



Medical Research Council
Annual report and
accounts 2015/16

Medical Research Council

Annual Report and Accounts 2015/2016

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Introduction

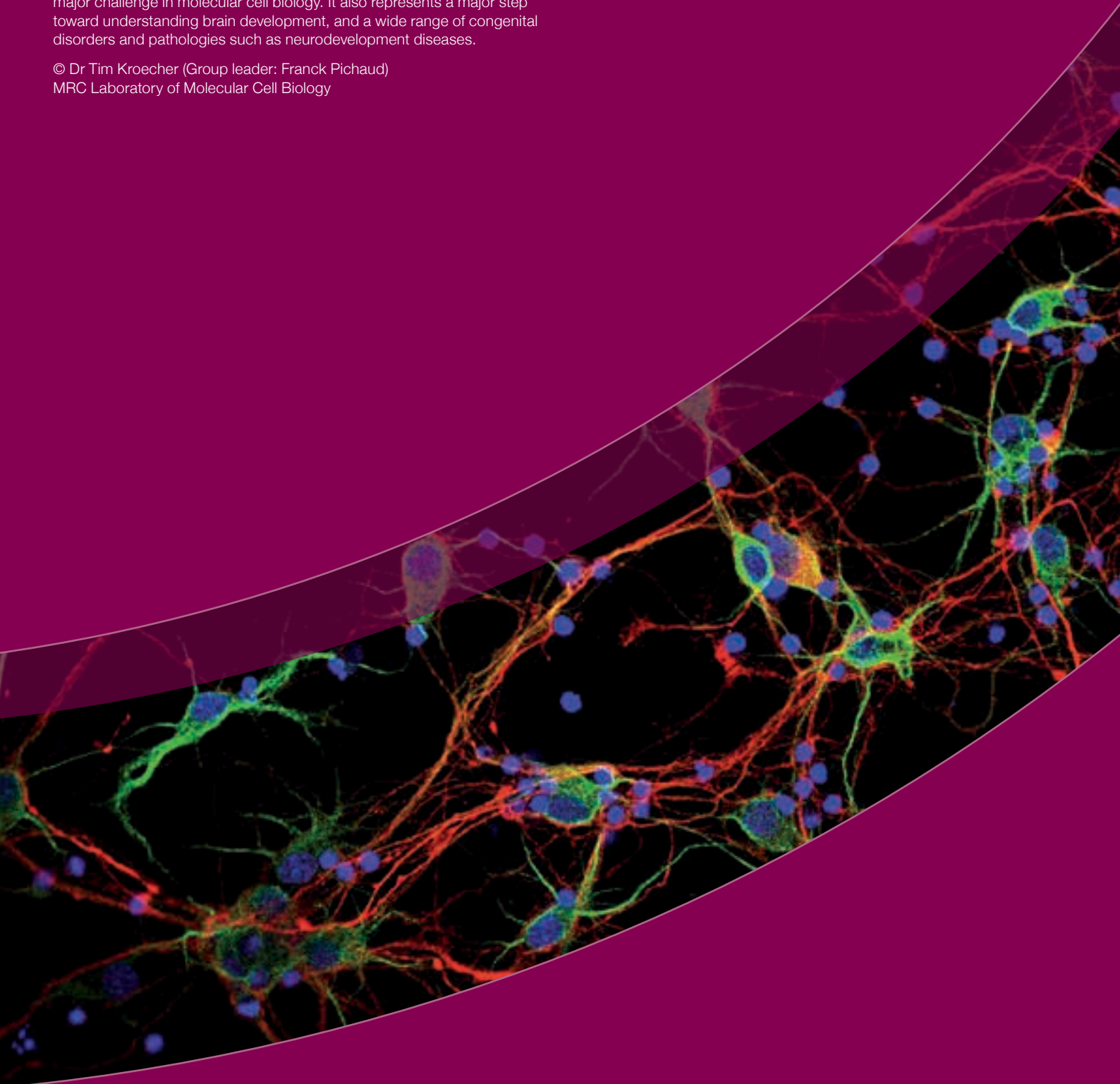
This annual report to Parliament describes our progress in meeting our aims and objectives between 1 April 2015 and 31 March 2016, highlighting key initiatives and partnerships. Each year's scientific achievements are described in more detail in our online annual review and other publications available from the MRC website at www.mrc.ac.uk/news-events/publications/

