, a complementary publication to the annual report, provides information on the broader impact of the MRC's research.

All of the publications highlighted here can be found on the MRC's website at [www.mrc.ac.uk](http://www.mrc.ac.uk).

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## Performance management

The MRC Strategic Plan for 2009-2014, **Research Changes Lives**, sets out our research priorities until 2014. In addition to this, intended activities for the spending review period are set out in the MRC delivery plan 2011/12 - 2014/15 and are refreshed annually. The delivery plan describes how the MRC will use its resources to achieve its mission and contribute toward the Government's objectives for the science budget.

Progress in implementing the delivery plan and achievements against the milestones outlined are monitored routinely by MRC Management Board. Progress is reported to Council and, via biannual meetings, to BIS. A summary of this progress is included in the subsequent annual delivery plan reporting framework document, which also sets out which areas of the MRC's activity will be reported on in detail over the next year. The delivery plan reporting framework for 2012/13 is available on the MRC website at [www.mrc.ac.uk/Newspublications/Publications/DeliveryPlan/index.htm](http://www.mrc.ac.uk/Newspublications/Publications/DeliveryPlan/index.htm)

The MRC also reports annually on the outputs, outcomes and impact of MRC research. Further information on these reports is available at [www.mrc.ac.uk/Achievementsimpact/Outputsoutcomes/index.htm](http://www.mrc.ac.uk/Achievementsimpact/Outputsoutcomes/index.htm)

## Information assurance

Throughout 2011/12, the MRC continued with the approach to information assurance we have used since 2008, namely a face-to-face information security audit of all of our intramural units based on the ISO 27001 standard, carried out by the Corporate Information Security team. This was further enhanced by the inclusion of a Security Policy Framework questionnaire for every unit.

Education and staff awareness remain a top priority for the organisation, and all staff have completed basic Information Security Awareness training as mandated by BIS.

In addition to conducting the audits, the Corporate Information Security team has co-ordinated major security activities across the MRC, reviewing and reissuing policies, assisting and advising units where necessary and assisting in dealing with potential security incidents as and when they occur.

One major activity during the period was to define, agree and obtain approval from senior MRC management for the introduction of policies to mitigate the risks involved in using smartphone and tablet technology to access MRC systems.

## Personal Data Incidents

During the 2011/12 reporting period, there were no incidents of data loss that required notification to the Information Commissioner's Office (ICO). Table 6 includes incidents deemed by the Data Controller not to fall within the criteria for report to the ICO, but recorded centrally within the MRC. Small, localised incidents are not cited in these figures.

**Table 6:** Summary of other protected personal data related incidents in 2011/12

Category and nature of incident	Total
1. Loss of inadequately protected electronic equipment, devices or paper documents from secured MRC premises.	TWO
2. Loss of inadequately protected electronic equipment, devices or paper documents from outside secured MRC premises.	TWO
3. Insecure disposal of inadequately protected electronic equipment, devices or paper documents.	NIL
4. Unauthorised disclosure	TWO
5. Other	NIL

## Public information holder

The MRC does not sell public sector information. Therefore the MRC has no statement to make in relation to compliance with cost allocation and charging requirements as set out in guidance from HM Treasury and the Office of Public Sector Information.

## Thefts, losses and special payments

During the year the MRC incurred losses of £10,105. There was a fraud (one case) resulting in a loss of £9,000. Losses of accountable stores (three cases) of £627 and a bad debt written off (one case) of £478. No special payments were made during the year.

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## Operations

### MRC people

2011/12 marked the second year of the Government pay freeze, and the third year of pay restraint for the MRC. As reported in the 2010/11 annual report, the Government enacted legislation in 2010 to limit the cost of redundancy schemes for civil servants. Although this law did not cover the MRC, it has agreed appropriate changes with the National Trade Union Side.

During the year the MRC Pension Scheme was evaluated by the actuaries and found to be fully funded. To continue to ensure that the scheme remains in good health, the MRC agreed to increase pension contributions made on behalf of members from 11 to 13 per cent from April 2012 (employees contribute 6.5 per cent of their income, at the very top end of the scale recommended by the Independent Public Service Pensions Commission ('Hutton Report')). The scheme was also audited and found to be in good health.

As with the previous year, the review of policies and procedures continued and reflected several changes in UK employment legislation and other changes requested by Government. A project to harmonise terms and conditions with the other research councils made significant progress during the year, but a number of items have been put on indefinite hold as a consequence of the pay freeze.

Changes being made to immigration processes and consultation with the authorities increased in 2011/12. The MRC is very concerned about the impact of these changes on its ability to attract and retain the best international scientists.

This year also saw the TUPE transfer of staff based at the MRC Human Genetics Unit from the MRC payroll to Edinburgh University and finalisation of the HR aspects of the closure of the MRC Human Reproductive Sciences Unit (formally closed on 31 March 2011). Further transfers are planned for the next year, which will reduce the number of people working directly for the MRC over time. Discussions have started for the transfer of NIMR staff to the Francis Crick Institute.

The development of equality and diversity policies, systems and procedures has now been given a boost by the establishment of a cross-council support team and the recruitment of a specialist advisor within the MRC.

We wish to record our thanks to the National Trade Union Side, which has again provided excellent representation for its members throughout the year and helped make significant positive changes for staff working at the MRC.

Tables 7 and 8 show data for 2011/12 (locally employed staff in The Gambia and Uganda are not included).

**Table 7:** MRC employee analysis (for UK paid employees in post as at 31/03/12)

Gender	No. of employees	%
Female	1,622	52.80%
Male	1,451	47.20%
<b>Total</b>	<b>3,073</b>	

Ethnic group	No. of employees	%
BME (black and minority ethnic)	370	12.00%
Non BME	2,229	72.50%
Not disclosed	433	14.10%
Other ethnic group	41	1.30%
<b>Total</b>	<b>3,073</b>	

Disability	No. of employees	%
Yes	40	1.30%
No	2,474	80.51%
Not disclosed	559	18.19%
<b>Total</b>	<b>3,073</b>	

**Table 8:** Sickness absence 2011/12

Sickness absence 2011/12	
Total no. of employees (as at 31/03/12)	3,073
Total days lost to sickness	14,762
Average working days lost	4.80

## Efficiency

As set out as part of the 2010 spending review settlement, the research councils have begun implementation of an efficiency programme to drive down the costs and overheads associated with research. The efficiency savings derived from this programme are being re-invested in research.

In the spring of 2011 RCUK published **Efficiency 2011-15: Ensuring Excellence with Impact** describing how the research councils would implement the recommendations in Sir William Wakeham's report **Financial Sustainability and Efficiency in Full Economic Costing of Research in UK Higher Education Institutions**. The efficiency savings are being applied to both research grants and fellowships awarded via competitive routes to research organisations and also to research council institutes. The combined savings for the first year (2011/12) are planned to be £30.5m, rising over the four year spending review period to reach a total of £428m over the full period.

Alongside these measures the research councils also introduced changes to the requests for equipment on grants. RCUK is currently working with university partners to develop options to promote and assist equipment sharing, including exploring the issues around asset registers.

## Policy and best practice

### Transparency

The MRC aims to be as open as possible through our website, publications and communication with others about how we conduct our business.

Detailed information on management structures, senior staff pay, spending over £25,000 and spending on Government Procurement Cards (of more than £500 on a single transaction) is routinely published on our website and on [www.data.gov.uk](http://www.data.gov.uk). Our publication scheme describes how information can be found and accessed, and Freedom of Information requests also help to inform how information is published and routinely made available where possible. Requests during 2011/12 related to research strategy, corporate strategy, research funding and outputs, and contracts. Fifty-six requests were received — a 50 per cent increase on the previous year — and the response rate within the deadline of 20 working days (or an agreed extended deadline) fell from 80 to 71 per cent, reflecting an increase in numbers and complexity. A breakdown of Freedom of Information requests is shown in Tables 9 and 10.

**Table 9:** Freedom of information requests (by type)

Type of request	2007/08	2008/09	2009/10	2010/11	2011/12
Contracts	4	2	3	7	8
Corporate, strategy, policy and governance	8	5	21	14	10
Research funding and outputs	39	29	15	10	28
Personal information	2	0	1	0	0
Research strategy, policy and governance	7	11	2	6	10
<b>All</b>	<b>60</b>	<b>47</b>	<b>42</b>	<b>37</b>	<b>56</b>

**Table 10:** Freedom of information requests (by requestor)

Requestor	2007/08	2008/09	2009/10	2010/11	2011/12
Academic/HEI	12	6	1	2	7
Charities and interest groups	14	5	3	9	6
Media	4	8	17	4	0
Parliament	2	2	2	3	2
Private Sector	5	4	3	5	9
Public	17	18	16	14	31
Public Sector	6	4	0	0	1
<b>All</b>	<b>60</b>	<b>47</b>	<b>42</b>	<b>37</b>	<b>56</b>

Note: Requests for information that were received by the MRC and were treated as routine business, and requests submitted to other organisations, where the MRC was consulted, are not included in this summary.

## Security, safety and resilience

In line with the Government's policy on health and safety performance, we continue to strive for the MRC to be an exemplar of best practice. Our strategy for health, safety and security is based on business needs and takes a holistic view of health and safety management with annual priority objectives agreed by Council.

The MRC's research units and institutes remain competitively benchmarked in health and safety, personnel security and business continuity planning. During the calendar year to 31 December 2011, there were 129 accidents reported across the MRC (with 3,211 staff as at 31 March 2011) compared with 138 for 2010 (3,599 staff as at 31 March 2010).

The number of accidents resulting in more than three lost work days rose slightly to seven, giving a rate of 2.3 such accidents per 1,000 staff. This compares with 2.1 for the university sector.

Audits of all units' business continuity management and health and safety risk assessments were completed over the year. Each unit is tasked with preparing improvement plans and providing quarterly updates to the corporate safety, security and resilience section.

E-learning has played a key role in delivering training to staff over the year. This has produced substantial savings for units and has led to better monitoring of training provision across the MRC.

To enable units to share information among themselves and more than 140 major external organisations, the Safety, Health and Environment Inter Industry Benchmarking tool is being piloted. This provides units with a large repository of health, safety and environmental information, policies, procedures and examples of best practice across a wide range of research and business organisations.

The Safety, Security and Resilience team continues to contribute to international agreements on biorisk and biosafety officer competence and the UK strategy for high containment facilities.

## Risk and audit management

As a non-departmental public body, the MRC is required to set a policy and framework for the management of risk and audit so that the chief executive (also the accounting officer) can give assurance on the systems of internal control that support the achievement of the MRC's objectives. Building on improvements in recent years, we have continued our strong emphasis on risk management during 2011/12, including using the 'Managing the risk of financial loss' toolkit to assess financial risk across six key financial processes.

We have continued to increase the value added by audit activities and improved the Assurance Map. Further information relating to risk and audit management is included in the Governance Statement.

## Business information and information technology

In 2011/12 the MRC continued its transition to the systems provided to all the research councils by the RCUK Shared Service Centre Limited (RCUK SSC Ltd), including the migration of all the MRC grants data. From May 2011 onwards, MRC grants to external bodies were all processed through the RCUK SSC Ltd systems. A new large investments solution was also created in the RCUK SSC Ltd systems to capture the information relating to the MRC's own units

and institutes. The MRC has also been working with the other research councils on a Management Information Improvement project to improve the quality of the reporting systems.

## **Social and community issues**

MRC-funded researchers engage with a wide range of audiences about their research: the most recent MRC e-Val data show more than 9,044 separate engagement events, an increase of 3,644 on the previous year. Most engagement events are delivered as part of an annual communication plan aimed at stakeholders including patient groups, local communities and schools, as well as the general public.

Presentations to patient groups and study participants by MRC scientists, particularly those working in a specific disease area, are widespread and 182 presentations took place in the last eVal reporting year. These events can help reassure patients, their families and carers that scientists are endeavouring to make a difference to patients, and also remind researchers how important their work is to people affected by a particular condition.

Scientists from the MRC National Institute for Medical Research (NIMR) have participated in a variety of community engagement projects as part of the Francis Crick Institute's community engagement programme to raise awareness and increase understanding of the Institute and its aims. The NIMR scientists have contributed to local school science and careers events, and to several community festivals and science-meets-art initiatives.

Researchers at the MRC Human Genetics Unit have collaborated with nearby Broughton High School by sharing images and stories about research, and giving talks about life as a scientist and careers in science.

## Sustainability report

This is the first year that the MRC has produced a sustainability report across all MRC units, institutes and our two head office sites. The production of this report has highlighted the variability of data availability across our sites and the need to improve the quality of the data available. The MRC Head Office Estates Management Section is working with colleagues across all MRC sites to improve the monitoring and collection of environmental data.

### MRC policy and summary of performance

The MRC is committed to the continual improvement of our environmental performance. Details of the MRC's environmental and sustainability policies, governance processes that support the management of sustainability performance, and the organisation's objectives can be found on the MRC website ([www.mrc.ac.uk](http://www.mrc.ac.uk)).

Each MRC research unit and institute is required to have a local environmental policy and action plan. They regularly monitor performance at a local level to ensure continuous improvement, wherever possible measuring their performance against measured data, and update their policies and objectives as necessary. The MRC Head Office Estates Management Section (EMS) encourages and assists in the implementation of good environmental and sustainable practices in MRC estates and facilities and in MRC projects. EMS also shares good practice and maintains guidance to reflect the latest Government and regulatory requirements.

The MRC's environmental and sustainability policy and its attendant procedures will be subject to internal audit every three years to provide assurance that its requirements are being implemented effectively.

Key examples of steps taken by the MRC to improve our environmental performance include:

- The new building for the MRC Laboratory of Molecular Biology was designed with sustainability in mind
- The building for the new Francis Crick Institute is being designed to meet the Building Research Establishment Environmental Assessment Method (BREEAM) excellent standard
- The Research Complex at Harwell building employs an earth tube solution to reduce energy demands and thus running costs
- The MRC has participated in the Government Property Unit (GPU) (previously known as the Office of Government Commerce) annual benchmarking exercises for office buildings since this started. We continue to work with the GPU, the Department for Business, Innovation and Skills and others in an attempt to devise a workable methodology for the benchmarking of laboratory building
- The MRC is participating in new government initiatives such as the 'Carbon Reduction Commitment' and 'Greening Government'.

### Environmental data

The reporting boundaries encompass the MRC's operational activities within all research units and institutes, including those in The Gambia and Uganda, as well as the Head Office sites. The figures include a proportion of RCUK SSC Ltd emissions for their occupation of North Star House, Swindon as agreed with other Research Councils.

**Table 11: Annual consumption and resultant emissions for energy and water**

Category	Unit	2009/10	2010/11	2011/12
<b>Direct energy emissions</b>				
Natural gas – usage <sup>1</sup>	kWhr	10,746,928	37,287,062	34,206,945
Natural gas – expenditure <sup>2</sup>	£	1,195,000	1,002,000	1,214,582
Natural gas – emissions	tCO2e	1,973	6,845	6,280
<b>Indirect energy emissions</b>				
Grid mains electricity – usage <sup>3</sup>	kWhr	53,815,223	49,885,637	56,399,518
Grid mains electricity – spend <sup>4</sup>	£	6,176,000	4,492,000	4,641,795
Grid mains electric – emissions	tCO2e	29,113	26,988	30,512
<b>Other indirect emissions</b>				
Business travel - emissions	tCO2e	1,000	1,493	1,681
Business travel - spend	£	Not available	361,055	1,704,548
Out-sourced emissions	tCO2e	Not available	268	268
<b>Emissions totals</b>	<b>tCO2e</b>	<b>32,086</b>	<b>35,594</b>	<b>38,741</b>
<b>Emissions totals/FTE</b>	<b>tCO2e/FTE</b>	<b>7.1</b>	<b>7.9</b>	<b>8.6</b>
<b>Finite resource consumption</b>				
Mains water consumption <sup>5</sup>	Cubic M	254,928	230,050	265,731
Mains water consumption/FTE	Cubic M/FTE	56.6	51.1	59.1
Mains water expenditure <sup>6</sup>	£	365,000	362,000	415,736

KWhr = Kilowatt hours. tCO2e = Tons of carbon dioxide emitted. FTE = Full time equivalent. (1) Gas usage from sites where data was available. (2) Total gas expenditure (includes payment via service costs). (3) Electricity usage from sites where data was available. (4) Total electricity expenditure (includes payment via service costs). (5) Water consumption data from sites where it was available. (6) Total expenditure, including sites where water consumption measurement data was not available (e.g. where paid via service costs)

Owing to incomplete data, it is currently not possible to analyse trends in emissions across the whole of the MRC. The increase in total carbon emissions and water usage observed in 2011/12 is believed to be due, at least in part, to improved data monitoring and returns.

The overwhelming bulk of the carbon emissions recorded results from the power demands of scientific equipment, or where the conditions in which the research carried out requires high levels of containment, or air changes, which add considerably to power consumption. Some buildings such as vivariums require large amounts of water in the course of operation and also generate a large amount of waste, for example, bedding.

## Quality and completeness of MRC data

### Electricity and gas

Many MRC research premises are embedded in host institution sites and do not have separate metering. Often these sites do not pay for utilities directly to the supplier but instead the host institution enters into the supply contracts and pays the suppliers and then recharges the cost to the MRC units via pro rata calculations (based on floor space) through the building service charges. The MRC has already carried out extensive metering of buildings

on MRC-run sites where we buy electricity and gas directly from the suppliers, but there is a need to further increase metering in MRC sites that are situated on host institution premises.

### **Business travel**

Carbon emissions from all forms of travel (road, rail and air travel) have been collated from staff records and the resultant journey distances have been converted to calculate associated carbon emissions via the conversion factors published by the Carbon Trust<sup>6</sup>.

### **Waste**

The data on waste sent to landfill or recycling was not complete enough to be included in this report. Waste has therefore been excluded from this report until better data can be obtained and reported.

### **Finite resource consumption**

The MRC currently has limited data with regard to water consumption. Figures for water are included in this report but an enhanced data measurement and recording system is necessary in order to properly monitor the amount of resources used.

### **Biodiversity action planning**

The MRC undertakes biodiversity action planning at the two sites where the MRC has extensive grounds – at MRC Harwell in Oxfordshire and at NIMR at Mill Hill, north London. At both sites the local environmental policy encourages the improvement of conditions in which biodiversity can thrive by careful estates management of grounds.

### **Sustainable procurement**

The MRC is collaborating with other research councils and the RCUK SSC Ltd in a procurement strategy based on regional clustering and bundling of facilities management contracts. The main focus of initiatives has been to reduce utilities and costs wherever possible and to promote the reduction of unnecessary consumption.

### **Future strategy**

It is a priority for the MRC to improve the amount, quality and consistency of data available to be able to encourage efficient behaviours, and demonstrate improvement.

As part of this improvement, we will work with landlords where the MRC pays for utilities via service contracts. We will also work with MRC units to install improved metering.

Key environmental commitments for the next year include:

### **Building, facilities and estates**

- We will reduce our environmental footprint by using environmental best practice to design, construct and maintain our buildings and other equipment.
- We will measure and reduce emissions of carbon dioxide and other deleterious gases into the atmosphere.

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6. [www.carbontrust.com](http://www.carbontrust.com)

- We will take steps to update and improve the means of measuring emissions waste, and other criteria, arising from our activities.
- On those sites where units and institutes have grounds which we manage, we will seek to protect and enhance biodiversity.
- Environmental impact assessments will be undertaken for proposed capital projects over £1m which may significantly affect the environment.
- We will work to maximise the recycling of waste materials.

### Travel

- We will continue to encourage employees to use tele-/video-conferencing where possible and public transport when travel is necessary.
- We will promote the establishment of green travel plans by units and institutes wherever possible.

## Financial results

A summary of the MRC's financial results for 2011/12 and the preceding two years is shown in the tables starting on page 82. Table 12 shows results using the accounting conventions required for reporting to central government. This form of accounting differs in a number of significant ways from that required for our formal audited accounts. A reconciliation between the two sets of accounts is shown at Table 13. Each year we receive a budgetary allocation from BIS in the form of a Departmental Expenditure Limit (DEL). The DEL is the primary mechanism in resource accounting and budgeting and is split into a number of categories with rules placing certain restrictions on the use of each type. The main subdivisions are Resource DEL and Capital DEL. Resource DEL is further divided into Near-Cash DEL and Non-Cash DEL; Near-Cash DEL may be used for Non-Cash and Capital Expenditure, but other types of DEL may not be used for Near-Cash Resource Expenditure. In any one year, we normally expect to spend our DEL allocation. There is limited flexibility allowed in practice to carry forward previous years' underspends. These underspends (in the past) have on occasion been called upon to supplement our annual DEL through End of Year Flexibility (EYF), after agreement by BIS and HM Treasury in any given year.

### Significant Accounting Event – Deconsolidation of MRCT Ltd

The MRC has not produced group financial statements for 2011/12, to include the results of MRC Technology (MRCT) as a subsidiary, following its deconsolidation as at 31 January 2012. The reasons behind this and any financial impact are detailed within the Annual Account – Notes 18a and 28 refer.

## Major projects

### UK Centre for Medical Research and Innovation (The Francis Crick Institute)

In 2007 the MRC joined with Cancer Research UK, the Wellcome Trust and University College London (UCL) to form a consortium to set up a new joint research institute in central London – the UK Centre for Medical Research and Innovation (UKCMRI) (to be known as The Francis Crick Institute). The four funders signed a Joint Venture Agreement (JVA) which created the establishment of UKCMRI as a charity limited by shares, following agreement of the Charity Commission. The funding of the project has been by capital contributions leading to shares. The MRC investment in UKCMRI Ltd is represented by issued shares. During the year Kings College London and Imperial College of Science Technology and Medicine have become new participants in the JVA. A Deed of Accession varying the original joint venture agreement was signed by all partners (existing and new) on 11 October 2011. Each of the new participants has agreed to make an overall contribution of £40m towards the project, and initially intend to become the holders of shares by way of subscription. The new partners will contribute to building lifecycle works i.e. capital replacement of assets which are integral to the building such as mechanical, electrical, digital and fabric assets.

The value of MRC's investment in The Francis Crick Institute (including land and investments) amounts to £104.6m as at 31 March 2012.

### Renewal of the Laboratory of Molecular Biology

The MRC Laboratory of Molecular Biology (LMB) in Cambridge is currently housed in a 50-year old building, and a renewal project involving the construction of a replacement building to provide up-to-date, internationally competitive facilities for the LMB has been underway since 2009. The construction project is due for completion in October 2012. Total capital spend to date now amounts to £202.5M.

## RCUK Shared Services Centre Ltd

The seven research councils, working together as Research Councils UK (RCUK), have now established a shared services centre, the RCUK SSC Ltd, based in Swindon. The research councils have set up the RCUK SSC Ltd with the aim of reducing spending through sharing and standardising processes, including more efficient procurement. In 2009/10, the MRC transferred its grants, human resources (HR), finance and procurement operations using the 'SAP' platform to the RCUK SSC Ltd. In 2010/11, the MRC's HR, finance and procurement services were transferred to the Oracle platform, which is shared with other research councils. The MRC's grants operation was also transferred to the cross-council grants application process, Je-S. The research councils have agreed to share the costs of establishing RCUK SSC Ltd and the MRC's agreed share is 26.98 per cent. The RCUK SSC Ltd is regarded as a business critical project and is referred to in our Governance Statement.

## Review of the year

The MRC is required to control budgets within DEL under the Resource Accounting and Budgeting regime. The Resource outturn of £575.0m was £7.4m (1.3 per cent) lower than budget. Capital expenditure at £70.4m was £2.3m higher than budget. Administration expenditure was £1.6m less than budget of £43.9m.

## Accounting for income and grant-in-aid

Income and expenditure are recognised in the Statement of Comprehensive Net Expenditure on an accruals basis (ie when the recipient has fulfilled its obligations, such as carried out a period of research). Grant-in-aid is credited to reserves. Note 25 of the Accounts shows capital commitments of £237.8m (2010/11 £317.0m) and forward commitments on research awards to Higher Education Research Institutes of £716.3m (2010/11 £771.6m). These commitments fall due in future years which, to the extent that they are not to be met from the MRC's other sources of income, may only be met by future grant-in-aid from BIS. This is because, under the normal conventions applying to parliamentary control over income and expenditure, such grants may not be issued in advance of need. The statement of financial position as at 31 March 2012 shows a pension asset of £12.9m (2009/10 £67.6m). This is the measure of the surplus in the pension scheme as valued at Statement of Financial Position date under IAS 19 – Employee Benefits. Full disclosure is given at Note 8e in the Annual Accounts. The figures shown in the financial summary at Table 12 (overleaf) are those after adjusting for the difference between statutory presentation and those scoring under DEL. Table 13 shows the reconciliation of the finance tables to the Annual Accounts.

Table 12: Summary of Financial Return for 2011/12

	2011/12				2010/11					
	Programme Resource		Administration Resource		Capital		Total			
	Near Cash £000	Non Cash £000	Total £000	Near Cash £000	Non Cash £000	Total £000	Resource £000	Capital £000	Total £000	
External Income	(80,994)	-	(80,994)	(89)	-	(89)	(81,542)	(91,268)	-	(91,268)
Income from Commercial Activities	(78,980)	-	(78,980)	-	-	-	(78,980)	(65,847)	-	(65,847)
Sale of Hammersmith, Imanet Ltd	(451)	-	(451)	-	-	-	(3,000)	(3,451)	-	-
Release of Deferred Income	-	-	-	-	-	-	(688)	(688)	-	-
Amount payable to BIS	-	-	-	-	-	-	-	17,171	-	17,171
Other finance income	-	-	-	-	-	-	-	(114)	-	(114)
<b>Total Income</b>	<b>(160,425)</b>	<b>0</b>	<b>(160,425)</b>	<b>(89)</b>	<b>(89)</b>	<b>(89)</b>	<b>(4,147)</b>	<b>(164,661)</b>	<b>(140,058)</b>	<b>(140,058)</b>
Pay and Operating Costs	316,803	-	316,803	40,148	-	40,148	-	356,951	358,721	358,721
Depreciation of property, plant and equipment	-	20,381	20,381	-	-	-	-	20,381	20,386	20,386
Amortisation of Intangible assets	-	27,127	27,127	-	-	-	-	27,127	21,070	21,070
Impairment of property, plant and equipment	-	-	-	-	-	-	-	-	3,366	3,366
Reversal of prior year impairment of property, plant and equipment	-	(2,221)	(2,221)	-	-	-	-	(2,221)	(9,541)	(9,541)
Share of losses on joint venture	-	-	-	2,282	2,282	2,282	-	2,282	1,234	1,234
Provision movement	(7,835)	-	(7,835)	-	-	-	-	(7,835)	(1,747)	(1,747)
Research grants	362,936	-	362,936	30	-	30	32,937	395,902	339,810	29,187
International Subscriptions	18,258	-	18,258	-	-	-	-	18,258	17,899	-
(Gain)/Loss on Disposal of Tangible fixed asset	23	-	23	-	-	-	-	23	158	158
Direct Capital	-	-	-	-	-	-	73,486	73,486	-	130,541
<b>Total Expenditure</b>	<b>690,185</b>	<b>45,287</b>	<b>735,472</b>	<b>40,178</b>	<b>2,282</b>	<b>42,460</b>	<b>106,423</b>	<b>884,354</b>	<b>751,356</b>	<b>159,728</b>
<b>Net Income &amp; Expenditure</b>	<b>529,760</b>	<b>45,287</b>	<b>575,047</b>	<b>40,089</b>	<b>2,282</b>	<b>42,371</b>	<b>102,275</b>	<b>719,694</b>	<b>611,298</b>	<b>159,728</b>
<b>Less Income from Dept of Health*</b>	-	-	-	-	-	-	(31,887)	(31,887)	-	-
<b>Adjusted Net Income &amp; Expenditure</b>	<b>529,760</b>	<b>45,287</b>	<b>575,047</b>	<b>40,089</b>	<b>2,282</b>	<b>42,371</b>	<b>70,388</b>	<b>687,807</b>	<b>611,298</b>	<b>159,728</b>
DEL Budget	(536,172)	(46,295)	(582,467)	(40,911)	(3,030)	(43,941)	(68,100)	(694,508)	(625,944)	(159,517)
(Underspend)/overspend	(6,412)	(1,008)	(7,420)	(822)	(748)	(1,570)	2,288	(6,701)	(14,646)	211

\*capital contribution re CRICK

Table 13: Reconciliation of finance tables to Annual Accounts

	Account Note	2011/12			Total £000
		Programme £000	Admin £000	Capital £000	
<b>External Income</b>					
Contributions from other government departments	4	(24,955)	(39)	-	(24,993)
Contributions and grants from other bodies	5	(51,584)	66	(459)	(51,977)
Other Income	6	(4,435)	(116)	-	(4,551)
Interest Receivable	7	(21)	-	-	(21)
<b>External Income per Finance Table</b>		<b>(80,994)</b>	<b>(89)</b>	<b>(459)</b>	<b>(81,542)</b>
<b>Other Finance Income</b>					
Total Other Finance Income	8f	(13,115)	-	-	(13,115)
Less IAS 19 pension income adjustments	8e	13,115	-	-	13,115
<b>Other Finance Income per Finance Table</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Pay and Operating Costs</b>					
Staff Costs	8	139,950	18,356	-	158,306
Less: IAS 19 current service costs		(10,913)	-	-	(10,913)
Other operating costs	9	142,875	21,792	-	164,667
Commercial Activities	14	44,891	-	-	44,891
<b>Pay and operating costs per Finance Table</b>		<b>316,803</b>	<b>40,148</b>	<b>-</b>	<b>356,951</b>
<b>Provision Movement</b>					
Amount provided in year (charged to AME not DEL)	23	(9,049)	-	-	(9,049)
Less Amount expended in year (DEL Charge)	23	1,214	-	-	1,214
<b>Provision movement per Finance Table</b>		<b>(7,835)</b>	<b>-</b>	<b>-</b>	<b>(7,835)</b>
<b>Research Grants</b>					
Research Grants	10	237,955	13	29,667	267,634
Other Research	11	38,960	10	3,270	42,240
Postgraduate training awards	12	86,021	7	-	86,028
<b>Research grants per Finance Table</b>		<b>362,936</b>	<b>30</b>	<b>32,937</b>	<b>395,902</b>
<b>Direct Capital</b>					
Property, plant & equipment additions	17	-	-	89,847	89,847
Intangible asset addition - software licences	16	-	-	2	2
Plus investment in Joint Ventures addition	18	-	-	46,974	46,974
Less net book value of disposed property, plant & equipment	17	-	-	(63,317)	(63,317)
Less net book value of disposed software licenses	16	-	-	(20)	(20)
<b>Direct Capital per Finance Table</b>		<b>-</b>	<b>-</b>	<b>73,486</b>	<b>73,486</b>

## MRC financial results for the year

- The statement of comprehensive net expenditure records a net expenditure of £652.0m (2010/11 = £570.5m).
- The parliamentary grant-in-aid totalled £697.5m (2010/11 = £719.0m).
- Total income amounted to £164.6m (2010/11 = £165.7m), staff costs totalled £158.3m (2010/11 = £170.4m), other expenditure excluding depreciation totalled £164.7m (2010/11 = £151.3m) and expenditure on research grants totalled £267.6m (2010/11 = £264.4m).
- Total asset (Non-current assets and Current assets) values increased by £95.6m (2010/11 = £145.7m increase), while current liabilities decreased by £12.5m (2010/11 = £46.3m increase).
- Reserves, excluding the general reserve, showed a net decrease of £37.7m (2010/11 = decrease £3.0m).
- General reserves increased by £75.9m (2010/11 = £107.3m increase).
- Total government funds at 31 March 2011 stood at £605.3m (31 March 2011 = £567.0m) (Statement of Changes in Taxpayers' Equity).
- There were no amounts payable to the Department for Business Innovation and Skills during the year (2010/11 = £17.2m).

## MRC creditor payment policy

The MRC observes the Confederation of British Industry's Code of Practice. It adheres to the principles of the Prompt Payers Code and makes every effort to comply with the agreed terms of payment of creditors' invoices. In 2011/12 the MRC paid 97.2 per cent (2010/11 = 94.1 per cent) of invoices within 30 days. The Prompt Payers Code can be found at [www.payontime.co.uk](http://www.payontime.co.uk).

## Audit Committee

The MRC's Council has established the Council and Finance Audit Committee to monitor and advise it on appropriate standards for risk management, internal control, financial propriety and anti-fraud policy and to review matters connected with audit and the provision of internal controls assurance. The Chief Executive, as the Accounting Officer, has responsibility under the terms of the Council Management Statement and Financial Memorandum for the provision of adequate internal controls and will take into account the advice of the Audit Committee as appropriate. The Committee, chaired by Mr Tony Caplin (an MRC Council member), meets at least four times a year to review internal and external audit matters and the MRC's accounts.

## Auditors

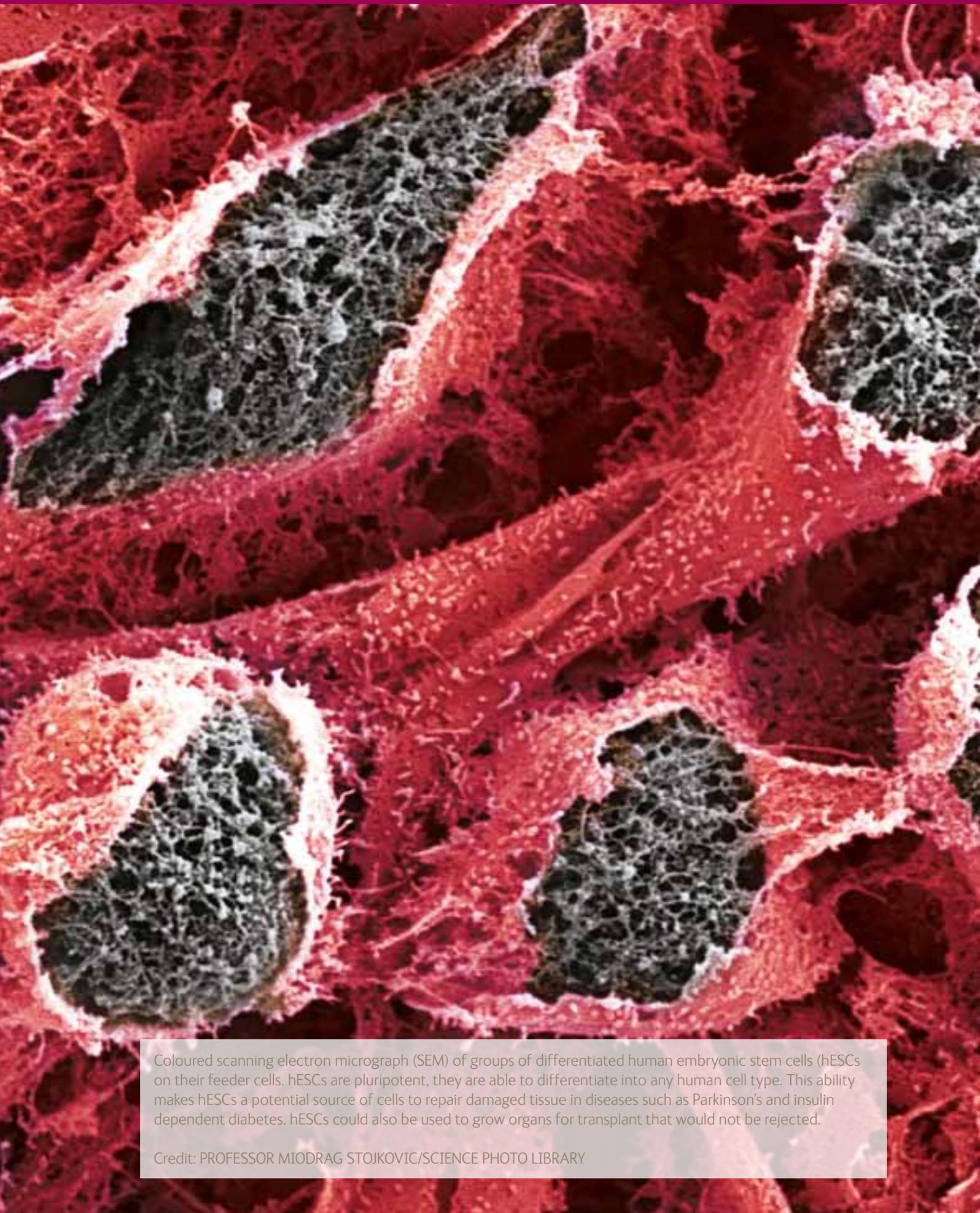
The MRC's accounts are audited by the Comptroller and Auditor General under the terms of paragraph 3(3) of Schedule 1 of the Science and Technology Act 1965. The audit fee covering 2011/12 was £185,000 for the audit of the year end financial statements. So far as the Accounting Officer is aware, there is no relevant audit information of which the MRC's auditors are unaware. The Accounting Officer has taken all the steps that he ought to have taken to make himself aware of any relevant audit information and to establish that the MRC's auditors are aware of that information.

***Sir John Savill***

Accounting Officer/Chief Executive Officer

Medical Research Council

Date : 9 July 2012



Coloured scanning electron micrograph (SEM) of groups of differentiated human embryonic stem cells (hESCs) on their feeder cells. hESCs are pluripotent, they are able to differentiate into any human cell type. This ability makes hESCs a potential source of cells to repair damaged tissue in diseases such as Parkinson's and insulin dependent diabetes. hESCs could also be used to grow organs for transplant that would not be rejected.

Credit: PROFESSOR MIODRAG STOJKOVIC/SCIENCE PHOTO LIBRARY



# Remuneration report

# Remuneration report

## Remuneration Committee

(unaudited information)

Remuneration of the Head Office directors and of the heads of the MRC's units and institutes is reviewed by the MRC Remuneration Committee, the membership of which during 2011/12 was:

- Sir John Chisholm, Chairman
- Sir John Savill, MRC Chief Executive
- Professor Paul Morgan, University of Cardiff and Council member (from October 2011)
- Professor Michael Arthur, University of Leeds and Council member
- Professor Richard Henderson, Laboratory of Molecular Biology and Council member

John Jeans (MRC Chief Operating Officer and Deputy Chief Executive until June 2011), Bruce Minty (MRC Chief Operating and Finance Officer (COFO) from 1 January 2012), Ted Smith (MRC Group Human Resources Director) and Rebecca Leigh (Head of Reward and Recognition) provided advice to the committee but were not present during discussions about their own terms and conditions of service.

## Remuneration policy (unaudited information)

No formal pay scale exists for the MRC's most senior staff. Pay for this group is based on the concept of 'personal pay' and is reviewed by the Remuneration Committee. In this year pay was frozen for the second year running by the Government. Pay and bonus arrangements for new appointments or reappointments above £100k per annum are approved by the BIS Senior Remuneration Oversight Committee (SROC) in addition to the MRC Remuneration Committee.

When not in a pay freeze, the Remuneration Committee makes reference to the changes made for all other staff in the MRC when agreeing pay rises for the senior employees; the individual's appraisal against annual or three to five year objectives; the scientific (or other) performance of a unit or group; the breadth of responsibilities as reflected in staffing, budgetary and other resource management issues; contributions to the delivery of wider corporate objectives (for example, in areas of ethics, corporate governance, public communication, strategic partnerships); and external market data. Market data are used to inform the competitiveness of remuneration packages in order to secure or retain world-class scientists as a corporate and national asset.

Remuneration is subject to a minimum acceptable level of performance. Pay adjustments are informed by both the general pay award rate and the provisions of the Additional Salary Reward scheme, which allows for a maximum 10 per cent of annual salary payment for exceptional employee contributions, paid as a one-off non consolidated payment.

Senior scientific staff are appointed on open-ended contracts, subject to five-yearly review in accordance with the MRC's scientific peer review system. Notice periods in the event of redundancy are a minimum of six months. Termination payments are in accordance with the MRC's Redundancy Scheme, which was amended during the year in consultation with the MRC Trade Unions after a request by Government to reduce the maximum payments made.

Basic salaries for MRC scientific staff have continued to fall behind rates paid in other academic institutions in the UK. A report from Towers Perrin estimated the gap at approximately 19 per cent in 2009. That gap has widened subsequently as university scales have continued to increase.

The Hutton Report requires the MRC to calculate the mid-point of the banded remuneration of the highest paid director, and the ratio between this and the median. The calculation is based on the full-time equivalent on an annualised basis. MRC Median pay is £27,800. The Chief Executive's full time equivalent pay based upon working 29 hours a week as a multiple of median pay is 5.43.

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## Senior staff remuneration

(audited information)

The following section provides details of the remuneration and pension interests of the Chief Executive, the Management Board and Council members.

A restructure of the MRC's senior management team took place in December 2011 following the departure of its Chief Operating Officer, John Jeans. Dr Wendy Ewart took on the role of Deputy Chief Executive while maintaining her responsibilities as Director of Strategy. Mr Bruce Minty, former Finance Director, became Chief Operating and Finance Officer and the role of Finance Director was filled by Mr Hugh Dunlop who moved from his previous position as Financial Controller.

A summary of the level of remuneration for the MRC's Management Board is shown in table 14. The levels of honoraria for MRC Council members are also shown below.

### Chief Executive

The performance management and remuneration arrangements for the Chief Executive are established and managed by the Department for Business, Innovation, and Skills as the MRC's sponsor department. Research council Chief Executives are paid both a basic salary and performance pay comprising an annual and an appointment term bonus.

At the beginning of each year, the Director General of Knowledge and Innovation and the Council Chairman agree with the Chief Executive a set of performance objectives for the year. In addition, a set of appointment term objectives are agreed early in the appointment and are reviewed annually. At the end of the year, the Chairman, the Chief Executive and an independent Council member write an assessment of performance over the year. The Director General, with advice from colleagues agrees the assessment of overall performance and specific achievements against objectives for annual and appointment term objectives.

The appointment term bonus is assessed each year and the amounts agreed are retained and are then paid out at the end of the appointment term. If the Chief Executive leaves early the Director General may recommend a reduced bonus to be paid depending on the circumstances.

The Chief Executive was an ordinary member of the MRC's pension scheme up until the end of March 2012 when he withdrew. Entitlements under conditions of service are the same as those for other members of staff and, should his contract be terminated early, he would be entitled to compensation under the terms of the MRC Redundancy Scheme.

### **Salary including Performance-Related Pay**

Salary, including performance-related pay, covers both pensionable and non-pensionable amounts and includes gross salaries, performance pay or bonuses and allowances. It does not include amounts which are reimbursement of expenses directly incurred in the performance of an individual's duties.

### **Cash Equivalent Transfer Values**

A Cash Equivalent Transfer Value (CETV) is the actuarially assessed capitalised value of the pension scheme benefits accrued by a member at a particular point in time. The benefits valued are the member's accrued benefits and any contingent spouse's pension payable from the scheme.