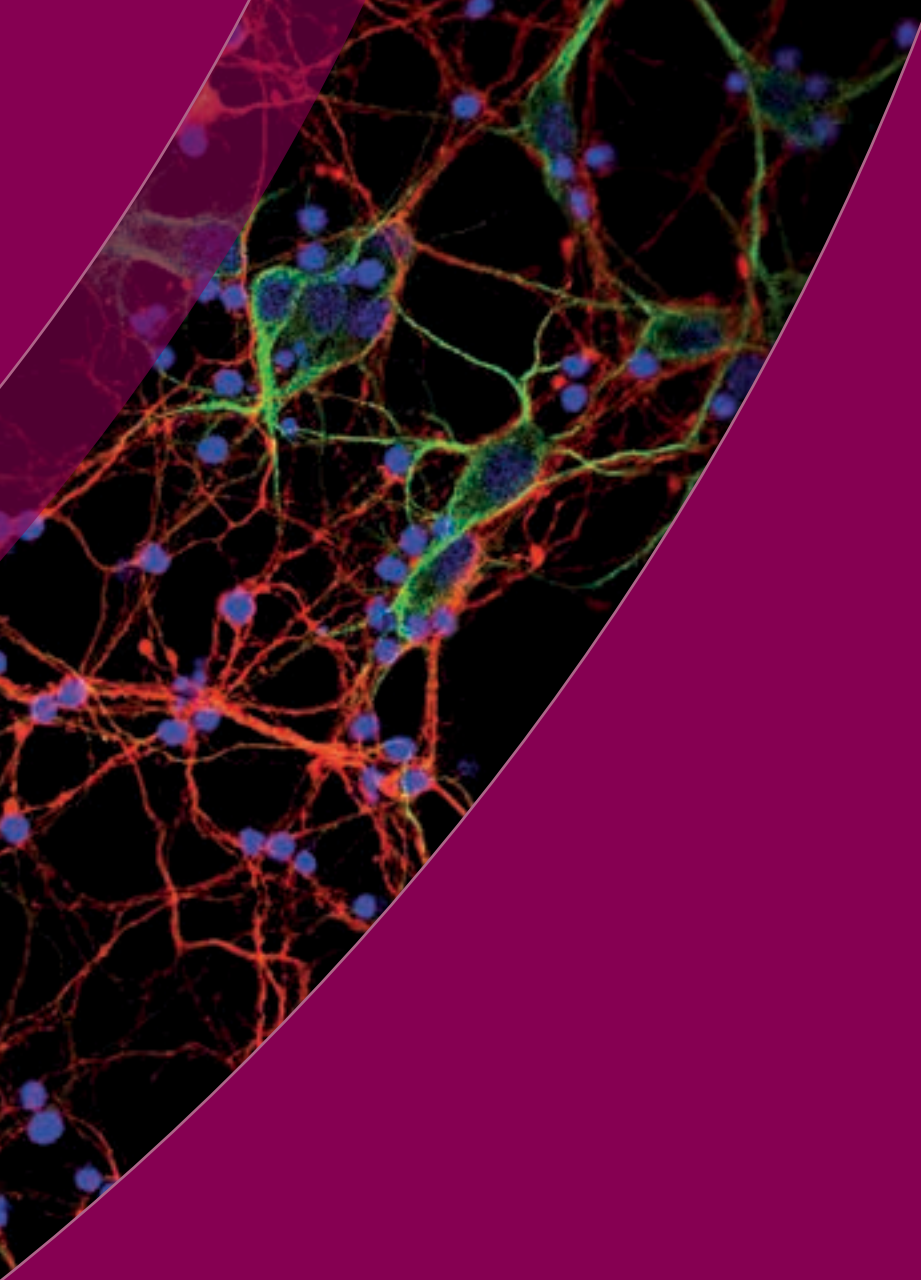
Cortical Neurones

Rat Cortical Neurones cultured in vitro and stained for the axon (red) and the somatodendritic arborisations (Green). Nuclear DNA is in blue.