A CETV is a payment made by a pension scheme or arrangement to secure pension benefits in another scheme or arrangement when the member leaves a scheme and chooses to transfer the benefits accrued in their former scheme. The pension figures shown relate to the benefits that the individual has accrued as a consequence of their total membership of the pension scheme, not just their service in a senior capacity to which disclosure applies. They also include any additional pension benefit accrued to the member as a result of their purchasing additional years of pension service in the scheme at their own cost. CETVs are calculated within the guidelines and framework prescribed by the Institute and Faculty of Actuaries.

### **Real increase in Cash Equivalent Transfer Values**

This reflects the increase in the CETV and takes account of the increase in accrued pension, contributions paid by the employer and contributions paid by the employee, which includes the voluntary purchase of additional years of pensionable service and the value of any benefits transferred from another pension scheme or arrangement.

**Table 14:** Senior staff remuneration (audited information)

	2011/12 £000's		2010/11 £000's	
	Remuneration	Bonus	Remuneration	Bonus
<b>Professor Sir J Savill</b>				
Chief Executive	120 - 125	-	60 - 65	-
<b>Dr W Ewart</b>				
Deputy Chief Executive	110 - 115	-	110 - 115	-
<b>Mr J Jeans</b>				
Chief Operating Officer and Deputy Chief Executive	40 - 45	-	150 - 155	-
<b>Mr B Minty</b>				
Chief Operating and Finance Officer	130 - 135	-	105 - 110	-
<b>Dr D Mulkeen</b>				
Director of Research Programmes	95 - 100	-	90 - 95	-
<b>Mr T Smith</b>				
Director of Human Resources	140 - 145	-	140 - 145	-
<b>Mr H Dunlop</b>				
Director of Finance	20 - 25	-	-	-
<b>Mr A Bulger</b>				
Director of Major Projects	120 - 125	-	120 - 125	-
<b>Dr A C Peatfield</b>				
Director of Corporate Affairs	100 - 105	-	90 - 95	-

Remuneration includes any allowances but not benefits in kind or employers pension contribution. There were no benefits in kind paid in the year.

The senior staff promotions of Dr Ewart, Mr Minty are effective from 1 January 2012. Remuneration includes that also earned in their previous posts : Director of Strategy & Director of Finance respectively during the year.

Mr Dunlop joined the Board following promotion on the 1 January 2012. Amount included relates only to the period following promotion. Full year equivalent £88,000.

Mr Jeans left the organisation on 30 June 2011.

Sir John Savill joined on 1 October 2010. Full year equivalent £151,000 (based on working 29 hours a week).

Mr Minty joined on 1 June 2010. 2010-11 full year equivalent £130,000.

**Table 15: Senior staff pension (audited information)**

	Accrued pension at Retirement Age as at 31.3.12 and (Lump Sum)	Real increase/ (decrease) in pension and related lump sum at retirement age	CETV at 31.3.12 or date left	CETV at 31.3.11	Real increase in CETV
	£000's	£000's	£000's	£000's	£000's
<b>Professor Sir J Savill</b>	2.5 - 5 plus	0 - 2.5 plus	38	11	27
Chief Executive	7.5 - 10 lump sum	5 - 7.5 lump sum			
<b>Dr W Ewart</b>	5 - 7.5 plus	0 - 2.5 plus	88	75	13
Deputy Chief Executive	15 - 17.5 lump sum	2.5 - 5 lump sum			
<b>Mr J Jeans</b>	2.5 - 5 plus	0 - 2.5 plus	87	81	6
Chief Operating Officer and Deputy Chief Executive	12.5 - 15 lump sum	0 - 2.5 lump sum			
<b>Mr B Minty</b>	2.5 - 5 plus	0 - 2.5 plus	46	22	24
Chief Operating and Finance Officer	7.5 - 10 lump sum	5 - 7.5 lump sum			
<b>Dr D Mulkeen</b>	27.5 - 30 plus	0 - 2.5 plus	396	395	1
Director of Research Programmes	85 - 87.5 lump sum	5 - 7.5 lump sum			
<b>Mr T Smith</b>	2.5 - 5 plus	0 - 2.5 plus	57	36	21
Director of Human Resources	12.5 - 15 lump sum	5 - 7.5 lump sum			
<b>Mr H Dunlop</b>	25 - 27.5 plus	-	371	-	-
Director of Finance	75 - 77.5 lump sum	-			
<b>Mr A Bulger</b>	2.5 - 5 plus	0 - 2.5 plus	65	45	20
Director of Major projects	12.5 - 15 lump sum	2.5 - 5 lump sum			
<b>Dr A C Peatfield</b>	32.5 - 35 plus	2.5 - 5 plus	538	514	24
Director of Corporate Affairs	97.5 - 100 lump sum	7.5 - 10 lump sum			

Pensions and lump sums are those calculated as at retirement age or date of leaving.

Details of the MRC Pension scheme appear in Note 8e of the Annual Account.

Mr Dunlop joined the Board on the 1 January 2012, no comparator therefore provided for prior year.

## Council members

(unaudited information)

MRC Council members are appointed by the Minister of State for Universities and Science, on behalf of the Secretary of State for Business, Innovation and Skills, in accordance with the code of practice of the Office of the Commissioner for Public Appointments (OCPA). The normal period of appointment is four years, and members may be re-appointed for one further four-year term.

During 2011/12 the minister appointed one new Council member, Professor Paul Morgan, who took up his appointment on 1 April 2011.

The positions of Council members are non-pensionable and there is no entitlement to compensation for loss of office. Emolument comprises an honorarium, set annually by BIS; enhanced honoraria are paid to some members, such as Council subcommittee chairs, to reflect additional responsibilities. Details of amounts paid to each member during the year are shown in Table 16 below.

Sir John Chisholm and Dr Annette Doherty have chosen not to draw their honorarium. Dr Richard Henderson, as a member of MRC staff, and Professor Dame Sally Davies, as an employee of the Department of Health, are not entitled to receive honoraria. As an ex officio observer for the Secretary of State for Business, Innovation, and Skills, Mr Jeremy Clayton did not receive an honorarium.

**Table 16:** Council honoraria 2011/12 (audited information)

Member	Position/affiliation	Annual honoraria	
		2011/12 £000's	2010/11 £000's
Sir John Chisholm	Chairman	-	-
Professor Jeffrey Almond	Sanofi Pasteur, France	5 - 10	5 - 10
Professor Michael Arthur	University of Leeds	5 - 10	5 - 10
Mr Tony Caplin	Northwest London Hospitals NHS Trust	5 - 10	5 - 10
Professor Dame Sally Davies	Department of Health, England	-	-
Professor Chris Day	Newcastle University	5 - 10	5 - 10
Dr Annette Doherty	Pfizer Worldwide Research and Development, Sandwich	-	-
Dr Richard Henderson	MRC Laboratory of Molecular Biology, Cambridge	-	-
Professor Dame Sally MacIntyre	MRC Social and Public Health Sciences Unit, Glasgow	5 - 10	5 - 10
Professor Paul Morgan <sup>1</sup>	Cardiff University	5 - 10	-
Ms Vivienne Parry	Writer and Broadcaster, London	5 - 10	5 - 10
Lord Naren Patel	House of Lords	5 - 10	5 - 10
Professor Michael Schneider	Imperial College London	5 - 10	5 - 10

(1) Paul Morgan joined on 1 April 2011

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## Declared interests

(unaudited information)

In common with others who serve the public, individuals working with the MRC observe the Seven Principles of Public Life as set out by the Committee on Standards in Public Life. Members of the MRC's Council, boards and subcommittees are required to declare any private, professional or commercial interests that might, or might be perceived to, conflict with the MRC's interests, and these declarations are published on the MRC website.

Senior MRC staff are required under the staff Code of Conduct to declare details of any company directorships and other significant interests which might conflict with their management responsibilities. Of the members of the Management Board, Sir John Savill is Head of the College of Medicine and Veterinary Medicine at University of Edinburgh and works for them for 16 hours per week. Whilst with the MRC John Jeans declared that he was a Trustee of the charity The Claire Foundation, Chairman of The Claire Foundation (Trading), was a member of the Scientific Advisory Council of Wales and was an advisor to the University of Manchester Venture Capital Fund. Declan Mulkeen and John Jeans were Board members of MRCT (MRC Technology). Dr Wendy Ewart is a Director of UK Biobank and a Trustee of the Alexander Ewart Fund for Nepal. Ted Smith is Chairman and Trustee of HCS Group Charity (and a director of its subsidiary trading companies, all publicly-funded careers service providers) and Director of UKHR (Dormant).

**Sir John Savill**

Accounting Officer/Chief Executive Officer

Medical Research Council

Date : 9 July 2012





Coloured scanning electron micrograph (SEM) of human embryonic stem cells (hESCs) that have formed into a horizontal strand. hESCs are pluripotent, which means that they are able to differentiate into any of the cell types in the human body. The type of cell they mature into depends upon the biochemical signals they receive, though the cells seen here have not been exposed to growth factors. hESCs are being studied as a way to repair damaged tissue in diseases such as diabetes and Parkinson's.

Credit: PROFESSOR MIODRAG STOJKOVIC/SCIENCE PHOTO LIBRARY



# Financial statements

# MRC Financial Statements

Year ended 31 March 2012

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## Statement of the Council and Chief Executive's responsibilities

The financial statements presented are the accounts of the Medical Research Council.

Under paragraph 3 of Schedule 1 of the Science and Technology Act 1965 the Council is required to prepare a statement of accounts for each financial year in the form and on the basis directed by the Secretary of State for Business, Innovation and Skills, with approval of HM Treasury. The accounts are prepared on an accruals basis and must give a true and fair view of the Council's state of affairs at the year end of its income and expenditure, changes in taxpayers' equity and cash flows for the financial year.

In preparing the accounts, the Accounting Officer is required to comply with the requirements of the Government Financial Reporting Manual and in particular to:

- Observe the Accounts direction issued by the Secretary of State for Business, Innovation and Skills, including the relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis;
- Make judgements and estimates on a reasonable basis;
- State whether applicable accounting standards as set out in the Government Financial Reporting Manual have been followed and disclose and explain any material departures in the financial statements;
- Prepare the financial statements on a going concern basis.

The Department for Business, Innovation and Skills has appointed the Chief Executive as Accounting Officer of the MRC. The responsibilities of an Accounting Officer, including responsibility for the propriety and regularity of the public finances for which the Accounting Officer is answerable, for keeping proper records and for safeguarding the MRC's assets, are set out in the Accounting Officers' Memorandum, issued by HM Treasury and published in Managing Public Money (The Stationery Office).

## MRC Governance Statement

### 1 Scope of Responsibility

**1.1** As Accounting Officer, I have personal responsibility for maintaining a sound system of internal control that supports the achievement of MRC's objectives, aims and policies. I ensure that MRC operates effectively, to a high standard of probity and safeguards public funds and assets.

### 2 The Purpose of the Governance Statement

**2.1** It is fundamental to my Accounting Officer's responsibilities to manage and control the resources in my charge. This Governance Statement is a key feature of the means by which I provide assurance on how these duties have been carried out in the course of the year.

**2.2** The Governance Statement draws on the assurance activities of the MRC that I rely upon to gain assurance on the day-to-day activities and for decision making. The Statement supplements the accounts, provides a view of MRC's performance; and indicates how successfully MRC has coped with the challenges it faces now and into the future. The MRC assurance framework encompasses, risk management and internal reporting mechanisms and provides an insight into the organisation and its use of resources. In forming my views I have been supported by the MRC governance framework which includes the Council, Council Audit and Finance Committee (CAFC), Management Board, Strategy Board, Operations Board and other forums, senior management, officials and staff.

### 3 The Organisation's Governance Framework/Structure

**3.1** The MRC is an independent non-departmental public body of BIS. Ultimately MRC is accountable to the public through Parliament for the funds it expends.

**3.2** The MRC governing body is the MRC Council, which directs and oversees corporate policy. The Council is led by the Chairman, Sir John Chisholm, with MRC Chief Executive, Sir John Savill, as Deputy Chairman and 12 other members, at least half of whom are appointed on account of their scientific qualifications. Council members are appointed by the Secretary of State for Business, Innovation and Skills in accordance with the Code of Practice for Ministerial Appointments to Public Bodies.

**3.3** The MRC Council directs and oversees corporate policy and science strategy, decides all issues of major importance including issues of corporate strategy, key strategic objectives and targets, major decisions involving the use of financial and other resources, and ensures the organisation is effectively managed. Council members have a corporate responsibility for ensuring that the Council's decisions are well founded and comply with statutory and administrative requirements for the use of public funds.

**3.4** The Council is supported in its role by a number of boards and subcommittees, There are four subcommittees made up of Council members and supplemented where appropriate, with other members who bring specialised expertise and knowledge. Subcommittees have responsibility for specific areas of Council remit. In some cases authority is delegated for them to act on behalf of Council and in other cases they act in an advisory capacity either to Council (ERPIC) or to the Chairman (Nominations Committee). The Council is also advised by an Employee Representation Forum.

**3.5** The four Research Boards are each responsible for one of the four major areas of medical science that together make up the MRC portfolio. They, together with expert funding committees, are responsible for assessing applications for research funding and have delegated budgets for new awards. There are four overview groups (training and careers, global health, translational research and population health) which are responsible for ensuring that the MRC's activities in these key areas are coordinated. The Strategy Board, chaired by the CEO, is responsible for developing, coordinating, and overseeing the implementation of and evaluation of the MRC's strategic plans. Membership includes the Chair of each of the Boards and Overview Groups. The Strategy Board has a budget delegated by Council for strategic awards. Information on the MRC structure is available on the website <http://www.mrc.ac.uk/About/Structure/index.htm>.

**3.6** During the year the Council's main activities included:

- Reviewing and informing delivery of the MRC strategic plan, and other items of strategic importance;
- Reviewing and approving decisions on MRC Intramural investments, including Institute Quinquennial reviews and decisions regarding transfer of MRC units to University Units;
- Overseeing the process of establishing MRCT as an independent body outside of the public sector framework;
- Reviewing and approving major initiatives including estates and capital investment, including the Francis Crick Institute and the Laboratory of Molecular Biology;
- Reviewing and approving financial plans and performance;
- Reviewing and approving operational activities;
- Reviewing and approving relevant management issues;
- Receiving reports from sub-committees including the Council Finance and Audit Committee, the Ethics, Regulation and Public Involvement Committee, the Remuneration Committee and the Nominations Committee.

**3.7** Council attendance records 2011/12

	Attendance
Prof Jeffrey Almond	4/5
Prof Michael Arthur	4/5*
Mr Tony Caplin	4/5
Sir John Chisholm	5/5
Prof Dame Sally Davies	4/5*
Prof Chris Day	5/5
Dr Annette Doherty	5/5
Dr Richard Henderson	5/5
Prof Dame Sally Macintyre	5/5
Prof Paul Morgan	5/5
Ms Vivienne Parry	5/5*
Lord Naren Patel	3/5
Prof Sir John Savill	5/5
Prof Michael Schneider	5/5

\* indicates attend part of a meeting

**3.8** The Council chairman holds regular 1:1 meetings with members to review performance, and, in addition, the Council commissioned an external review of its own effectiveness. The review concluded that the Council was operating effectively in line with the corporate code.

**3.9** An audit of performance management was completed by RCIAS which included a review of the effectiveness of the Council's oversight of performance. The audit gave an assurance level of substantial.

**3.10** The Council operates in compliance with the Corporate Governance Code in so far as it applies to Arms Length Bodies

**3.11** The Council reviewed the MRC's governance framework in the light of the latest corporate governance guidance from HMT and Cabinet Office. The role of the Nominations Committee, in the appointment process for new Council members and the new Chair, has been agreed with BIS and the OCPA assessor. MRC is working with other Research Councils and BIS to update the Management Statement and Financial Memorandum to reflect the latest guidance. This is expected to be completed in summer 2012/13.

**3.12** Agenda and redacted minutes are available on the MRC website <http://www.mrc.ac.uk/About/Structure/Council/Meetingminutes/index.htm>

**3.13** The MRC aims to be a leading body in the evaluation and capturing of outcomes of funding research through comprehensive use of e-Val, and focusing independent and external research onto outcome and impacts.

### Management Board

**3.14** The MRC Management Board is the MRC's principal executive decision-making body. It is accountable to the Council through the Chief Executive. It is chaired by the Chief Executive and comprises the Deputy Chief Executive and Director of Strategy, the Chief Operating and Finance Officer, and other Directors of groups in Head Office. The key activities of Management Board during the year included:

- Advising Council on corporate strategy;
- Approving the annual and longer-term financial plans for submission to Council;
- Approving Board activities, specifically membership and recommendations made during intramural scientific reviews, including funding proposals;
- Ensuring the MRC engaged effectively with partners and stakeholders;
- Advising Council on the initiation and progress of major projects or investments;
- Approving the corporate and fraud risk registers;
- Making executive decisions on matters having a material impact on the organisation (including reputational, legal/regulatory);
- Approving policy input to Government enquiries or to other external bodies;
- Advising the Council on corporate communications strategies;
- With advice from Operations Board, making recommendations to Council on policies for Finance, HR, IT, Estates, and Health, Safety and Security.

### Council Audit & Finance Committee

**3.15** The Council Audit & Finance Committee (CAFC) supports and advises the Council and Chief Executive in matters of governance, risk and control. Council appoints members of the committee on the recommendation of the CAFC chairman. The chairman of CAFC and 2 other members are also members of the Council. The CAFC responsibilities are set out in the terms of reference approved by Council these include:

- The strategic process for risk, control and governance and this Governance Statement;
- The accounting policies and the "Annual report and Accounts;
- The Audit programme for the year including implementation of recommendations.
- Terms of reference and Membership can be viewed on the website  
<http://www.mrc.ac.uk/About/Structure/Council/CouncilCommittees/index.htm>

**3.16** Members are aware of their different roles required in relation to the Audit and Finance remit of the committee. The operation of the committee is managed to ensure that the different requirements are fulfilled and conflicts between the roles are avoided.

**3.17** The Committee is authorised by Council to investigate any activity within its terms of reference. The key items of discussion this year have been:

- The MRC Annual Report and Statutory Accounts 10/11 – including review of the financial statements. The Committee was informed in this task by the National Audit Office report on its audit and matters arising;
- The RCUK Shared Services Centre Ltd. The CAFC have received reports throughout the year on the issues arising from SSC Ltd. The CAFC have noted the plan for BIS and its partners to use the SSC Ltd and stressed that stabilisation of the SSC is essential before it takes on new customers;
- Consideration of MRC specific Audit reports covering a range of areas including, Strategic Planning; Projects & Programme Management; Stakeholder Engagement; Pensions; and Lease Management;
- Consideration of audit reports relating to RCUK SSC Ltd covering a range of process and IT security;
- Reviewing progress on implementation of all recommendations.
- The 2011/12 MRC Annual report and Accounts interim audit, the timetable for the 2011/12 Account and audit and the risks associated with it. This also included discussions on Clear Line of Sight consolidation.

**3.18** The CAFC met for six formal meetings during the year.

**3.19** CAFC attendance records 2011/12:

	Attendance
Mr Tony Caplin	6/6
Prof Michael Arthur	3/6
Dr Richard Henderson	6/6
Ms Alison Bexfield*	4/6
Ms Gill Noble	4/6
Dr Rima Makarem	5/6
Mr Alastair Hewgill**	2/3
Mr John Jeans**	2/3

\*Members who left the committee during the year

\*\* Members who joined the committee during the year

## Remuneration Committee

**3.20** The Remuneration Committee reports to the MRC Council. It is chaired by the MRC Chairman and there are four additional members. The Committee normally meets three times a year in person and as and when required, by teleconference. The MRC Chief Executive, The Chief Operating and Finance Officer and the HR Director are also invited to attend and advise the Committee. The Committee reviews the HR Strategy, in particular the pay, grading and bonus arrangements for the most senior staff.

## Partner Organisations

**3.21** MRC is a key funder in a number of partnerships. MRC interests are governed via Joint Venture Agreements. Separate companies have been established and MRC has a nominated Director on each board. The governance arrangements for these partnerships are subject to review by RCIAS on a rolling programme, in the last year UK Biobank has been reviewed and received substantial assurance. The partnerships are:

- UK BioBank
- Imanova
- UK Centre for Medical Research and Innovation (The Francis Crick Institute)

**3.22** Other key funded partnerships are:

- the European Molecular Biology Laboratory (EMBL). Membership and partnership arrangements are governed by intergovernmental agreement;
- the European and Developing Countries Clinical Trials Partnership (EDCTP). MRC is signatory to the EDCTP European Economic Interest Group (EEIG) established under Article 169 of the Treaty of European Union (now Article 185 of the Lisbon Treaty).

**3.23** In addition the MRC works closely with the following organisations to support operations and achievement of objectives. These partnerships are covered by formal contracts and agreements:

- RCUK SSC Ltd
- MRCT

During the year MRCT Ltd changed its governance structure and adopted new articles of association effective 31 January 2012. From that point, the Group ceased to exist. This resulted in the notional loss to the Group of MRCT's accumulating charitable net assets, valued at £100.9m at the date of deconsolidation comprising MRCT net assets of £46.9m, plus £54.0m representing the estimated value of future royalty income. This notional loss following a notional gain to the Group of £70.6m in 2009/10 comprised of MRCT net assets of £34.3m at that time, plus £36.3m representing the value of future royalty income estimated at the time of the formation of the group. This was a consequence of consolidation under IAS 27 Consolidated and Separate Financial Statements. Before the changes in governance the Chairman of the Board of MRCT Ltd was the MRC Deputy Chief Executive and other MRC senior managers were members of the board. Following MRCT's reorganisation, MRC has the right to appoint only one Board member (Director) out of a total of no less than five and normally not more than ten Directors. These changes ensure that the Chairman of the Board of Trustees and a majority of the Trustees will no longer be MRC employees and are independent of the MRC. Following these changes MRC no longer has the potential to exercise control or significant influence over MRCT.

**3.24** Whilst the detail for each partnership may differ, the MRC has appropriate agreements in place and actively engages through representation at senior level. Our risk and assurance frameworks ensure that matters emanating from these activities are reported and that issues are responded to in an appropriate manner.

## 4 The Risk and Internal Control Framework

**4.1** The MRC's risk management policy is regularly reviewed and approved by Management Board and Council. The policy is supported by a standard operating procedure for risk management. All managers are responsible for ensuring that risks are identified, that appropriate mitigating action is implemented, and all information is recorded and risks and actions are updated in the MRC's risk management software. The software enables risks to be reviewed, reported and actions monitored. Reports from the software are discussed at Management Board and other key management forums across the MRC.

**4.2** The top corporate risks are reviewed by the Management Board every quarter prior to reporting to CAFC and Council.

**4.3** Head of Risk Management regularly reviews risks with Corporate Directors, Unit Managers and Programme Boards.

**4.4** All decision papers to Council, Management Board and Strategy Board require a statement on the risks relevant to the decision.

**4.5** Risks are managed by trained and experienced people. All MRC staff participate in an annual appraisal where individual training needs and personal development requirements are identified. The risk management team provide a mix of training courses and workshops to support staff.

**4.6** There is a system for escalating all risks that exceed the MRC risk appetite to Operations Board and/or Management Board for discussion.

**4.7** Key highlights from the risk activities are reflected under “Significant Issues and Conclusions” later in this statement.

## 5 Review of effectiveness

**5.1** As Accounting Officer I have responsibility for reviewing of the effectiveness of the system of governance, risk management and internal control. This is informed by the work of the internal auditors and the executive managers within the MRC who have responsibility for the development and maintenance of the internal control framework, and comments made by the external auditors in their management letter and other reports. I have been advised on the implications of the result of my review of the effectiveness of the system of internal control by the Management Board, the Council Audit and Finance Committee and Risk Management Committee, and have developed plans to address weaknesses and ensure continuous improvement of the system is in place. This Governance Statement represents the end product of the review of the effectiveness of the governance framework, risk management and internal control.

**5.2** In 2007 the MRC adopted the “Risk Management Assessment Framework” – a risk management assessment tool - to benchmark the MRC’s risk management activities and measure progress. The review for 2011/12 shows that overall risk management has remained stable with slight improvement in areas of risk handling and partnership risk management.

**5.3** At the beginning of 2011 the internal audit service audited Risk Management and gave an overall level of substantial assurance

### Directors Annual Statement of Internal Control (DASIC)

**5.4** Each MRC Director provides an annual assurance statement (DASIC) on their areas of responsibility. These returns provide an overall positive assessment on the compliance with policies and systems of internal control. The returns are reviewed and validated before being considered by Operations Board and CAFC. Any weaknesses in controls are risk assessed and appropriate action plans put in place.

### Managing the Risk of Financial Loss (MRoFL)

**5.5** The MRoFL initiative was introduced by HMT during 2011-12 applying to all transaction processing systems and consists of an annual review of six core financial processes:

- Procurement
- Payroll
- Expenses
- Funding
- Grants
- Taxation receipts (in the MRC context, this relates to commercial income)

**5.6** End to end process owners were identified and, with support from the risk management team, produced Financial Process Assessments (FPA's) for each process listed above. The FPAs drew on evidence from RCIAS audits of end-to-end processes including the SSC elements.

**5.7** Due to the complexity of the MRC separate assessments were carried out on Procurement and Expenses for the MRC Unit in the Gambia.

**5.8** The final report and action plan was reviewed by Management Board and CAFC prior to submission to BIS. The overall rating was satisfactory although it is clear that improvement in relation to the SSC is necessary.

### Information Assurance & Information Security

**5.9** The management of information risks is fully integrated within the risk management process, the Director of Corporate Affairs is the MRC's Senior Information Risk Owner.

**5.10** Every MRC unit and institute undergoes an annual review of information security management systems. This process evaluates compliance with the mandatory requirements in the Cabinet Office Security Policy Framework and with the MRC standards in twelve areas, including management and policy, identification and authentication, personnel procedures and physical security. The MRC standards are based on industry standards. In 2009/10, the RCIAS accompanied the Corporate Information Security team on six visits, and found that the review process provided "substantial assurance" to the MRC. Currently all MRC owned Units are included in the audit, all have achieved a compliance rate greater than the 75% threshold for 2011/12.

**5.11** Each unit risk assesses all information security elements that identify weaknesses to ensure that remedial actions or risk responses can be monitored through EasyRisk.

The results of these assessments and associated action plans are reviewed by the risk management team and the Chief Information Officer. Internal Audit has identified this approach as best practice.

**5.12** The Corporate Information Security team have created an IT Security forum which involves security representatives from each MRC unit and institute. Both government and local policies and guidelines are discussed as well as ongoing issues. Information risk is considered and included in all projects the MRC is undertaking. Access rights to corporate systems, as recorded in the Information Asset Register, are agreed and documented ensuring full audit capability.

**5.13** I can confirm that there are no information security incidents that need to be reported to BIS in the Governance Statement.

### Assurance Map

**5.14** The Assurance Map sets out the areas against which the MRC requires assurance together with the sources of assurance. The Map gives visibility in one document of the assessment of our current controls (backward facing) together with exposure to risks as identified in the risk registers (forward facing). The Map is updated and reviewed by Management Board and Council Audit and Finance Committee every 6 months. It is used to develop the annual internal audit programme.

## Major Projects

**5.15** The MRC has robust arrangements for the management of significant investments and large projects.

**5.16** The House of Commons Select Committee on Science & Technology reported on UKCMRI/Crick & 6-monthly progress reports submitted from September 2011. The overall results of the review were positive.

## Research Council's Internal Audit Service (RCIAS)

**5.17** The RCIAS Audit Strategy and accompanying risk based audit plan have been designed to cover reviews across three components:

- MRC Core activities
- MRC/RCUK SSC Ltd end to end processes
- Cross-Council assurance

**5.18** The Head of Internal Audit's draft report for the Accounting Officer provides the MRC with substantial assurance that the system of internal control in place at the MRC for the year ended 31 March 2012 was operating effectively. This assurance can be broken down between core and cross-client assurance and RCUK SSC shared assurance as follows:

- core and cross-client assurance: substantial assurance reflecting a generally sound system of internal control designed to meet the organisation's objectives and that controls are generally being applied consistently. However, some weaknesses in design and/or inconsistent application of controls put the achievement of particular objectives at risk.
- RCUK SSC shared assurance: limited assurance highlighting weaknesses in the design and/or inconsistent application of controls that put the achievement of the organisation's objectives at risk in a number of the areas reviewed.

**5.19** The report highlights important outstanding actions relating to the processes to mitigate risk in the following areas:

- Duplication of Payments;
- iExpenses;
- Cash management reconciliations;
- IT application security.

**5.20** Over the coming year, the MRC collectively with the other Research Councils and the RCUK SSC Ltd will be pursuing the resolution of the material weaknesses noted above. Whilst awaiting final resolution the MRC has put in place additional controls to mitigate the risk.

**5.21** The internal audit programme is developed annually in consultation with the Management Board, CAFC and the Head of Risk Management.

**5.22** The outcome of all audits are discussed at Council Audit and Finance Committee.

**5.23** The MRC has a comprehensive system for tracking implementation of audit recommendations. Progress on implementation is reviewed at Operations Board and CAFC at least quarterly. This process has been commended by RCIAS.

### Audit of African Units

**5.24** In the past 2 years Deloitte have been used to audit the two MRC Units operating in Africa, the most recent audits have in the main reported an improved control environment in the overseas units.

**5.25** One fraud was identified in the Gambia Unit during the year. Management action has been initiated to improve controls. In the view of the MRC the amount itself was not material although there is a risk to the MRC reputation locally.

**5.26** A new approach to auditing the units has been approved for 2012 onwards using a mix of RCIAS local auditors, including the development of specific assurance map for the units.

**5.27** From the audit programme as a whole, I am able to gain the necessary confidence and assurance on the workings of the audit framework and note that progress on the resulting actions needs to be accelerated.

### Research Councils' UK Assurance Unit

**5.28** The Research Councils' UK Assurance Unit is hosted by BBSRC and acts on behalf of the Research Councils by reviewing the regularity of expenditure on Research Council grants at all eligible Research Organisations. The programme typically involves around 15-20 visits per annum to the research intensive organisations, supplemented by 15 desk based reviews for the less research intensive bodies. Assurance activities focus on the control environment and its effectiveness in ensuring compliance with the Research Councils' terms and conditions which accompany grant funding, with a further strand of work focusing on the scrutiny of the costing methodology used in research organisations, which for universities is the Transparent Approach to Costing (TRAC). The programme is an important element of the risk management framework for the MRC with an annual report produced for me, as the Accounting Officer, which reports on activities undertaken in the year as well as proposed activities for the following year. For 2011/12, 17 visits were undertaken along with 15 desk based reviews. Where we have identified specific issues with universities an action plan is in place to ensure appropriate improvements are introduced. The programme undertaken in 2011/12 has been able to provide me with an appropriate level of assurance.

### RCUK SSC Ltd; CSG Annual Assurance Statement 2011-12

**5.29** The Client Service Group (CSG) represents all seven Research Councils in their relationship with the SSC as clients. The following paragraphs provide an overview of the assurance provided to the councils by the work of the CSG and its subgroups (the Practitioner Service Groups).

**5.30** The RCUK Shared Services Centre (SSC) project ended on 31 March 2011. Since that date, and therefore for the whole of the financial year, the body responsible for co-ordinating the Councils' collective engagement with the SSC as clients has been the CSG. The CSG has taken responsibility for, inter alia, the negotiation of annual service charges and development funding; the development of business improvement activities in each of the main functional areas covered by SSC service delivery; and oversight of an end to end audit assurance programme. Formal approval of funding is however made by the Research Council UK Efficiency and Reform Group, advised by CSG. It is expected

that during the course of 2012-13 other bodies will start to receive a range of services from the SSC at which point the Councils will no longer be the principal clients and the continued role of the CSG and its ability to fulfil an assurance role will require further consideration.

### End to end Audits

**5.31** RCIAS have carried out 19 process and system controls audits across all functional areas. These have covered the responsibilities of both the Research Councils and the SSC. While the majority of these reports received limited assurance, management responses and action plans are in place to address all of the recommendations in the report. As such, the CSG's view is that overall direction of travel for each of the areas receiving limited assurance is positive. Nevertheless, RCIAS continues to stress the importance of making sure that SSC end to end audit issues are resolved promptly and will expect to see regular and rapid progress towards completion of the agreed actions.

### Key Areas

**5.32** Particular attention has been given to issues in the finance area over the past year to learn from the very difficult and protracted 2010/11 year end close and production of accounts. A lesson learned report was submitted to BIS in November 2011 and in March 2012 the MRC Accounting Officer and Chief Operating and Finance Officer attended a BIS Audit Risk Committee (ARC) to report further on the causes and reasons for the late production of the accounts. The accounting officer was able to assure the BIS ARC that the lessons had been learned and that effective action had been taken to avoid a repetition of the serious delays incurred in producing the year end accounts.

**5.33** There is additional pressure on the Councils to deliver 'Clear Line of Sight' and the demanding year end timetable to meet BIS's own accounts completion has made the production of year end accounts a key priority, and has required significant efforts across the SSC and RCs in the latter part of 2011/12. In addition, responding to audit recommendations around the delivery of year end activities, financial reporting and accounts reconciliation has been a key priority too. It is recognised that substantial progress has been made however there is still much to be done to achieve stabilisation.

**5.34** The continued restrictions on recruitment, immigration and remuneration constitute a risk to the MRC's competitiveness in the recruitment and retention of scientific staff.

### 2012-13

**5.35** Looking ahead, the expansion of the SSC's client base presents the Councils with both threats and opportunities. We expect that greater economies of scale will lead to reductions in unit costs and therefore service charges. There is, however, some concern around the potential disruption to the current level of service over the coming year and potentially beyond as a diverse range of new clients come on board. There is also some concern that a lack of immediate interest in taking up grants services on the part of new customers may lead to a downgrading of its relative importance. It will be important, therefore, that appropriate new governance arrangements are put in place to protect the Research Councils during this period of transition.

## 6 Significant Issues and Conclusion

6.1 MRC faces a number of challenges and issues in delivering its overall objectives and meeting the Delivery Plan. I highlight the following significant issues that will require attention going forward.

- RCUK SSC Ltd - as with other Research Councils the MRC is largely reliant on the SSC for provision of administrative systems. The current service levels remain significantly below expected standards and we continue to work with SSC to achieve stabilisation and improvements. There is concern that as other bodies start to receive services in 2012-13 this will put added pressure on services that are already below standard. Together with our Research Council partners the MRC will continue to monitor, engage and where appropriate intervene to achieve a reliable service.
- In recent months a control issue was identified in one of the African field stations, this has been investigated and corrective action taken.

6.2 This governance statement represents the results of the review of effectiveness of the governance framework, risk management and internal control. I have considered the evidence provided and the advice of RCIAS and the CAFC. The conclusion of the review is sufficient to enable me to be satisfied that the operation of systems of governance, risk management, and control are appropriate for the MRC and its risk profile. I will continue to press for improvement from within the MRC and key partners on the areas highlighted above.

**Sir John Savill**

Accounting Officer/Chief Executive Officer

Medical Research Council

Date : 9 July 2012

## The certificate of the Comptroller and Auditor General to the Houses of Parliament

I certify that I have audited the financial statements of the Medical Research Council for the year ended 31 March 2012 under the Science and Technology Act 1965. The financial statements comprise the Statements of: Comprehensive Net Expenditure, Financial Position, Cash Flows, Changes in Taxpayers' Equity; and the related notes. These financial statements have been prepared under the accounting policies set out within them. I have also audited the information in the Remuneration Report that is described in that report as having been audited.

### Respective responsibilities of the Medical Research Council, Accounting Officer and auditor

As explained more fully in the Statement of the Council and Chief Executive's Responsibilities, the Medical Research Council and the Chief Executive as Accounting Officer are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. My responsibility is to audit, certify and report on the financial statements in accordance with the Science and Technology Act 1965. I conducted my audit in accordance with International Standards on Auditing (UK and Ireland). Those standards require me and my staff to comply with the Auditing Practices Board's Ethical Standards for Auditors.

### Scope of the Audit of the Financial Statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the Medical Research Council's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the Medical Research Council; and the overall presentation of the financial statements. In addition I read all the financial and non-financial information in the Annual Report to identify material inconsistencies with the audited financial statements. If I become aware of any apparent material misstatements or inconsistencies I consider the implications for my certificate.

In addition, I am required to obtain evidence sufficient to give reasonable assurance that the expenditure and income reported in the financial statements have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them.

### Basis for qualified opinion on the financial statements

International Financial Reporting Standards require an entity to prepare group financial statements where it controls other entities, as defined by International Accounting Standard 27. Under IAS 27 the Medical Research Council controlled Medical Research Council Technology up to 31 January 2012, when its governance arrangements changed so as to remove the Council's ability to control the Medical Research Council Technology from that date. The Council should therefore have prepared group accounts consolidating the results of Medical Research Council Technology until 31 January 2012.

The Medical Research Council has not prepared group financial statements and I have therefore qualified my opinion on the financial statements. Had group accounts been prepared, the group primary statements, excluding the statement of financial position, for the year ended 31 March 2012 and all corresponding figures for the prior

year would have been materially different from the Council's own financial statements. The transaction required to deconsolidate Medical Research Council Technology on 31 January 2012 would have resulted in an estimated loss in the group financial Statements of £100.9m, representing: the net assets of MRCT at that date (£46.9m) plus a consolidation adjustment to align MRCT's accounting policies on intangible assets (£54.0m). Equivalent assets of £70.6m were previously brought into the Group on adoption of IFRS in 2009-10.

### **Qualified opinion on financial statements**

In my opinion, except for the effects of the matter described in the 'Basis for Qualified Opinion on the financial statements' paragraph:

- the financial statements give a true and fair view of the state of affairs of the Medical Research Council as at 31 March 2012, and of its comprehensive net expenditure for the year then ended; and
- the financial statements have been properly prepared in accordance with the Science and Technology Act 1965 and Secretary of State directions issued thereunder

Further details of the reasons for my qualified opinion can be found in my Report on pages 114 to 115.

### **Opinion on Regularity**

In my opinion, in all material respects the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them.

### **Opinion on other matters**

In my opinion:

- the part of the Remuneration Report to be audited has been properly prepared in accordance with Secretary of State directions issued under the Science and Technology Act 1965; and
- the information given in the Management Commentary part of the Annual Report for the financial year for which the financial statements are prepared is consistent with the financial statements.

## Matters on which I report by exception

I have nothing to report in respect of the following matters which I report to you if, in my opinion:

- adequate accounting records have not been kept; or
- the financial statements and the part of the Remuneration Report to be audited are not in agreement with the accounting records or returns; or
- I have not received all of the information and explanations I require for my audit; or
- the Governance Statement does not reflect compliance with HM Treasury's guidance.

Amyas C E Morse  
Comptroller and Auditor General  
National Audit Office  
157-197 Buckingham Palace Road  
Victoria  
London  
SW1W 9SP  
Date : 13 July 2012

## Report of the Comptroller and Auditor General to the Houses of Parliament

### Introduction

1. The Medical Research Council (MRC) is an executive non-departmental body, originally established by Royal Charter in 1920, sponsored by the Department for Business, Innovation and Skills. The Council's mission is to encourage and support research to improve human health; produce skilled researchers; advance and disseminate knowledge and technology to improve the quality of life and economic competitiveness of the UK; and to promote dialogue with the public about medical research. The Council's total expenditure from its Statement of Comprehensive Net Expenditure was £827million in 2011-12.

### Purpose of Report

2. The MRC prepared group accounts for 2009-10 and 2010-11 which consolidated the results of MRC and its subsidiary, Medical Research Council Technology (MRCT), in accordance with International Financial Reporting Standards (IFRS). The governance arrangements for MRCT were changed during 2011-12 and MRC ceased to have control from 31 January 2012.
3. In order to comply with IFRS, MRC should have prepared group financial statements for 2011-12 until the date it lost control. The financial statements on the following pages represent the results of the MRC for the period from 1 April 2011 to 31 March 2012. The financial statements are not group financial statements and do not reflect the effect of the financial performance of the MRCT for the part of the financial year for which it was under MRC's control, or the deconsolidation of MRCT. I have therefore qualified my audit opinion on the 2011-12 financial statements. The purpose of this Report is to explain the background to the qualification of my audit opinion.

### Explanation of qualified audit opinion

4. In 2009-10, upon first time adoption of IFRS the MRC prepared group accounts in order to meet the requirements of International Accounting Standard 27 (IAS 27). This standard states that an entity has control over another entity when there is power to appoint or remove the majority of the members of the board of directors or equivalent governing body. The MRC had this, and other controls, over MRCT. Under IAS 27, group accounts, consolidating the financial results and financial position of the parent with those of its subsidiaries, are required to be prepared by the parent entity until control is lost.
5. MRCT's governance arrangements for MRCT were changed towards the end of the 2011-12 financial year. The MRC no longer had control by 31 March 2012, and has therefore correctly presented only a Statement of Financial Position for MRC as the parent. However, the other required group prime statements (Statements of Comprehensive Net Expenditure, Cash Flows and Changes in Taxpayers' Equity) and supporting notes have not been prepared, nor have the corresponding figures for the prior year been presented.

6. As set out in Note 28 of the financial statements, MRC considers that to prepare group accounts for the period until deconsolidation, along with the relevant prior year comparatives, would detract from the clear presentation of the MRC parent accounts. The Note provides an estimate of the financial effects of the deconsolidation of MRCT although this does not meet the requirements in IAS 27 to prepare group financial statements.
7. The transaction required to deconsolidate MRCT on 31 January 2012 would have resulted in an estimated loss in the group financial statements of £100.9m. This total represents an estimate of: the net assets reported in the MRCT's accounts at that date (£46.9m) plus a value of intangible assets (£54.0m) which would have been recognised in the group accounts in line with group accounting policies. Equivalent assets were previously brought into the Group at its inception in 2009-10, at a gain of £70.6m (£34.3m net assets from MRCT's accounts and £36.3m intangible assets). Although these assets were required to be recognised in the group financial statements, they have always been subject to restrictions on use in line with charities legislation. Estimated MRCT results for the period up to 31 January 2012 of some £7 million (net of £7.3m which would have been eliminated as intra Group transactions), should also have been recognised in the group financial statements.
8. I consider the overall effect of the MRC not preparing group financial statements which reflect these transactions to be material to the 2011-12 financial statements and the corresponding information for 2010-11. I have therefore qualified my audit opinion.