Neurones are highly polarised cells. As they differentiate they grow an axon which can be meters long, and can establish connections with other neurones to assemble neural circuits. Rat cortical neurone progenitors can be cultured and their polarisation to generate mature neurones can be followed in detail using microscopy, which make these cells excellent system to study neuronal morphogenesis and polarisation. Elucidating how cell polarity arises, is remodeled and maintained in these cells remains a major challenge in molecular cell biology. It also represents a major step toward understanding brain development, and a wide range of congenital disorders and pathologies such as neurodevelopment diseases.

© Dr Tim Kroecher (Group leader: Franck Pichaud)
MRC Laboratory of Molecular Cell Biology





Performance report

Overview

Foreword from the Chair



2015/16 has been a year of great change for the MRC, bringing with it a new settlement for science and a review by Sir Paul Nurse of the research councils. We have had to work hard to demonstrate the value of the research we fund and the strategic insight we provide to the UK's extraordinary science base. I am delighted that in November 2015 the Universities and Science Minister Jo Johnson announced Professor Sir John Savill's reappointment until 30 September 2018. Sir John has been an outstanding Chief Executive of the MRC and his focus on measuring the benefits of research and his clarity of strategy have helped maintain the UK's leading position in medical research.

The MRC has long recognised the great value of science and research to the UK, and the importance of government support for medical research to help improve the health and wealth of the nation. As part of its spending review announcement in November 2015, the Government revealed a "flat real" settlement of £4.7bn for science. The allocations to the research councils were announced in early March. The MRC was pleased to receive a small increase in cash terms for the first two years of the settlement. We will continue to work closely with the Government and the other research councils to ensure the best possible outcome for science and medical research over the coming years.

In late 2015 Sir Paul Nurse also published the findings of his review of the research councils: *Ensuring a successful UK research endeavour*¹. The review, which examined how the research councils can evolve to support UK research most effectively, recognised the excellence of the UK research base and the value of having seven distinct and aligned research councils to deliver this excellence. In recognition of the change taking place over the past year, the councils themselves have committed to becoming a single, collective organisation with core shared functions in *Research Councils Together – operating and acting as a single, collective organisation*. The plan was announced to MRC head office staff in October 2015. The Government White Paper, "Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice", was published in May 2016 followed by the first reading of the Higher Education and Research Bill in the House of Commons. The Bill outlines a number of changes which will significantly impact on the MRC. We look forward to the clarification of detail within the Bill as affects MRC.

Encouraging academic and industry researchers to work together, and supporting translational research, are important priorities for the MRC. Our Proximity to Discovery – Industry Engagement Fund (see page 38) aims to bring academic researchers and industry closer together to form productive partnerships. Following the launch of the fund in August 2014, we will be investing a total of £3.3m in 17 universities across the UK to help them build partnerships with industry, and develop new collaborations and ways of exchanging knowledge and skills.

I am confident that the coming year will be another successful one for the MRC and the scientists we fund as we move forward with these and other new challenges.

Donald Brydon CBE

1. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478125/BIS-15-625-ensuring-a-successful-UK-research-endeavour.pdf

Chief Executive's perspective on performance



We have seen several changes this year in terms of science funding in the UK and the future structure of the research councils. The MRC has continued to deliver successfully on its strategic priorities amid these changes, working in partnership with other organisations, including the other research councils, Innovate UK and medical research charities.

The landmark Dementias Platform UK (DPUK) entered its second year of operation in 2015/16, supported by a total of £53m funding over five years.

The 500,000-person cohort study UK Biobank is a key resource for DPUK, and in late 2015 we awarded a total of £33m, together with the Wellcome Trust and the British Heart Foundation, to support further imaging work over the next seven years.

We also continue to play a key international role in dementia research through the EU Joint Programme in Neurodegenerative Disease Research (JPND) and the International Network of Centres of Excellence in Neurodegeneration (COEN), with several awards announced in 2015 that involve UK teams supported by the MRC. In 2015 the Government made an announcement that the MRC will be leading the nation's first Dementia Research Institute, set to be fully functional by 2020. More details on our dementias work over the past year can be found on page 35.