Amyas C E Morse  
Comptroller and Auditor General  
National Audit Office  
157-197 Buckingham Palace Road  
Victoria  
London  
SW1W 9SP  
Date : 13 July 2012

## Statement of Comprehensive Net Expenditure

for the year ended 31 March 2012

	Note	2011/12 £000	2010/11 £000 Restated
<b>Expenditure</b>			
Staff Costs	8	158,306	170,392
Pensions - past service costs	8d	0	(47,664)
Other Expenditure	9	164,667	151,276
Research Grants	10	267,634	264,407
Other Research	11	42,240	25,878
Postgraduate/training awards	12	86,028	78,712
International Subscriptions	13	18,258	17,899
Commercial Activities	14	44,891	33,676
Amortisation of intangible assets	16	27,127	21,070
Depreciation	17	20,381	20,434
Impairment of property, plant and equipment	17	0	3,366
Reversal of prior year impairment of property, plant and equipment	17	(2,221)	(9,541)
<b>Total expenditure</b>		<b>827,311</b>	<b>729,905</b>
<b>Income</b>			
Release of deferred income		(688)	(48)
Contributions from other government departments	4	(24,993)	(17,925)
Contributions and grants from other bodies	5	(51,977)	(63,790)
Commercial activities	14	(78,980)	(65,847)
Other Income	6	(4,551)	(9,522)
Sale of Hammersmith Imanet Ltd.	18b	(3,451)	0
Transfer of Markready assets	18b	0	(8,601)
<b>Total income</b>		<b>(164,640)</b>	<b>(165,733)</b>
<b>Net Operating Expenditure</b>		<b>662,671</b>	<b>564,172</b>
Interest Receivable	7	(21)	(31)
Amount payable to the Department of Business, Innovation and Skills	15	0	17,171
Other finance income	8f	(13,115)	(13,667)
Unwinding of discount on provisions	23	176	249
Gain/(Loss) on Disposal of property, plant and equipment		23	158
Loss on intangible assets		0	1,248
Share of losses of joint venture	18	2,282	1,234
<b>Net expenditure for the year</b>		<b>652,016</b>	<b>570,534</b>
<b>Other Comprehensive Expenditure</b>			
Net (gain) on revaluation of property, plant and equipment	17	(6,287)	(1,682)
Net (gain) on revaluation and addition of intangible assets	16	(43,997)	(14,191)
Actuarial loss on defined benefit pension plan	8e	60,384	60,276
<b>Total Comprehensive Net Expenditure for the year ended 31 March 2012</b>		<b>662,116</b>	<b>614,937</b>

The notes on pages 120 to 158 form part of these accounts.

## MRC Statement of Financial Position

as at 31 March 2012

	Note	2012 £000	2011 £000
<b>Non Current Assets</b>			
Intangible assets	16	142,192	125,340
Property, plant and equipment	17	534,406	519,748
Investment in Joint Ventures	18	68,580	23,888
Investments	18	1,346	1,632
<b>Total</b>		<b>746,524</b>	<b>670,608</b>
<b>Current assets</b>			
Inventories	19	0	2,912
Trade and other receivables	20	63,791	68,831
Cash and cash equivalents	21	81,195	53,536
<b>Total current assets</b>		<b>144,986</b>	<b>125,279</b>
<b>Total assets</b>		<b>891,510</b>	<b>795,887</b>
<b>Current liabilities</b>			
Trade and other payables	22	(275,669)	(289,954)
Provisions falling due within 1 year	23	(3,050)	(1,223)
<b>Total current liabilities</b>		<b>(278,719)</b>	<b>(291,177)</b>
<b>Total assets less current liabilities</b>		<b>612,791</b>	<b>504,710</b>
<b>Non current liabilities</b>			
Trade and other payables	22	(9,000)	(0)
Provisions for liabilities and charges	23	(11,466)	(5,282)
Pension asset	8e	12,945	67,579
<b>Total non current liabilities/assets</b>		<b>(7,521)</b>	<b>62,297</b>
<b>Assets less liabilities</b>		<b>605,270</b>	<b>567,007</b>
<b>Equity</b>			
Revaluation reserve		41,828	41,800
Intellectual property reserve		142,044	124,994
Pension Reserve		12,945	67,579
General reserve		408,453	332,634
<b>Total government funds</b>		<b>605,270</b>	<b>567,007</b>

The notes on pages 120 to 158 form part of these accounts.

**Sir John Savill**

Accounting Officer/Chief Executive Officer

Medical Research Council

Date : 9 July 2012

## MRC Statement of Cash Flows

for the period ended 31 March 2012

	Notes	2011/12 £000	2010/11 £000 Restated
<b>Cash flow from operating activities</b>			
Net operating expenditure		(662,671)	(564,172)
Depreciation charge	17	20,381	20,434
Amortisation charge	16	27,127	21,070
Capital grant of assets		16,624	3,634
Impairment of property, plant and equipment	17	0	3,366
Reversal of prior year impairments	17	(2,221)	(9,541)
Impairment of investments	18	0	1,234
Other non-cash items – IAS 19 pension costs	8e	10,913	(52,379)
Unwinding of discount provisions	23	(176)	(249)
Release of deferred income	SoCNE	(688)	(48)
Decrease in provision for liabilities and charges	23	8,011	549
Decrease in inventory	19	2,912	(477)
(Increase)/decrease in trade and other receivables	20	5,040	(7,869)
Increase in trade and other payables	22	(5,285)	13,489
<b>Net cash outflow from operating activities</b>		<b>(580,033)</b>	<b>(570,959)</b>
<b>Cash flow from investing activities</b>			
Interest received	7	21	31
Payments to the Department for Business, Innovation and Skills		(31)	(24)
Receipts from sale of property, plant and equipment		46,687	23,502
Payments to acquire Property, Plant and Equipment		(89,849)	(125,258)
Payments to acquire investments		(46,974)	(23,495)
<b>Net cash outflow from investing activities</b>		<b>(90,146)</b>	<b>(125,244)</b>
<b>Net cash outflow before financing</b>		<b>(670,179)</b>	<b>(696,203)</b>
<b>Cash flows from financing activities</b>			
Grant-in-aid received	3	697,538	719,000
Contribution for licence fees	3	300	300
<b>Net cash inflow from financing activities</b>		<b>697,838</b>	<b>719,300</b>
<b>Net increase/(decrease) in cash and cash equivalents</b>	<b>21</b>	<b>27,659</b>	<b>23,097</b>
Cash and cash equivalents at the beginning of the period	21	53,536	30,439
Cash and cash equivalents at the end of the period	21	81,195	53,536

The notes on pages 120 to 158 form part of these accounts.

## MRC Statement of Changes in Taxpayers' Equity

for the year ended 31 March 2012

	Revaluation reserve £000	Intellectual Property reserve £000	Donated asset reserve £000	Pension reserve £000	General reserve (restated) £000	Total Government funds (restated) £000
Balance at 1 April 2010	41,933	132,721	833	61,923	225,288	462,698
Other capital funding received	-	-	(54)	-	-	(54)
Grants from Parent (note 3)	-	-	-	-	719,000	719,000
Contribution for licence fees (note 3)	-	-	-	-	300	300
Net gain on revaluation of property, plant and equipment	1,682	-	-	-	-	1,682
Addition of intangible assets	-	14,173	-	-	-	14,173
Net gain on revaluation of intangible assets	-	18	-	-	-	18
Actuarial loss in the pension scheme (note 8e)	-	(20,670)	-	(60,276)	-	(60,276)
Transfers between reserves	(2,546)	(20,670)	-	65,932	(42,716)	0
Net expenditure for the year	-	(1,248)	(48)	-	(569,238)	(570,534)
<b>At 31 March 2011</b>	<b>41,069</b>	<b>124,994</b>	<b>731</b>	<b>67,579</b>	<b>332,634</b>	<b>567,007</b>
Balance at 1 April 2011	41,069	124,994	731	67,579	332,634	567,007
Grants from Parent (note 3)	-	-	-	-	697,538	697,538
Contribution for licence fees (note 3)	-	-	-	-	300	300
Other capital funding received	-	-	(43)	-	-	(43)
Released to SoCNE	-	-	(688)	-	-	(688)
Addition of intangible assets	-	21,388	-	-	-	21,388
Net gain on revaluation of intangible assets	-	22,609	-	-	-	22,609
Net gain on revaluation of property, plant and equipment	6,297	-	-	-	-	6,297
Revaluation of investments	(286)	-	-	-	-	(286)
Actuarial loss in the pension scheme (note 8e)	-	(26,947)	-	(60,384)	-	(60,384)
Transfers between reserves	(5,252)	(26,947)	-	2,202	29,997	0
Contributions from other employers within the pension scheme	-	-	-	3,548	-	3,548
Net expenditure for the year	-	-	-	-	(652,016)	(652,016)
<b>At 31 March 2012</b>	<b>41,828</b>	<b>142,044</b>	<b>0</b>	<b>12,945</b>	<b>408,453</b>	<b>605,270</b>

The notes on pages 120 to 158 form part of these accounts.

## 1. Statement of Accounting Policies

### a. Basis of accounting

These financial statements have been prepared in accordance with a Direction issued by the Secretary of State for Business, Innovation and Skills (BIS) in pursuance of Section 2(2) of the Science and Technology Act 1965. These financial statements have been prepared in accordance with the 2011-12 Government Financial Reporting Manual (FReM) issued by HM Treasury. The accounting policies contained in the FReM apply International Financial Reporting Standards (IFRS) as adapted or interpreted for the public sector context. Where the FReM permits a choice of accounting policy, the accounting policy which is judged to be most appropriate to the particular circumstances of the MRC for the purpose of giving a true and fair view has been selected. The particular policies adopted by the MRC are described below. They have been applied consistently in dealing with items that are considered material to the accounts.

### Adoption of New or Revised Standards Effective and Major FReM Changes for 2011/12

All International Financial Reporting Standards, Interpretations and Amendments to published standards, effective at 31 March 2012, have been adopted in these financial statements, taking account the specific interpretations and adaptations included in the FReM.

IFRS 7 - Financial Instruments: Disclosures (annual improvements). Amendments to the disclosure requirements - the nature and extent of risks arising from financial instruments, in particular, linking qualitative and quantitative disclosures and clarifying collateral disclosure, have been adopted in full but have no impact within these financial statements due to the nature of the MRC's business.

IAS 24 Related Party Transactions – The amendments clarify the definition of a related party and simplify the disclosure requirements that are controlled, jointly controlled or significantly influenced by a government.

### Effective for Future Financial Years

The IASB and IFRIC issued certain standards and interpretations with an effective date after these financial statements. Where these changes are relevant to MRC's circumstances they are listed below and will be adopted at the effective date. They have not been adopted early and their adoption is not expected to have a material impact on MRC's reported income or net assets in the period of adoption.

IFRS 9 Financial Instruments: Classification and Measurement (effective for periods beginning on or after 1 January 2015) – IFRS 9 is a replacement for IAS 39 and introduced new requirements for the classification and measurement of financial assets, together with the elimination of two categories. Further proposals were introduced in October 2010 in respect of the derecognition of financial assets and liabilities. IFRS 9 is due to be expanded further with regard to how financial assets are measured and recorded. MRC will undertake an assessment of the impact of IFRS 9 once the full requirements are known.

IFRS 7 - Financial Instruments: Disclosures (effective for period beginning on or after 1 July 2012) - Increased disclosure requirements for transfers of financial assets. Where entities have transferred financial assets outside of the legal body, disclosures are required to reflect the impact of this, particularly where the entity retains some

form of interest in those assets. MRC does not expect there to be transactions, but will assess further in the 2012/13 financial statements

IFRS 10 (Consolidated Financial Statements), 11 (Joint Arrangements), 12 (Disclosure of Interests in Other Entities), IAS 27 (Separate Financial Statements), IAS 28 (Investments in Associates and Joint Ventures) - (effective for periods beginning on or after 1 January 2013) - IASB have issued new and amended standards that affect the consolidation and reporting of subsidiaries, associates and joint ventures. The impact upon the consolidation boundary on MRC will be subject to review in future periods.

IFRS 13 – Fair Value Measurement – (effective for periods beginning on or after 1 January 2013) - IFRS 13 has been prepared to provide consistent guidance on fair value measurement for all relevant balances and transactions covered by IFRS (except where IFRS 13 explicitly states otherwise). The application of IFRS 13 is subject to further review by HM Treasury and the other Relevant Authorities before due process consultation.

### **b. Accounting convention**

These financial statements are prepared under the historical cost convention, modified by the revaluation of non-current assets, and, where material, current asset investments to fair value as determined by the relevant accounting standard. This is in accordance with the 2011-12 FReM issued by Treasury. The accounting policies contained in the FReM apply International Financial Reporting Standards (IFRS) as adapted or interpreted for the public sector context.

These financial statements are presented in Sterling, the MRC's functional currency and all amounts have been rounded to the nearest thousands.

### **c. Changes in accounting policy**

Income - contributions from other government bodies and contributions and grants from other bodies, previously treated as financing and credited to the general reserve, are now classified as income following a change in interpretation of the FReM. Material changes to the amounts of income from previous years are: Contributions from other government departments £24,993k (2010/11 - £17,925) and Contributions and grants from other bodies £51,977 (2010/11 - £63,790). This change is effective from 1 April 2011 and accordingly the prior year figures have been restated to align with this change. Income is recognised in accordance with IAS 18 and can only be deferred where conditions exist in accordance with grant funding. To this end the Donated Asset reserve has been released in accordance with this change to accounting policy.

Inventory – Livestock and consumable stores previously included in the Statement of Financial Position at the lower of cost or net realisable value have now been expensed to the Statement of Comprehensive Net Expenditure. These amounts are not considered to be material in the context of MRC's financial statements and this change has been explained more fully in Note 19.

#### **d. Consolidation**

These financial statements show only the results of MRC and exclude MRC Technology Ltd. The MRC no longer exerts control over MRCT Ltd and consolidated accounts are no longer produced. See Note 28 for further detail. MRCT is a company limited by guarantee with charitable status (Reg no. 2698321).

One other company, UK Biobank Limited has not been consolidated within these financial statements as it is not considered to be subsidiary of MRC. As MRC is one of nine trustees that manage Biobank, the MRC is not able to exert any control and so the company is not consolidated in the MRC Account.

#### **e. Investment in Joint Ventures**

The MRC has three joint venture investments: UKCMRI Limited, to be known as the Francis Crick Institute (CRICK); MTIC Limited (known as Immanova); and RCUK Shared Services Centre Limited (SSC).

Investments in Joint Venture are accounted for using the equity method, unless they are not yet fully operational, in which case they are valued at the cost to MRC of the development (as represented by assets under construction or the purchase of shares). This is deemed equivalent to fair value of the investment in the development phase. Impairment is considered at each year end, taking into account the ongoing service potential of the assets held.

#### **f. Investments**

Listed investments are shown at market value. Unrealised gains or losses arising as a result are included in the Statement of Change in Taxpayers Equity in revaluation reserve. Realised gains or losses are included in the Statement of Comprehensive Net Expenditure. Any investments the Directors intend to dispose within 12 months are included in current assets. Unlisted investments are shown at cost. Any surplus or temporary deficit on revaluation is taken to the revaluation reserve. Any permanent impairment in value is charged to the Statement of Comprehensive Net Expenditure in the year in which it arises.

#### **g. Property, Plant and Equipment and depreciation**

Expenditure on property, plant and equipment includes the purchase of land, buildings and equipment costing £10,000 or more. Property, plant and equipment are included at valuation, being its fair value at the date of revaluation less any subsequent accumulated depreciation and impairment losses if any. Equipment, excluding computers and software, is revalued annually using appropriate indices. Land and buildings are professionally revalued every five years and in the intervening period relevant indices are used. The basis of valuation for land and buildings is open market value for existing use where this can be established. However, because of the specialised nature of the MRC's properties, most valuations are on a depreciated replacement cost basis. Any surplus on revaluation is taken to a revaluation reserve. Impairments in value are charged to the Statement of Consolidated Net Expenditure in the year in which they arise.

Increased depreciation charges arising from revaluations are matched by transfers from the revaluation reserve to the general reserve.

On disposal of a revalued asset, the resulting element of the revaluation reserve that is realised is transferred directly to the general reserve.

Provision is made for depreciation on all property, plant and equipment at rates calculated to write off each asset evenly to its residual value over its expected useful life, as follows:

Freehold land	Not depreciated
Leasehold land	Up to 60 years (subject to length of the lease)
Freehold buildings	Up to 60 years
Leasehold buildings	Up to 60 years (subject to length of the lease)
Major facilities (items costing over £50,000)	11 years
Other scientific equipment	5 to 15 years
Computers	3 years
Engineering, office and catering equipment	8 years
Motor vehicles	5 years
Assets under construction	Not depreciated until brought into use

Depreciation is charged from the date the property, plant and equipment are available for use.

### **h. Intangible assets and amortisation**

The values of patents, licences and royalties held by the MRC are capitalised as intangible assets based on their expected income streams. Income from these patents, licences and royalties is generated from agreements between the MRC and companies engaged in the commercial exploitation of MRC inventions and research. The values of these intangible assets are amortised over the period these agreements are in force, including a full year's amortisation charge in the year of valuation. For most cases this is between seven and fifteen years, and such assets are not capitalised until the income stream is reasonably certain. Income streams are reviewed each year. Any surplus or deficit on valuations following such reviews is taken to the intellectual property reserve.

Software costing £10,000 or more are included in intangibles and are stated at fair value and amortised from the date they are available for use over their useful lives estimated at three years.

### **i. Impairment**

The carrying amounts of the MRC's assets are reviewed at each statement of financial position date to determine whether there is any indication of impairment: a financial asset is considered to be impaired if objective evidence indicates that one or more events have had a negative effect on the estimated future cash flows of that asset. If any such indication exists, the asset's recoverable amount is estimated.

An impairment loss is recognised whenever the carrying amount of an asset or its cash generating unit exceeds its recoverable amount. Impairment losses are recognised in the Statement of Comprehensive Net Expenditure.

### **j. Ownership of equipment purchased with MRC research grants**

Equipment purchased by an institution with research grant funds supplied by the MRC belongs to the institution and is not included in MRC's property, plant and equipment. Through the Conditions of Grant applied to funded institutions, the MRC reserves the right to determine the disposal of such equipment and of the proceeds of any sale.

**k. Grant-in-aid**

Grant-in-aid is treated as financing, rather than income and is credited to general reserve in the year in which it is received.

**l. Income**

Income from Commercial Activities, contributions from other government bodies and contributions and grants from other bodies and other income are shown net of trade discount, Value Added Tax and other taxes. Income is recognised in accordance with IAS 18. See note z for details of deferred income.

**m. Research and development**

As a research organisation, all of the MRC's research and development expenditure is charged to the Statement of Comprehensive Net Expenditure when it is incurred.

**n. Cash and cash equivalents**

Cash and cash equivalents comprise cash balances and deposits which are repayable on demand.

**o. Foreign currencies**

Monetary assets and liabilities denominated in foreign currencies are translated at the rates of exchange ruling at the statement of financial position date. Transactions in foreign currencies are recorded at the rate ruling at the time of the transaction. All exchange differences are taken to the Statement of Comprehensive Net Expenditure.

**p. Value Added Tax (VAT)**

As the MRC is partially exempt for VAT purposes, all expenditure and non current asset purchases are shown inclusive of VAT where applicable. Residual input tax reclaimable by the application of the partial exemption formula is taken to the Statement of Comprehensive Net Expenditure as a reduction of expenditure.

**q. Pension costs**

Employer superannuation costs are based on an actuarially derived calculation under IAS 19. See note 8e. The defined benefit plan requires contributions to be made to separately administered funds. The cost of providing benefits under the defined benefit plan is determined using the projected unit credit actuarial valuation method. Actuarial gains and losses are recognised in full as income or expense in the Comprehensive Statement of Net Expenditure.

The past service cost is recognised as an expense on a straight-line basis over the average period until the benefits become vested. If the benefits are already vested immediately following the introduction of, or changes to, a pension plan, past service cost is recognised immediately.

The defined benefit liability is the aggregate of the present value of the defined benefit obligation and actuarial gains and losses not recognised reduced by past service cost not yet recognised and the fair value of plan assets out of which the obligations are to be settled directly. If such aggregate is negative, the asset is measured at the lower of such aggregate or the aggregate of cumulative unrecognised net actuarial losses and past service cost and the present value of any economic benefits available in the form of refunds from the plan or reductions in the future contributions to the plan.

### r. Early retirement costs

Compensation payments are provided for in the Statement of Comprehensive Net Expenditure.

Obligations relating to those former members of staff aged 50 or over are provided for until their normal date of retirement.

Unwinding of discount: the provision for early retirement costs is discounted at 2.9 per cent (2010/11 2.9 per cent). The unwinding of the discount has been charged to the Statement of Comprehensive Net Expenditure.

### s. Operating leases

Operating lease charges are recognised in the Statement of Comprehensive Net Expenditure on a straight line basis over the term of the lease.

### t. Provisions

Provisions have been made in accordance with IAS 37 for early retirement and decommissioning costs.

Provisions are recognised when it is probable that MRC will be required to settle a present obligation and a reliable estimate can be made of that obligation. The obligation is normally the amount that MRC would rationally pay to settle the obligation at the statement of financial position date or to transfer it to a third party at that time.

This may require estimating the future cash flows in current-year prices (i.e. at the price level prevailing in and, where the time value of money is material, discounting them at the standard public sector real rate set by HM Treasury).

### u. Derivatives and other financial instruments

Due to the non-trading nature of its activities and the way in which the MRC is financed, the MRC is not exposed to the degree of financial risk faced by non-public sector entities. Moreover, financial instruments play a much more limited role in creating or changing risk than would be typical of the listed companies to which IAS 32, 39 and IFRS 7 mainly apply. The MRC has very limited powers to borrow or invest surplus funds and financial assets and liabilities are generated by day to day operational activities and are not held to change the risks facing the MRC in undertaking its activities.

Trade receivables are recognised and carried at original invoice amount less an allowance for any uncollective amounts. Provision is made when there is objective evidence that the MRC will not be able to collect certain debts. Bad debts are written off when identified. The amount of provision is the difference between the carrying amount and the recoverable amount and is recognised in the Statement of Comprehensive Net Expenditure.

Trade and other payables are recognised in the period in which related money, goods, or services are received or when a legally enforceable claim against the MRC is established or when the corresponding assets or expenses are recognised. Receivables and payables which mature or become payable within 12 months from the statement of financial position date have been omitted from the currency profile.

### v. Grants payable

Research grants and fellowships are recognised in line with a schedule of pre-agreed payment profiles, which include matching considerations, over the period of the grant duration and to the period which they relate.

Where the terms and conditions do not specify a pre-agreed payment profile or other matching considerations, obligations are recognised in full.

### w. Employee benefits

Short term employee benefits are recognised by MRC when an employee has rendered service in exchange for those benefits. Included in the financial statements is an accrual for the outstanding paid holiday entitlement at 31 March 2012 on a non-discounted basis.

### x. Operating segments

An operating segment is a component of an entity that:

- engages in activities from which it may earn revenues or incur expenses (including revenues and expenses incurred internally),
- whose operating results are regularly reviewed by the entities' 'chief operating decision maker' to make decisions about resource allocation to the segment and to assess its performance, and
- for which discrete financial information is available. Segments are reported if they exceed 10% of the thresholds of revenue, net expenditure level or assets.

### z. Significant estimation uncertainty

The preparation of the financial statements requires management to make estimates and assumptions that affect the application of policies and reported amounts. Estimates are continually evaluated and are based on historical experience and other factors including expectations of future events that are believed to be reasonable under the circumstances.

Actual results may differ from these estimates. The estimates and assumptions which have a significant risk of causing a material adjustment to the carrying amount of assets and liabilities are discussed below.

### Deferred Income

The MRC receives funding for mainly collaborative projects to support the MRC's research. The majority of such funding is received from the UK public sector, medical charities, and from overseas via the European Commission (EC). Some of the funding may involve payment for the collaboration a number of years in advance of the accounting period to which it relates; such as is common with the EC. Where there is a variance between work done in the accounting period and received funding, income will be deferred. when there is both a) a condition which makes the grant repayable or returnable and b) a variance between the work done in the accounting period and received funding.

### Pension Costs

The determination of the pension cost and defined benefit obligation (liabilities) of the employer's pension scheme depends on the selection of certain assumptions which include the discount rate, inflation rate, salary growth, mortality rates and expected rate of return. See Note 8 for further details.

### Property, Plant and Equipment

Property, plant and equipment lives have been estimated by management. Much of the asset stock is of a specialised nature, scientific equipment and buildings; lives have been based on management's experience of productive use and these are sometimes at odds with the actual useful lives with the assets. Where there are material differences in the estimated lives of the assets, the assets are re-lived and accounted for accordingly.

### aa. Judgements made in the process of applying accounting policies

The MRC's significant accounting policies are stated above. Not all of these policies require management to make difficult subjective or complex judgements. Those that follow are intended to provide an understanding of the policies that management consider critical because of the level of complexity and judgement involved in their application and their impact on the financial statements.

### Intangible assets

Based on future discounted royalty income streams, estimates are subject to business uncertainty in terms of sales and the fluctuation of exchange rates, the most significant being sales in US dollars. Significant judgement has been required in assessing the impact of these variables. The policy has been judged to be compliant with IAS 38.

### Provisions for liabilities and charges

Estimates are subject to uncertainty regarding timing or amounts of obligations (legal or constructive) due by the MRC. Significant judgements are made regarding probability and measurement of obligations. These include early retirement and disposal of (sealed) radioactive sources requiring the removal of radioactive substances by specialist suppliers.

### Impairment of assets

Property, plant and equipment are included at recoverable amounts. Management assess whether assets retain their recoverable amount or whether the asset is impaired, suffering a permanent diminution in value. Judgements are made on obsolescence, damage and loss resulting from normal business operations, and changes in value as part of the annual review of property, plant and equipment. Further details are given in Note 17.

Where those assets concern investments in joint ventures, consideration has also been given to the impact on service potential as a means of determining valuation detailed in Note 18.

### ab. Going concern

On 20 December 2010 David Willetts, Minister for Universities and Science, announced the MRC's financial allocations for 2011-12 through to 2014-15 as part of the Comprehensive Spending Review (CSR). On the basis of this statement, and subsequent discussions with BIS, MRC has no reason to believe that future funding will not be forthcoming. Therefore the accounts are produced on a going concern basis.

## 2. Segmental information

Analysis of MRC Net Expenditure by Business Segments

	Intramural 2011/12 £000	Extramural 2011/12 £000	Corporate 2011/12 £000	Technology Transfer 2011/12 £000	Total 2011/12 £000
<b>Expenditure</b>					
Staff costs	129,468	1,622	27,216	0	158,306
Other expenditure	122,129	6,148	36,390	0	164,667
Research grants	2	267,619	13	0	267,634
Other research	0	42,230	10	0	42,240
Postgraduate/training awards	9,343	76,664	21	0	86,028
International subscriptions	0	18,258	0	0	18,258
Commercial activities	0	0	0	44,891	44,891
Amortisation of intangible assets	181	0	0	26,946	27,127
Depreciation of property, plant and equipment	19,965	0	416	0	20,381
Reversal of prior year impairment of property, plant and equipment	0	0	(2,221)	0	(2,221)
<b>Total expenditure</b>	<b>281,088</b>	<b>412,541</b>	<b>61,845</b>	<b>71,837</b>	<b>827,311</b>
<b>Income</b>					
Release of deferred income	(116)	0	(572)	0	(688)
Contributions from other government departments	(7,653)	(17,340)	0	0	(24,993)
Contributions and grants from other bodies	(41,727)	(10,208)	(42)	0	(51,977)
Commercial activities	0	0	0	(78,980)	(78,980)
Other income	(5,294)	0	743	0	(4,551)
Sale of HIL	0	0	(3,451)	0	(3,451)
<b>Total income</b>	<b>(54,790)</b>	<b>(27,548)</b>	<b>(3,322)</b>	<b>(78,980)</b>	<b>(164,640)</b>
<b>Net operating expenditure</b>	<b>226,298</b>	<b>384,993</b>	<b>58,523</b>	<b>(7,143)</b>	<b>662,671</b>

	Intramural 2010/11 £000 Restated	Extramural 2010/11 £000 Restated	Corporate 2010/11 £000 Restated	Technology Transfer 2010/11 £000 Restated	Total 2010/11 £000 Restated
<b>Expenditure</b>					
Staff costs	141,650	1,751	26,991	0	170,392
Pension -past service cost			(47,664)		(47,664)
Other expenditure	119,944	5,528	25,804	0	151,276
Research grants	1,537	262,870	0	0	264,407
Other research	0	25,878	0	0	25,878
Postgraduate/training awards	8,601	70,111	0	0	78,712
International subscriptions	0	17,899	0	0	17,899
Commercial activities	0	0	0	33,676	33,676
Amortisation of intangible assets	0	0	0	21,070	21,070
Depreciation of property, plant and equipment	20,434	0	0	0	20,434
Impairment of property, plant and equipment	0	0	3,366	0	3,366
Reversal of prior year impairment of property, plant and equipment	0	0	(9,541)	0	(9,541)
<b>Total expenditure</b>	<b>292,166</b>	<b>384,037</b>	<b>(1,044)</b>	<b>54,746</b>	<b>729,905</b>
<b>Income</b>					
Release of deferred income	(48)	0	0	0	(48)
Contributions from other government departments	(3,377)	(14,548)	0	0	(17,925)
Contributions and grants from other bodies	(42,292)	(18,206)	(3,292)	0	(63,790)
Commercial activities	0	0	0	(65,847)	(65,847)
Other income	(9,225)	(297)	0	0	(9,522)
Transfer of Markready assets	0	0	(8,601)	0	(8,601)
<b>Total income</b>	<b>(54,942)</b>	<b>(33,051)</b>	<b>(11,893)</b>	<b>(65,847)</b>	<b>(165,733)</b>
<b>Net operating expenditure</b>	<b>237,224</b>	<b>350,986</b>	<b>(12,937)</b>	<b>(11,101)</b>	<b>564,172</b>

### 3. Parliamentary grant-in-aid and contribution to licence fees

The grant-in-aid and contributions in respect of (Animal) Licence Fees of £300,000 are provided by BIS for the financial year 2011/12 (2010/11 £300,000). Grant-in-aid and animal licence fees received are treated as financing and credited directly to reserves.

	2011/12 £000	2010/11 £000
<b>Grant in Aid</b>	<b>697,538</b>	<b>719,000</b>

#### 4. Contributions from other government departments

	2011/12	2010/11
	£000	£000
Department of Health	5,829	2,299
Department for International Development	13,151	10,192
NHS Executive	1,036	246
Foods Standards Agency	3,256	2,730
Scottish Government Health Directorates	506	374
Other	1,215	2,084
<b>Total</b>	<b>24,993</b>	<b>17,925</b>

#### 5. Contributions and grants from other bodies

	2011/12	2010/11
	£000	£000
Other research councils	9,820	16,104
Charities	25,600	20,506
Collaboration with industry	3,557	4,578
European Commission	8,122	9,217
Human Frontiers Science Program	18	516
Health Authorities and NHS Trusts	1,222	691
Universities	3,127	7,021
Other	511	5157
<b>Total</b>	<b>51,977</b>	<b>63,790</b>

#### 6. Other income

	2011/12	2010/11
	£000	£000
<b>Sales and other income</b>	<b>4,551</b>	<b>9,522</b>

The council's sales income is derived from laboratory and library services, as well as proceeds from sales of radioisotopes and other items.

## 7. Interest receivable

	2011/12 £000	2010/11 £000
Interest earned on the foreign currency accounts	3	2
Interest earned on the Sterling bank balances	18	29
<b>Total</b>	<b>21</b>	<b>31</b>

## 8. Staff costs

	Notes	2011/12 £000	2010/11 £000
Employee costs	8b	160,949	165,508
Non-permanent staff		3,942	5,752
Remuneration to MRC Council and committee members	8c	415	781
Early retirement costs		(116)	2,514
Gross staff costs		165,190	174,555
Less commercial activities	14	(6,884)	(4,163)
<b>Staff costs for general activities</b>		<b>158,306</b>	<b>170,392</b>

### 8a. Staff numbers

The average number of employees during the year was made up as follows

	2011/12	2010/11
Science	1,225	1,238
Research project support	780	828
Administration	478	526
Technical services	589	619
Locally employed staff (overseas)	1,226	1,161
<b>Total</b>	<b>4,298</b>	<b>4,372</b>

### 8b. Employee costs

	2011/12 £000	2010/11 £000
Salaries and wages	126,375	138,934
Social security costs	13,741	10,088
Other pension costs (note 8d)	20,833	16,486
<b>Total</b>	<b>160,949</b>	<b>165,508</b>

### 8c. Remuneration to MRC Council and committee members

	2011/12 £000	2010/11 £000
Fees and honoraria	384	746
Social security costs	31	35
<b>Total</b>	<b>415</b>	<b>781</b>

### 8d. Other pension costs

	2011/12 £000	2010/11 £000
Current service costs (net of employee contributions relating to MRCPS)	20,833	15,983
Other schemes	0	3
<b>Total</b>	<b>20,833</b>	<b>15,986</b>
Hammersmith Immanet S75 debt	0	500
<b>Total</b>	<b>20,833</b>	<b>16,486</b>
<b>Past Service costs</b>	<b>0</b>	<b>(47,664)</b>

### 8e. MRCPS

The MRC operates a funded pension scheme (MRCPS) providing benefits based on service and final pensionable pay at the normal retirement age of 65. The scheme is a defined benefit scheme that prepares its own scheme statements. Benefits accrue at the rate of 1/80th of pensionable salary for each year of service. In addition a lump sum equivalent to three years' pension is payable on retirement. Members pay contributions of between 6.0% and 6.5% pensionable earnings to the Scheme. In addition to the principal section, the supplementary benefits section exists to provide additional benefits in the event of ill-health retirement or death-in-service. It is solely funded by members' contributions.

The required MRCPS contribution rate is assessed every three years in accordance with advice of the Government Actuary; the present MRCPS employers' contribution rate is 11 per cent. The latest actuarial assessment of the MRCPS was at 31 December 2010 at which the market value of the assets of the MRCPS was £884m (2007 = £869m). The actuarial value of the assets was sufficient to cover 110 per cent of the benefits that had accrued to members after allowing for expected future increases in earnings. Triennial valuations are conducted under the Pensions Act 2004 on a scheme specific funding basis. The scheme is 110% funded on an ongoing basis. The present MRCPS employers' contribution rate of 11 per cent will rise to 13% in 2012/13.

The valuation used for IAS 19 disclosures has been based on the data for the most recent actuarial valuations as at 31 December 2010, and updated to take account of the requirements of IAS 19 in order to assess the liabilities of the scheme at 31 March 2012. The mortality assumptions included within the figures are that male (female) members who retire at typical ages will live to approximately age 88 (90).

### Financial assumptions used to calculate scheme liabilities

	2011/12	2010/11
	%	%
Rate of increase on pensionable salaries	3.55	4.75
Rate of increase on pension payments	2.05	2.5
Discount rate	4.63	5.5
Inflation rate	2.05	2.5
Expected return on equities	6.8	6.8
Expected return on bonds	3.09	4.31
Expected return on overall fund	6.43	6.55

### Analysis of actuarial gain

	2011/12	2010/11
	£000	£000
Actual return less expected return on pension scheme assets	(37,126)	9,209
Experience (gain)/loss arising on the scheme liabilities	(2,908)	33,154
Changes in mortality assumption	11,694	(57,932)
Changes in assumptions underlying the present value of liabilities	(32,044)	(44,707)
<b>Actuarial (loss)/gain</b>	<b>(60,384)</b>	<b>(60,276)</b>

### Analysis of actuarial gain expressed as a percentage of the scheme's assets and liabilities at the balance sheet date

	2011/12	2010/11	2009/10	2008/09	2007/08
	%	%	%	%	%
Actual return less expected return on pension scheme assets	-4.12	1.02	23.29	-39.67	-15.54
Experience (loss)/gain arising on the scheme liabilities	0.33	-3.98	1.9	-8.92	-1.34
Actuarial (loss)/gain	-6.81	-7.24	10.15	-22.28	0.85

### The assets and liabilities in the scheme

	2011/12	2010/11	2009/10	2008/09	2007/08
	£000	£000	£000	£000	£000
<b>Assets</b>					
Equities and property	787,429	778,855	747,898	524,508	706,634
Bonds and cash	112,708	121,669	94,109	83,878	89,378
	<b>900,137</b>	<b>900,524</b>	<b>842,007</b>	<b>608,386</b>	<b>796,012</b>
Actuarial value of liability	(887,192)	(832,945)	(780,084)	(623,391)	(678,204)
<b>Surplus/(deficit) in scheme</b>	<b>12,945</b>	<b>67,579</b>	<b>61,923</b>	<b>(15,005)</b>	<b>117,808</b>

## The movements in the scheme surplus

	2011/12	2010/11
	£000	£000
Surplus/(deficit) at the start of the year	67,579	61,923
Current service costs net of employee contributions (note 8d)	(20,833)	(15,986)
Employer contributions	13,468	20,701
Past service costs	0	47,664
Other finance income/(cost)	13,115	13,553
Actuarial (loss)/gain	(60,384)	(60,276)
<b>Surplus at end of year</b>	<b>12,945</b>	<b>67,579</b>

## 8f. Other finance income

	2011/12	2010/11
	£000	£000
Expected return on pension scheme assets	58,290	56,269
Interest on pension scheme liabilities	(45,175)	(42,716)
Net return – other finance (cost)/income	13,115	13,553
Other pension cost	0	114
<b>Total other financial income</b>	<b>13,115</b>	<b>13,667</b>

## 8g. Reporting of Civil Service and other compensation schemes - exit packages

Exit package cost band	Number of compulsory redundancies	Number of other departures agreed	Total number of exit packages by cost band
<£10k	16	13	29
£10k - £25k	15	3	18
£25k - £50k	7	0	7
£50k - £100k	2	2	4
£100k - £150k	4	0	4
£150k - £200k	0	0	0
>£200k	0	0	0
<b>Total number of exit packages</b>	<b>44</b>	<b>18</b>	<b>62</b>
<b>Total resource cost (£)</b>	<b>£1,167,592</b>	<b>£232,183</b>	<b>£1,399,775</b>

Redundancy and other departure costs have been paid in accordance with the provisions of the Medical Research Council Redundancy and Compensation Scheme, a statutory scheme made under the Superannuation Act 2010. Exit costs are accounted for in full in the year of departure. Where the council has agreed early retirements, the additional costs are met by the council and not by the MRC pension scheme. Ill-health retirement costs are met by the MRC pension scheme and are not included in the above table.

## 9. Other expenditure

	2011/12	2010/11
	£000	£000
Rent and rates	7,475	6,647
Utilities	7,077	6,611
Maintenance and cleaning	13,088	16,206
Office supplies, printing and stationery	2,777	3,402
Laboratory supplies	44,874	34,600
Management consultancy and other professional fees	16,915	14,931
RCUK activities	10,205	12,078
Postage and telephone	2,498	2,376
Audit fee	185	225
Travel, subsistence and hospitality	7,853	7,235
Computing	7,474	6,522
Equipment servicing	5,447	6,103
Minor equipment	10,619	3,654
Miscellaneous	18,561	22,667
Transport costs	753	546
Exchange rate losses/(gains)	(466)	775
Scanning services	130	5,864
Decommissioning provision - increase in provision	9,202	834
<b>Total</b>	<b>164,667</b>	<b>151,276</b>

## 10. Research grants

	2011/12	2010/11
	£000	£000
Research Grants	220,836	206,453
Centre Grants	17,019	17,206
Collaboration Grants	4,348	9,473
Discipline Hopping Awards	841	1,522
Link Award	112	146
New Investigator Award	8,110	10,181
Trial Grant	16,277	18,174
Other	91	1,252
<b>Total</b>	<b>267,634</b>	<b>264,407</b>

## 11. Other research

	2011/12	2010/11
	£000	£000
Contribution to special research programme	42,240	25,878

Included within other research is an amount of £16,624k (2010/11 - £3,634) as a result of business re-organisation transferring assets from MRC units to Universities.

## 12. Postgraduate/training awards

	2011/12	2010/11
	£000	£000
Research studentships/advanced course studentships	32,059	33,007
Post-doctoral fellowships	53,969	45,705
<b>Total</b>	<b>86,028</b>	<b>78,712</b>

## 13. International subscriptions

	2011/12	2010/11
	£000	£000
International Agency for Research on Cancer	905	946
European Molecular Biology Conference	2,298	2,379
European Molecular Biology Laboratory	13,856	13,422
Human Frontier Science Program	1,000	962
European Science Foundation	157	190
Sciences Europe	42	0
<b>Total</b>	<b>18,258</b>	<b>17,899</b>

## 14. Commercial activities

	2011/12	2010/11
	£000	£000
Income during the year	78,980	65,847
Expenditure during the year:		
Staff costs (note 8)	(6,884)	(4,163)
Other expenditure	(38,007)	(29,513)
Total expenditure	(44,891)	(33,676)
<b>Net income for the year</b>	<b>34,089</b>	<b>32,171</b>

The MRC requires a financial return from successful commercial exploitation of original MRC research. Such income arises from royalties, equity stakes and other forms of receipts agreements as a result of licencing MRC inventions and know-how.

Income and expenditure relating to commercial activities is credited and charged to the Statement of Comprehensive Net Expenditure, with its cumulative balance represented within the general reserve on the Statement of Financial Position.

## 15. Amounts payable to the Department for Business, Innovation and Skills

	2011/12 £000	2010/11 £000
Excess income earned from commercial activities	0	17,171
<b>Surrenderable to the Department for Business, Innovation and Skills</b>	<b>0</b>	<b>17,171</b>

Up to the Comprehensive Spending Review 2010 (CSR 2010) excess income over £15m was surrendered to the consolidated fund through BIS. From CSR 2010 onwards the MRC retains all income from commercial activities.

## 16 Intangible assets

MRC	Patents & Licences £000	Software Licences £000	Total £000
<b>At cost or valuation</b>			
At 1 April 2011	219,017	2,609	221,626
Additions	21,388	2	21,390
Disposals	0	(263)	(263)
Revaluation	22,609	0	22,609
<b>At 31 March 2012</b>	<b>263,014</b>	<b>2,348</b>	<b>265,362</b>
<b>Amortisation</b>			
At 1 April 2011	(94,023)	(2,263)	(96,286)
Charge for the year	(26,947)	(180)	(27,127)
Disposals	0	243	243
<b>At 31 March 2012</b>	<b>(120,970)</b>	<b>(2,200)</b>	<b>(123,170)</b>
<b>Net book value</b>			
<b>At 31 March 2012</b>	<b>142,044</b>	<b>148</b>	<b>142,192</b>
<b>At 1 April 2011</b>	<b>124,994</b>	<b>346</b>	<b>125,340</b>

MRC	Patents & Licences £000	Software Licences £000	Total £000
<b>At cost or valuation</b>			
At 1 April 2010	206,074	1,948	208,022
Additions	14,173	668	14,841
Disposals	(1,248)	(7)	(1,255)
Revaluation	18	0	18
<b>At 31 March 2011</b>	<b>219,017</b>	<b>2,609</b>	<b>221,626</b>
<b>Amortisation</b>			
At 1 April 2010	(73,353)	(1,870)	(75,223)
Charge for the year	(20,670)	(400)	(21,070)
Disposals	0	7	7
<b>At 31 March 2011</b>	<b>(94,023)</b>	<b>(2,263)</b>	<b>(96,286)</b>
<b>Net book value</b>			
<b>At 31 March 2011</b>	<b>124,994</b>	<b>346</b>	<b>125,340</b>
<b>At 1 April 2010</b>	<b>132,721</b>	<b>78</b>	<b>132,799</b>

## 17. Property plant & equipment

MRC	Land and Buildings <sup>7</sup> £000	Assets under Construction <sup>8</sup> £000	Equipment and Vehicles £000	Total £000
<b>Cost or valuation</b>				
At 1 April 2011	449,066	245,588	217,361	912,015
Additions	5	72,843	16,999	89,847
Disposals	(76,761)	(46,223)	(16,292)	(139,276)
Transfers	246	(246)	0	0
Revaluation	8,316	2,476	5,148	15,940
Reversal of prior year impairment	2,221	0	0	2,221
<b>At 31 March 2012</b>	<b>383,093</b>	<b>274,438</b>	<b>223,216</b>	<b>880,747</b>
<b>Depreciation</b>				
At 1 April 2011	(251,320)	0	(140,947)	(392,267)
Provided during the year	(7,194)	0	(13,187)	(20,381)
Disposals	63,124	0	12,835	75,959
Revaluation	(6,194)	0	(3,458)	(9,652)
<b>At 31 March 2012</b>	<b>(201,584)</b>	<b>0</b>	<b>(144,757)</b>	<b>(346,341)</b>
<b>Net book value</b>				
At 31 March 2012	181,509	274,438	78,459	534,406
At 1 April 2011	197,746	245,588	76,414	519,748

### The net book value of land and buildings comprises:

	2012 £000	2011 £000
Freehold	52,370	50,100
Long leasehold	124,768	140,034
Short leasehold	4,371	7,612

7. Property, plant and equipment include £36,912,822 in respect of freehold land which is not depreciated.
8. Significant asset included in Assets Under Construction are: £202.5m (2010/11 £171.7m) for the new building for the Laboratory of Molecular Biology (LMB) The land at Brill Place, Camden, London (site of the CRICK Institute) was revalued by Powis Hughes, Chartered Surveyors on 14th April 2011. The valuation was carried out in accordance with RICS Valuation Manual, as amended April 2010, known as the revised "Red Book", at Market Value. The MRC's interest in the land was valued at £49,500,000 from a value of £47,024,656 previously. Included in Assets Under Construction disposals is £46,223,000 in relation to the Crick Institute, which were exchanged for shares in the Institute.

Professional revaluation of land and buildings at its research unit in Uganda, were begun in 2011/12, the valuations are not completed during the year. These are undertaken locally by East African consultants to accord with the "Red Book" principles as appropriate. They will be completed in 2012/13.

The disposals include assets from the MRC Human Reproductive Sciences Unit (net book value £4,250k) & Human Genetics Unit (net book value £12,374k). As a result of a business re-organisation the activities of these units were transferred to the University of Edinburgh, to form the Centre of Reproductive Health & the MRC- Human Genetics Unit. The value of the transferred assets appear under in other research in note 11, as they represent an effective capital grant to fulfil our obligations under the funding agreement with the university.

National Temperance Hospital Site. As reported in the 2010-11 subsequent events note during 2011-12 MRC began actively marketing the site. The £28m valuation of this site remains within the property, plant and equipment note.

During the year an underlease, term 55 years, was granted to the University of Cambridge in relation to the new LMB building. The University contributed £2.55m towards the costs of the building as part of the underlease. MRC have accounted for the monies in accordance with SIC 27 - Evaluating the Substance of Transactions Involving the Legal Form of a Lease, and recognised those monies as funding and a reduction of cost. This is reflected in the asset under construction.

MRC	Land and Buildings <sup>9</sup> £000	Assets under Construction <sup>10</sup> £000	Equipment and Vehicles £000	Total £000
<b>Cost or valuation</b>				
At 1 April 2010	447,908	154,707	198,719	801,334
Additions	8,975	114,376	17,761	141,112
Disposals	(3,108)	(23,495)	(9,005)	(35,608)
Revaluation	(10,060)	0	9,886	(174)
Impairment	(4,190)	0	0	(4,190)
Reversal of prior year impairment	9,541	0	0	9,541
<b>At 31 March 2011</b>	<b>449,066</b>	<b>245,588</b>	<b>217,361</b>	<b>912,015</b>

**Depreciation**

At 1 April 2010	(251,966)	0	(128,973)	(380,939)
Provided during the year	(7,365)	0	(13,069)	(20,434)
Disposals	905	0	7,295	8,200
Revaluation	6,282	0	(6,200)	82
Impairment	824	0	0	824
<b>At 31 March 2011</b>	<b>(251,320)</b>	<b>0</b>	<b>(140,947)</b>	<b>(392,267)</b>

**Net book value**

At 31 March 2011	197,746	245,588	76,414	519,748
At 1 April 2010	195,942	154,707	69,746	420,395

**The net book value of land and buildings comprises:**

	2011 £000	2010 £000
Freehold	50,100	45,373
Long leasehold	140,034	123,972
Short leasehold	7,612	26,597

9. Property, plant and equipment include £24,398,556 in respect of freehold land which is not depreciated.

10. The seven UK councils had agreed to establish a Shared Services Centre (SSC), to be based in Swindon. EPSRC was acting as host for the SSC on behalf of all councils and was contracted for the development and establishment of RCUK SSC Ltd. This had been capitalised and included in Assets Under Construction as group's contribution towards capitalised systems expenditure. The Asset under construction represented MRC's agreed share 26.98% of the capital costs to date of the research Councils UK Shared Services Centre. On the 29th March 2011 each of the seven Research Councils who were joint investors in the Research Councils UK Shared Services Centre project sold their individual assets in the course of construction which totalled £54million to RCUK Shared Services Centre Limited in exchange for 'B' shares to the same value in RCUK SSC Ltd. MRC's agreed share 26.98% of the capital costs of the project to the date of sale was £14,600,593. Significant assets included in Assets Under Construction are: £68.4m (2009/10 £57.0m) contribution towards the cost of the UK Centre for Medical Research and Innovation (The Francis Crick Institute); £171.7m (2009/10 £81.1m) for the new building for the Laboratory of Molecular Biology.

The last professional revaluation of land and buildings in the UK was performed by Powis Hughes and Associates Chartered Surveyors, an independent valuer, at 1 December 2008. Professional revaluations of land and buildings at the group's Laboratories in The Gambia were also undertaken by the same valuers. Professional revaluation of land and buildings at its research unit in Uganda, are scheduled to be undertaken in 2011/12 by East African consultants. Land and buildings were valued in accordance with the Royal Institution of Chartered Surveyors Valuation Standards (6th Edition), the "Red Book" and are prepared either on Market Evidence or a Depreciated Replacement cost basis.

## 18. Financial Assets

MRC Investments	Joint venture UKCMRI Ltd £000	Joint venture RCUK SSC Ltd £000	Joint venture MTIC Ltd £000	Total of Joint ventures £000	Other investments £000
As at 1 April 2011	8,894	14,994	0	23,888	1,632
Additions	46,224	0	750	46,974	110
Share of losses during the year	0	(2,282)	0	(2,282)	0
Revaluation	0	0	0	0	(396)
<b>As at 31 March 2012</b>	<b>55,118</b>	<b>12,712</b>	<b>750</b>	<b>68,580</b>	<b>1,346</b>

	Joint venture UKCMRI Ltd £000	Joint venture RCUK SSC Ltd £000	Joint venture MTIC Ltd £000	Total of Joint ventures £000	Other investments £000
As at 1 April 2010	0	1,627	0	1,627	1,514
Additions	8,894	14,601	0	23,495	0
Share of losses during the year	0	(1,234)	0	(1,234)	0
Revaluation	0	0	0	0	118
<b>As at 31 March 2011</b>	<b>8,894</b>	<b>14,994</b>	<b>0</b>	<b>23,888</b>	<b>1,632</b>

### 18a Subsidiaries

#### MRC Technology Ltd

As the MRC no longer exerts control over MRCT the company has been deconsolidated and consolidated accounts are no longer produced by MRC. See Note 28 for a more detailed information regarding the deconsolidation of MRCT. Medical Research Council Technologies (MRCT) is a company limited by guarantee with charitable status whose principal activity is the management, development and exploitation of the group's intellectual property assets, including its valuable patent rights associated with the production of monoclonal antibodies. The charity is governed by a board of trustees, whose appointments were previously made by the MRC.

### 18b Joint Ventures

#### RCUK Shared Services Centre Limited

The seven research councils, working together as Research Councils UK (RCUK) established a Shared Services Centre (SSC). Based in Swindon, RCUK Shared Services Centre Ltd provides finance, grants, human resources, information systems, procurement and payroll operational services to each of the research councils and their institutes with the aim of reducing spending through sharing and standardising processes.

The investment has been classified as a joint venture between the research councils with the MRC's individual shareholding being 26.98 per cent. In 2007/08, the seven research councils each acquired an A share, carrying a vote per share. B shares convey ownership rights to the holder, including any distributions or proceeds from sale of the SSC. RCUK Shared Services Centre Ltd was incorporated on 1 August 2007 and has been operating a shared service centre, delivering services to the research councils, since May 2008.

The research councils entered into a supplementary shareholder's agreement with the Secretary of State for Business, Innovation and Skills on 4th October 2011 to allot the Secretary of State for Business, Innovation and Skills

one 'A' ordinary share in the capital of RCUK SSC Ltd. This supplementary agreement confirmed the covenants of the original shareholder's agreement, signed 8th August 2007, remained extant. On that basis, MRC retain the same level of investment in RCUK SSC Ltd at 26.98 per cent of the Company's 'B' shares.

In March 2011 an asset that had previously been carried in assets under construction was exchanged for increased share capital in SSC Ltd. The share capital issued was £14,600,593, which was the value of the completed asset.

For the period ending 31 March 2012, the unaudited financial statements for the company show a loss of £7.9m (2010/11 = £3.4m) against a turnover of £45.1m (2010/11 = £60.5m). The balance sheet total is £48.3m represented by £62.0m share capital issued to the research councils and £13.7m retained loss.

	A shares £	B shares £	Total £
As 1 April 2011	1	14,994,013	14,994,014
Additions	0	0	0
Share of losses during the year	0	(2,282,000)	(2,282,000)
<b>At 31 March 2012</b>	<b>1</b>	<b>12,712,013</b>	<b>12,712,014</b>
As 1 April 2010	1	1,627,815	1,627,816
Additions	0	14,600,593	14,600,593
Share of losses during the year	0	(1,234,395)	(1,234,395)
<b>At 31 March 2011</b>	<b>1</b>	<b>14,994,013</b>	<b>14,994,014</b>

### Hammersmith Imanet Limited

During 2010 HIL notified MRC subject to shareholder agreement of its proposal to terminate employees by way of redundancy to cease business activities. The resolution to dissolve the company was passed on 13 May 2011. The Subscription and Shareholders Agreement contains a PUT option (in MRC favour) which if exercised would require GE Healthcare to purchase MRC's shares for £3m plus interest; and a CALL option for GE Healthcare to purchase MRC's shares for same amount. MRC exercised its PUT option on 6 May 2011 and a sum of £3,450,808 (£450,808 interest) was paid to it. There were no other transactions between the parties during the year.

### Markready Ltd

In 2010/11 the business of Markready was sold to MRC for £1. The assets transferred were valued at Fair Value and the acquisition was treated as a business combination under IFRS3. MRC was one of four previous members of the company.

### UKCMRI Ltd

The information relating to UKCMRI Ltd is dealt with in Note 26.

### Immanova Ltd

The information relating to Immanova Ltd is dealt with in Note 26.

## 18c. Other investments

	Number of shares held	Holding %	Market value at 31 March 2012 £000
<b>Quoted</b>			
Galapagos NV (Belgium)	59,919	0.47	604
Vectura (formerly Innovata plc)	58,357	0.04	32
Natus Medical Inc (USA)	7,066	0.04	52
Sangamo Biosciences Inc (USA)	165,255	0.54	505
Topo Targets A/S (Denmark)	113,916	0.28	39
Vernalis plc	15,519	0.14	4
Avacta Group plc	14,601,073	0.46	110
<b>Total</b>			<b>1,346</b>

At the close of business on 31 March 2012 the price per share of council's shareholdings listed on the London stock exchange, the AIM, the Nasdaq and the Danish Stock Exchange were as follows:

Galapagos NV	€ 12.08
Vectura (formerly Innovata plc)	54.25p
Natus Medical Inc	\$11.93
Sangamo Biosciences Inc	\$4.90
Topo Targets A/S	DKK 3.06
Vernalis plc	24.00p
Avacta Group plc	0.75p

Private unquoted	Number of shares held
Anaptys Biosciences Inc.	120,000
CMP Therapeutics Ltd	93,600
Bicycle Therapeutics Ltd	72,059
D-Gen Ltd	21,412
Iclectus Ltd	6,400
Oxxon Therapeutics Ltd	10,332
Rain Dance Technologies Inc	200,000
Senexis Ltd	10
Heptares Therapeutics Limited	609,577
Phosphate Therapeutics Ltd	245,871
RCUK Shared Services Centre Ltd A Shares (note 18a)	1
RCUK Shared Services Centre Ltd B Shares (note 18a)	16,732,013
UKCMRI Limited (Note 26)	55,118,338
Imanova (Note 26)	750,000

These companies with the exception of RCUK, Imanova and UKCMRI represent the council's interest in enterprises engaged in the commercial development of group inventions and know how. These equity positions were received in return for company access to the group's intellectual property.

## 19. Inventories

	2012 £000	2011 £000
<b>Consumable stores and livestock</b>	<b>0</b>	<b>2,912</b>

The MRC changed its accounting policy in the year to expense inventory. It was felt that the majority of items previously classified as inventory were more correctly classified as consumable expenditure.

Livestock inventory was considered to be impaired and has been written down to a nil balance.

## 20. Trade and other receivables

	2012 £000	2011 £000
Trade receivables	14,038	16,629
Less provisions for bad debts	(16)	(16)
	14,022	16,613
Other receivables	1,771	3,085
Accrued income	32,521	31,286
Prepayments	15,477	17,847
<b>Total</b>	<b>63,791</b>	<b>68,831</b>

### Intra-government balances

At the end of the year, the group had receivable balances with other government bodies totalling £5,588k (2010/11 = £2,781k) comprising the following: Government Agencies £5,029k (2010/11 = £0k), Local Authorities £0k (2010/11 = £0k), NHS Trusts and Hospitals £559k (2010/11 = £758k).

## 21. Cash and cash equivalents

	2012 £000	2011 £000
Balance at 1 April	53,536	30,439
Net change in cash and cash equivalent balances	27,659	23,097
<b>Balance at 31 March</b>	<b>81,195</b>	<b>53,536</b>
The following balances were held at commercial banks and cash in hand	6,355	53,536
The following balances were held with the Government Banking Service	74,840	0
<b>Total balances held at 31 March 2012</b>	<b>81,195</b>	<b>53,536</b>

## 22. Trade and other payables

	2012 £000	2011 £000
<b>Due within 1 year</b>		
Trade payables	(84,866)	(80,824)
Accruals	(151,889)	(131,183)
Taxation and social security	(277)	(3,867)
Deferred income	(35,314)	(29,775)
Other payables	(3,323)	(44,305)
<b>Total</b>	<b>(275,669)</b>	<b>(289,954)</b>

	2012 £000	2011 £000
<b>Due after more than one year</b>		
Accruals and the figures for 2012	(9,000)	0

### Intra-government balances

At the end of the year, the group had payable balances with other government bodies totalling £17,067k (2010/11 = £30,578k) comprising the following: Government Agencies £16,712k (2010/11 = £30,354k) NHS Trusts and Hospitals £355k (2010/11 = £210k), Local Authorities £0k (2010/11 = £14k).

## 23. Provisions for liabilities and charges

	Early retirements compensation scheme £000	Redundancy costs £000	Other costs £000	Total provisions £000
As at 1 April 2011	6,082	0	423	6,505
Amount provided in year	(125)	0	9,174	9,049
Unwinding of the discount	176	0	0	176
Amount expended in year	(1,214)	0	0	(1,214)
<b>At 31 March 2012</b>	<b>4,919</b>	<b>0</b>	<b>9,597</b>	<b>14,516</b>
Provisions due within 1 year	1,050	0	2,000	3,050
Provisions due between 1 and 5 years	2,386	0	7,597	9,983
Provisions due between 6 and 10 years	1,032	0	0	1,032
Provisions due over 10 years	451	0	0	451
Sub-total of provisions over 1 year	3,869	0	7,597	11,466
<b>At 31 March 2012</b>	<b>4,919</b>	<b>0</b>	<b>9,597</b>	<b>14,516</b>
At 1 April 2010	4,766	607	583	5,956
Amount provided in year	2,514	0	0	2,514
Unwinding of the discount	249	0	0	249
Amount expended in year	(1,447)	(607)	(160)	(2,214)
<b>At 31 March 2011</b>	<b>6,082</b>	<b>0</b>	<b>423</b>	<b>6,505</b>
Provisions due within 1 year	1,223	0	0	1,223
Provisions due between 1 and 5 years	2,948	0	423	3,371
Provisions due between 6 and 10 years	1,296	0	0	1,296
Provisions due over 10 years	615	0	0	615
<b>At 31 March 2011</b>	<b>6,082</b>	<b>0</b>	<b>423</b>	<b>6,505</b>

### Early retirement compensation scheme

These are legacy Council early retirement obligations. Changes in the tax regime for pensions in 2006 meant it was necessary for early retirement benefits to be paid entirely from the pension scheme. As well as those early retirees, provision is made for where there is a difference (increase) between the maximum value of retirement benefits allowed by the employer at that time and the maximum value of benefits allowed by the pension scheme.

### Other

These include provisions for the decommissioning of the Cyclotron at CSC Hammersmith, £9,202,000 (2010/11 £0) and High Activity Sealed Sources being used in some units, £395,000 (2010/11 = £423,000)

## 24. Contingent liabilities

Contingent liabilities of £2.2m have been identified in relation to dilapidation works, that may be required, at the end of property leases expected to end within the next 10 years. These are sites located at Head Office London, Clinical Trials Unit London and Human Nutrition Research Unit Cambridge.

## 25. Commitments

### Capital

The council had estimated future commitments to capital expenditure, which had been contracted but not provided for at the balance sheet date of £237,768,669 (2010/11 = £317,025,599) comprising the following: MRC Laboratory of Molecular Biology £6,945,599, UKCMRI £204,950,070, MRC Clinical Sciences Centre £180,000, MRC Minor Capital £16,103,000, MRC University of Glasgow Centre for Virus Research £4,000,000, Titan Krios electron microscope £2,820,000 and Institute of Molecular medicine £2,770,000.

### Research awards

Forward commitments on research awards:	£000
2012 – 2013	296,433
2013 – 2014	211,445
2014 – 2015	126,215
2015 – 2019	82,162

## 26. Related party transactions

The MRC is a non-departmental public body sponsored by BIS. For the purposes of International Accounting Standard 24, BIS is regarded as a related party. During the year, the council has had various material transactions with BIS and other bodies for which BIS is regarded as the parent department; namely the Biotechnology and Biological Sciences Research Council, the Engineering and Physical Sciences Research Council, the Economic and Social Research Council and the RCUK Shared Services Centre Ltd.

The council provides administrative services to the Trustees of two registered charities, The Medical Research Foundation and The Fleming Memorial Fund for Medical Research, which are therefore regarded as related party transactions. Two of the Trustees who manage the charities are nominated by the Council.

During the year, the following material transactions with the council, board and committee members took place in respect of awards funded by the council.

Name	Number of awards	Value (£)
Dr James Rowe	1	£189,039
Dr Fiona Matthews	1	£410,134
Dr Magnus Rattray	1	£410,134
Dr Martin J Drysdale	1	£933,128
Dr Rory McCrimmon	2	£688,164
Professor Ian Jones	1	£489,485
Professor Peter Fischer	1	£434,710
Professor Andrew Copp	1	£609,794
Professor Aroon Hingorani	1	£807,317
Professor David Adams	1	£1,163,454
Professor David Laloo	1	£4,175,628
Professor David Lomas	1	£1,638,935
Professor David Torgerson	1	£357,553
Professor Debbie Lawlor	1	£244,691
Professor Frank Kee	1	£287,228
Professor Gordon Brown	1	£470,813
Professor Hazel Inskip	1	£799,998
Professor Hugh Perry	1	£556,828
Professor Ian Hall	1	£347,293
Professor John Isaacs	1	£448,538
Professor Jonathan Sterne	1	£585,612
Professor Judith Allen	1	£416,137
Professor Karen Temple	1	£603,015

Name	Number of awards	Value (£)
Professor Keith Caldecott	1	£2,054,906
Professor Malcolm Jackson	1	£433,728
Professor Mandy Ryan	1	£231,027
Professor Mark McCarthy	2	£701,170
Professor Mimoun Azzouz	1	£740,248
Professor Neil Hanley	1	£124,153
Professor Nigel Stallard	1	£799,998
Professor Pamela Shaw	2	£1,150,382
Professor Patricia Salinas	1	£541,323
Professor Paula Williamson	2	£312,107
Professor Peter Diggle	2	£3,711,208
Professor Philip McGuire	2	£579,777
Professor Philippa Saunders	1	£1,448,711
Professor Richard Hayes	1	£512,322
Professor Richard Knight	1	£502,924
Professor Robin Ali	3	£2,804,164
Professor Shitij Kapur	1	£204,379
Professor Siddharthan Chandran	2	£914,648
Professor Stephen Walters	1	£497,638
Professor Stuart Forbes	1	£1,540,801
Professor Tracy Palmer	1	£197,693
Professor William Wisden	1	£717,450

Please note: Where an award is made to more than one related party, the value of the award is counted more than once

Research Organisation	Related Party	Number of Awards	£
<b>Cardiff University</b>		<b>7</b>	<b>£4,750,000</b>
Professor Kim Graham	Professor Michael O'Donovan		
Professor Valerie O'Donnell			
<b>Imperial College London</b>		<b>36</b>	<b>£27,080,000</b>
Professor Azra Ghani	Professor Jonathan Friedland		
Professor William Wisden	Professor Jonathan Weber		
Professor Anne Lingford Hughes	Professor Jo Hajnal		
Professor Dorian Haskard	Professor Martin Wilkins		
Professor Dominic J Withers	Professor Nicholas Grassly		
Professor David Carling	Professor Philip Ashton-Rickardt		
Professor Gad Frankel	Professor Sian Harding		
<b>Institute of Cancer Research</b>		<b>2</b>	<b>£390,000</b>
Professor Clare Isacke			
<b>King's College London</b>		<b>26</b>	<b>£17,470,000</b>
Professor Anne Ridley	Professor Gillian Bates		
Professor Philip McGuire	Professor Ivor Mason		
Professor Shitij Kapur	Professor Martin Guilliford		
Professor Anand Purushotham	Professor Michael Malim		
Professor Frank Kelly			
<b>Liverpool School of Tropical Medicine</b>		<b>3</b>	<b>£4,810,000</b>
Professor David Laloo			
<b>London School of Hygiene &amp; Tropical Medicine</b>		<b>9</b>	<b>£12,850,000</b>
Professor Richard Hayes	Dr Judith Green		
Professor David Leon			
<b>Newcastle University</b>		<b>14</b>	<b>£6,560,000</b>
Professor John Isaacs	Professor Jane Endicott		
Professor Andrew Hall	Professor John Lunec		
Professor Alexander Thiele	Professor Tim Cawston		
<b>Queen Mary</b>		<b>5</b>	<b>£1,780,000</b>
Professor Chris Griffiths	Professor Tom MacDonald		
<b>Queen's University of Belfast</b>		<b>5</b>	<b>£2,320,000</b>
Professor Frank Kee			
<b>School of Pharmacy</b>		<b>1</b>	<b>£400,000</b>
Professor Peter Taylor			

Research Organisation	Related Party	Number of Awards	£
<b>The University of Manchester</b>		<b>13</b>	<b>£7,150,000</b>
Professor David Ray	Professor Matthew A Lambon Ralph		
Professor Neil Hanley	Professor Michael White		
Professor Enrique Amaya	Professor R Alan North		
Professor Gordon Jayson	Professor Robert Hawkins		
Professor Jonathan Hill	Professor Terri Attwood		
Professor Julian Davis			
<b>University College London</b>		<b>49</b>	<b>£29,580,000</b>
Professor Andrew Copp	Professor Susan Michie		
Professor Aroon Hingorani	Professor Andrew Steptoe		
Professor Caroline Sabin	Professor Dan Cutler		
Professor David Balding	Professor Jugnoo Rahi		
Professor Deenan Pillay	Professor Mary Collins		
Professor Patricia Salinas	Dr Pam Sonnenberg		
Professor Robin Ali	Professor Tariq Enver		
<b>University of Aberdeen</b>		<b>5</b>	<b>£1,980,000</b>
Professor Gordon Brown	Professor Mandy Ryan		
Professor Michael Frenneaux			
<b>University of Bath</b>		<b>3</b>	<b>£1,660,000</b>
Dr Andrew Ward			
<b>University of Birmingham</b>		<b>20</b>	<b>£8,830,000</b>
Professor Caroline Savage	Professor Paul Moss		
Professor David Adams	Dr Paramjit Gill		
Professor Keith Wheatley			
<b>University of Bristol</b>		<b>24</b>	<b>£13,930,000</b>
Professor Debbie Lawlor	Professor Alistair Poole		
Professor Jonathan Sterne	Professor Tim Peters		
Professor Anthony Hollander			
<b>University of Cambridge</b>		<b>29</b>	<b>£23,190,000</b>
Professor David Lomas	Dr Jan Löwe		
Dr James Rowe	Professor Kenneth Smith		
Dr Adrian Mander	Dr Linda Sharples		
Professor Colin Taylor	Professor Nicholas Morrell		
Professor John Danesh	Professor Sharon Peacock		
<b>University of Dundee</b>		<b>8</b>	<b>£2,680,000</b>
Dr David Gray	Professor Doreen Cantrell		
Dr Rory McCrimmon	Professor Vicki Entwistle		
Professor Tracy Palmer			

Research Organisation	Related Party	Number of Awards	£
<b>University of Edinburgh</b>		<b>19</b>	<b>£20,870,000</b>
Professor Adriano Rossi	Professor Richard Knight		
Dr Christopher Weir	Professor Siddharthan Chandran		
Professor Ian Deary	Professor Stuart Forbes		
Professor Judith Allen	Professor Giles Hardingham		
Professor Malcolm Dunlop	Professor Sarah Cunningham-Burley		
Professor Philippa Saunders			
<b>University of Exeter</b>		<b>4</b>	<b>£1,140,000</b>
Professor Steven Thornton			
<b>University of Glasgow</b>		<b>11</b>	<b>£5,880,000</b>
Dr Martin J Drysdale	Professor Eddy Liew		
Professor Andrew Baker	Professor Jeremy Mottram		
<b>University of Keele</b>		<b>1</b>	<b>£360,000</b>
Professor Alicia El Haj			
<b>University of Lancaster</b>		<b>4</b>	<b>£1,420,000</b>
Professor Peter Diggle			
<b>University of Leeds</b>		<b>5</b>	<b>£3,170,000</b>
Professor David J Beech	Professor Sheena Radford		
Professor David Westhead			
<b>University of Leicester</b>		<b>2</b>	<b>£2,360,000</b>
Professor Anthony Gershlick	Professor Nilesh Samani		
<b>University of Liverpool</b>		<b>8</b>	<b>£6,390,000</b>
Professor Malcolm Jackson	Dr Hilary Ranson		
Professor Paula Williamson	Professor Ian Greer		
Dr Trevor Cox			
<b>University of Nottingham</b>		<b>10</b>	<b>£3,450,000</b>
Professor Ian Hall	Professor John Atherton		
Professor Kavita Vedhara	Professor Stephen Coombes		
Professor Peter Fischer	Professor Stephen Hill		
<b>University of Oxford</b>		<b>34</b>	<b>£26,450,000</b>
Professor Ben Davis	Professor Sarah Rowland-Jones		
Professor Ian Tomlinson	Dr Andrew Roddam		
Professor James Kennedy	Professor Chris Holmes		
Professor Mark McCarthy	Dr Richard Copley		
Professor Matthew Wood	Professor Doug Higgs		
Professor Paul Riley	Professor Irene Tracey		
Professor Paul Bolam	Dr Paul Brennan		
Professor Philip Cowen	Dr Persephone Borrow		

Research Organisation	Related Party	Number of Awards	£
<b>University of Plymouth</b>		<b>1</b>	<b>£430,000</b>
Professor John Zajicek			
<b>University of Reading</b>		<b>3</b>	<b>£2,130,000</b>
Professor Ian Jones			
<b>University of Sheffield</b>		<b>10</b>	<b>£6,730,000</b>
Professor Mimoun Azzouz	Professor Alicia O'Cathain		
Dr Magnus Rattray	Professor Ian Sabroe		
Professor Peter Andrews	Professor Moira Whyte		
Professor Pamela Shaw	Professor Sheila McNeil		
Professor Stephen Walters			
<b>University of Southampton</b>		<b>6</b>	<b>£3,410,000</b>
Professor Karen Temple	Professor Diana Eccles		
Professor Hugh Perry			
<b>University of Sussex</b>		<b>6</b>	<b>£6,290,000</b>
Professor Keith Caldecott			
<b>University of Warwick</b>		<b>4</b>	<b>£2,230,000</b>
Professor Nigel Stallard	Dr Simon Gates		
<b>University of York</b>		<b>2</b>	<b>£530,000</b>
Professor David Torgerson	Professor Eve Roman		
Professor Paul Kaye	Professor Mark Sculpher		

## Related Undertakings

There are a number of companies with whom the group have related undertakings. These are detailed below.

### UKCMRI Limited (SPV) and UKCMRI Construction Limited (Conco)

UKCMRI Ltd is a UK registered charity and limited company formed to deliver the proposed UK Centre for Medical Research and Innovation (to be known as The Francis Crick Institute). The MRC, in partnership with Cancer Research UK, University College London and the Wellcome Trust, own UKCMRI Ltd. The entity is designed to allow the delivery of the scientific aims of the joint venture. The four funders signed a Joint Venture Agreement on 9th November 2010 which established UKCMRI as a charity limited by shares, following agreement of the Charity Commission.

Shares in UKCMRI Construction Limited the construction company owned by the four partners, of which each partner held one £1 share, were transferred to UKCMRI Ltd upon as part of the JVA and became a wholly owned subsidiary of UKCMRI Ltd. The funding of the project has been by capital contributions leading to shares. The MRC investment in UKCMRI Ltd is represented by issued shares.

During the year Kings College London and Imperial College of Science Technology and Medicine have become New Participants in the JVA. A Deed of accession varying the original joint venture agreement accordingly was signed

by all partners (existing and new) on 11 October 2011. Each of the New Participants has agreed to make an overall contribution of £40m towards the project, and initially intend to become the holders of Shares by way of subscription. The new partners will contribute to building lifecycle works i.e. capital replacement of assets which are integral to the building such as mechanical, electrical, digital and fabric assets.

In considering its relationship with UKCMRI Ltd during 2011/12, until as at such times the institute becomes operational the MRC believe their investment is best represented by issued shares. During the year ordinary shares to the value of £46,223,856 were issued (2010/11 £8,894,281), which are shown in the Statement of Financial Position. Accordingly we have not consolidated the results of UKCMRI Ltd.

During the year the MRC made capital contributions of £35,531,404 (2010/11 = £13,365,288) as part of its funding agreement with UKCMRI Ltd and the other Partners in return for shares. As at 31 March 2012, the MRC was owed £9,765,439 (2010/11 £20,457,892) and owed £1,448,132 (2010/11 = £650,893) to UKCMRI Ltd.

### **Imanova Limited**

The Molecular and Translational Imaging centre (to be known as Imanova) is an innovative alliance (joint venture) between the MRC, Imperial College of Science Technology, Kings College London and University College. Established in April 2011, Imanova and its partners bring together a breadth and depth of knowledge and expertise that will drive research and innovation in imaging sciences. The company will create, manage and operate a new centre of excellence in the field of translational imaging research. The company is a not for profit entity, of which the MRC owns 25% shareholding.

MRC has accounted for its investment in Imanova as a joint venture, with its valuation based on its service potential. It holds 25% of the ordinary shares of the company whose provisional results for financial year 2011/12 record: a deficit of £0.9m before tax and net assets of £2.1m. During the year MRC had transactions totalling £5.1m. There were no outstanding balances to / from Imanova Limited at the end of the year.

### **UK Biobank Limited**

UK Biobank Limited is a company limited by guarantee and a registered charity. It is a major UK medical research initiative, with the aim of improving the prevention, diagnosis and treatment of a wide range of serious and life-threatening illnesses – including cancer, heart diseases, diabetes, arthritis and forms of dementia.

The MRC is one of the two members of the company, along with the Wellcome Trust and is one of the prime funders of the organisation. UK Biobank Limited is a related party of the council. As the council is one of nine trustees that manage Biobank and it is a charity, the council is not able to exert any control and so the company is not consolidated in these accounts and its transactions with UK Biobank are expensed as grant payments. Grant payments by the council to UK Biobank Limited during 2011/12 were £4,252,615 (2010/11 = £5,550,842) This included £2,251,307 (2010/11 - £1,373,221) of funding from other bodies in support of UK Biobank.. There were no outstanding balances to / from UK Biobank Limited at the end of the year, or the prior year.

### **RCUK Shared Services Ltd**

During the year to 31 March 2012, the council purchased services to the value of £10.1m (2010/11 = £13.7m) from RCUK Shared Services Centre Ltd (RCUK SSC Ltd) and provided services to RCUK SSC Ltd to a value of £0.3m (2010/11 = £18.1m). As at 31 March 2012, the council was owed £248k and owed £562k to RCUK SSC Ltd.

## 27. Financial Instruments and Derivatives

IFRS 7, Financial Instruments: Disclosures, requires disclosure of the role which financial instruments have had during the period in creating or changing the risks the council faces in undertaking its activities. Specifically: (a) the significance of financial instruments affecting financial position and performance; and (b) the nature and extent of risks arising from financial instruments to which it is exposed. Because of the largely non-trading nature of its activities and the way it is financed, the MRC is not exposed to the degree of financial risk faced by businesses. Moreover, financial instruments play a limited role in creating or changing risk on its operational activities.

### Liquidity risk

The council's net revenue resource requirements are largely funded by the grant-in-aid from its sponsor department. The capital expenditure is also financed through the grant-in-aid. The council is therefore not exposed to significant liquidity risks.

### Interest rate risk

The council has a low level of exposure to interest rate fluctuations; it does not actively seek to invest cash in money markets. Any excess funds held outside of the Government Banking Systems banking framework, which could attract interest, are maintained in low level current accounting arrangements, as part of its banking arrangements with Lloyds Banking Group.

### Foreign currency risk

The council maintains US dollar and Euro bank accounts in order to deal with day-to-day transactions. There is a risk attached to holding foreign currency denominations but this is not considered to be material.

The council also holds certain balances in overseas bank accounts to help manage day-to-day business transactions of its overseas operations. During the year end, the average monthly float levels were £885,000 (2010/11 = £1,104,167).

### Foreign Currency Balances

Amount	As at 31 March 2012	As at 31 March 2011
USD	£1,541,964	£2,474,490
Euro	£708,476	£479,750

A 5 per cent (10 per cent) ± movement in exchange rates would equate to £112,522, (£225,044), such events would have minimal impact on group's resources. In 2010/11 the corresponding amounts were £147,712 (£295,424).

### Receivables and creditor risk

Financial assets and liabilities are held at fair value and changes in values are recognised in the Statement of Comprehensive Net Expenditure. The fair value of the council's financial assets and liabilities are equivalent to the carrying amount unless stated above. The council has limited powers to borrow or invest funds; financial assets and liabilities are generated by day-to-day operational activities and are not held to change the risks facing the group in undertaking its activities. Of current outstanding trade debt 40 per cent is greater than 30 days old (2010/11: 13 per cent).

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## 28. Deconsolidation of Medical Research Council Technology Limited

The Group structure comprising MRC and MRCT Ltd which previously existed ended during the year. This follows a change in governance structure of MRCT Ltd, who adopted new articles of association effective 31 January 2012. Up until that point, the Chairman of the Board of MRCT Ltd was the MRC Deputy Chief Executive and other MRC senior managers were members of the board. Following reorganisation of MRCT's governance arrangements, MRC has the right to appoint only one Board member (Director) out of a total of no less than five and normally not more than ten Directors. These changes ensure that the Chairman of the Board of Trustees and a majority of the Trustees will no longer be MRC employees and are independent of the MRC. Following these changes as MRC no longer exert control or significant influence over MRCT, group financial statements have not been reported as MRC considers to do so detracts from the clarity of its own numbers.

The results if group statements were to be prepared are shown overleaf in the Group consolidated Statement of Comprehensive Net Expenditure and Cashflow. These incorporate the estimated results of MRCT Ltd up to date of deconsolidation 31 January 2012.

The deconsolidation of MRCT shows an estimated loss in the group financial statements of £100.9m, representing: the net assets of MRCT at that date (£46.9m) plus a consolidation adjustment for the difference in accounting policy on Intangible assets (£54.0m). Equivalent assets were previously brought into the Group at its inception in 2009-10, at a gain of £70.6m (£34.3m net assets and £36.3m consolidation adjustment respectively).

Estimated MRCT results for the period up to 31 January 2012 of some £7 million are included in the Group SoCNE (of which £7.3m would have been eliminated as intra Group transactions).

## Group Statement of Comprehensive Net Expenditure

for the year ended 31 March 2012

	2011/12 £000	2010/11 £000 Restated
<b>Expenditure</b>		
Staff Costs	163,979	177,992
Pensions - past service costs	0	(47,664)
Other Operating Costs	169,257	157,187
Research Grants	267,607	262,898
Other Research	42,240	25,878
Postgraduate/training awards	86,028	78,712
International Subscriptions	18,258	17,899
Commercial Activities	33,691	29,338
Amortisation of intangible assets	34,659	28,229
Depreciation	21,254	21,616
Impairment of property, plant and equipment	0	3,366
Reversal of prior year impairment of property, plant and equipment	(2,221)	(9,541)
Loss on deconsolidation of group	100,887	0
<b>Total expenditure</b>	<b>935,639</b>	<b>745,910</b>
<b>Income</b>		
Release of deferred income	(688)	(48)
Contributions from other government departments	(24,993)	(17,925)
Contributions from other bodies	(51,977)	(63,790)
Commercial activities	(85,715)	(78,452)
Other Income	(4,930)	(11,451)
Sale of HIL	(3,451)	0
Transfer of Markready assets	0	(8,601)
<b>Total income</b>	<b>(171,754)</b>	<b>(180,267)</b>
<b>Net Operating Expenditure</b>	<b>763,885</b>	<b>565,643</b>
Interest Receivable	(21)	(31)
Amount payable to the Department of Business, Innovation and Skills	0	17,171
Other finance (income)/cost	(13,115)	(13,667)
Unwinding of discount on provisions	176	249
Gain/(Loss) on Disposal of property, plant and equipment	23	(173)
Loss on intangible assets	0	1,248
Share of losses of joint venture	2,282	1,245
Minority Interest	0	(68)
<b>Net expenditure for the year</b>	<b>753,230</b>	<b>571,617</b>
<b>Other Comprehensive Expenditure</b>		
Net loss on revaluation of property, plant and equipment	(6,287)	(1,682)
Net loss on revaluation and addition of intangible assets	(43,997)	(33,189)
Actuarial (gain)/loss on defined benefit pension plan	60,384	60,276
<b>Total Comprehensive Net Expenditure for the year ended 31 March 2012</b>	<b>763,330</b>	<b>597,022</b>

The net assets of MRCT Ltd as at 31 January 2012 were £46.9m, however MRC have previously not included a value for MRC in its own financial statements. The restrictions placed upon use of its assets by dint of charity legislation, mean that it is effective fair value to MRC is zero. Consequently there is no gain or loss to the MRC upon deconsolidation of MRCT Ltd.

## Group Statement of Cash Flows

for the period ended 31 March 2012

Notes	2011/12 £000	2010/11 £000 Restated
<b>Cash flow from operating activities</b>		
Net operating expenditure	(763,885)	(565,643)
Depreciation charge	21,254	21,616
Amortisation charge	34,659	28,229
Loss on deconsolidation of group	100,887	0
Capital grant of assets	16,624	3,633
Impairment of property, plant and equipment	0	3,366
Reversal of prior year impairments	(2,221)	(9,541)
Impairment of investments	0	1,234
Other non-cash items – IAS 19 pension costs	10,913	(52,379)
Unwinding of discount provisions	(176)	(249)
Release of deferred income	(688)	(48)
Decrease in provision for liabilities and charges	7,985	549
Decrease in inventory	2,922	(477)
(Increase)/decrease in trade and other receivables	3,079	(10,184)
(Decrease)/(increase) in trade and other payables	(9,209)	23,974
Increase in current investments	0	(6,508)
<b>Net cash outflow from operating activities</b>	<b>(577,856)</b>	<b>(562,428)</b>
<b>Cash flow from investing activities</b>		
Interest received	458	31
Payments to the Department for Business, Innovation and Skills	(31)	(24)
Receipts from sale of tangible fixed assets	46,687	23,502
Payments to acquire Property, Plant and Equipment and investments	(91,494)	(126,500)
Payments to acquire investments	(60,089)	(35,120)
Proceeds of disposals of investments	1,014	3,504
<b>Net cash outflow from investing activities</b>	<b>(103,455)</b>	<b>(134,607)</b>
<b>Net cash outflow before financing</b>	<b>(681,311)</b>	<b>(697,035)</b>
<b>Cash flows from financing activities</b>		
Grant-in-aid received	697,538	719,000
Contribution for licence fees	300	300
<b>Net cash inflow from financing activities</b>	<b>697,838</b>	<b>719,300</b>
<b>Net increase/(decrease) in cash and cash equivalents</b>	<b>16,527</b>	<b>22,265</b>
Cash and cash equivalents at the beginning of the period	67,344	45,079
Cash and cash equivalents at the end of the period	83,871	67,344

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## 29. Events after the reporting period

IAS 10 events after the balance sheet requires the disclosure on the date on which the financial statements were authorised for issue and who gave that authorisation. The accounts were authorised for issue by the Accounting officer on the 13 July 2012. The financial statements do not reflect events after this date.

### **UKCMRI Ltd**

A lease was made between the original founders and UKCMRI Ltd (known as the CRICK Institute) on 7th June 2012 granting lease of land at Brill Place, Camden, London (site of the CRICK Institute) to UKCMRI Ltd. The lease term is for a period of 55 years at peppercorn rent. The land had already been revalued by Powis Hughes, Chartered Surveyors on 14th April 2011. The valuation was carried out in accordance with RICS Valuation Manual, as amended April 2010, known as the revised "Red Book", at Market Value. The MRC's interest in the land was valued at £49,500,000 and reflected in the financial statements accordingly (2010/11 - £47,024,656).









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