The MRC recognises that a more flexible funding approach is needed to help universities develop new areas of discovery science faster and more effectively than would be the case through traditional funding routes alone. In June 2015 we launched a pilot of MRC Discovery Awards as a new mechanism to enable universities to seize on 'out of the box' and interdisciplinary ideas at the earliest stage by supporting their investment in concepts that can be high-risk as well as high-potential. In the scheme's inaugural round, we made 12 awards totalling £8.4m. These covered a range of research organisations across the UK and included proposals in novel and strategically important areas such as Ebola research, neuroimaging and the development of key technology platforms. You can read more on page 38.

Medical researchers in the UK need access to the latest technologies to tackle the biggest scientific challenges in clinical research. Following 23 awards announced in October 2014 under our Clinical Research Infrastructure Initiative, we have since awarded 34 infrastructure projects worth £169m to a total of 18 higher education institutions and consortia. These projects began in 2015 and cover innovative technologies for stratified and experimental medicine, dementias research and single cell functional genomics.

We are committed to supporting our researchers to become tomorrow's leaders in biomedical science. In early February 2016 we re-launched the new investigator research grants (NIRG) scheme with revised principles and simplified guidance that make the scheme clearer for early career researchers who want to apply for MRC funding. In 2014, the MRC initiated a review to improve our understanding of what helps and prevents scientists from pursuing a career in medical research, and to inform our strategy in supporting these careers. As a result of this review, in 2015, we launched a unique interactive career framework for non-clinical careers, and increased flexibility for applicants by removing eligibility criteria based on years of post-doctoral experience. You can find out more about this review, and changes to the NIRG scheme, on page 43.

Looking ahead, the Nurse Review of the research councils and the subsequent White Paper and Higher Education and Research Bill, mentioned by the Chairman in his foreword, recognised that the councils are vital to making the UK research community one of the most effective in the world. The MRC, along with the other research councils, looks forward to developments from both proposals that build on our strengths and boost capability for the UK.

In November 2015 the Government announced a £1.5bn Global Challenges Research Fund (GCRF) as part of its £4.7bn settlement for science. In the March allocations, some of this money was disbursed to the research councils with some held back pending the establishment of the proposed Research UK now UK Research and Innovation (UKRI). The fund will allow the UK to help address social, environmental, and health challenges across the globe. I anticipate this will provide many exciting research opportunities for the research councils to work collectively to address problems faced by developing countries.

The MRC activated an emerging infections rapid response mechanism in February 2016, drawing on GCRF support, to better understand the nature of the risk posed by the Zika virus. We launched a £4m call for proposals, with support from the Newton Fund and the Wellcome Trust, using an expedited review process. A total of 26 awards were made in March 2016, amounting to £3.3m, making this call a successful example of our ability to be agile in the face of public health challenges.

The MRC now has 16 university units across the UK, and plans are underway to transfer more MRC intramural units into the legal ownership of universities in 2016/17, and in the coming years. I am confident they too will benefit from this more flexible model of funding science.

Sir John Savill

Statement of performance and activities

Our purpose

The MRC is a publicly-funded organisation dedicated to improving human health. We support world-class research across the entire spectrum of medical sciences, from fundamental laboratory-based science to clinical trials, in all major disease areas. We fund research in universities, hospitals and in our own research units and institutes across the UK and in Africa.

We work closely with key stakeholders and other research funders in the UK and internationally to deliver our mission, prioritising basic and clinical research that is likely to make a real difference to human health – by preventing disease, changing medical practice and enabling development of new treatments and medical devices.

Our stakeholders include the UK's health departments and other government departments and agencies, the six other research councils, Innovate UK, industry, the academic and charity sectors, and, of course, the public.

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.

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. The Governance Statement in the accounts (page 60) provides information about Council's membership, performance and attendance. Information about the Council's subcommittees is also contained within the Governance Statement.

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 complement the public funding we receive.

Our allocation from Government for 2016/17 was agreed under the 2015 Comprehensive Spending Review. The *MRC Delivery Plan 2016-2020*, published in April 2016, details the MRC's spending priorities and intended activities.

The MRC also reports annually on the outputs, outcomes and impact of MRC research. Further information is available at <http://www.mrc.ac.uk/successes/>

To address important scientific opportunities and health needs, and when stand-alone grant support is insufficient, the three main support mechanisms used by the MRC are:

1. **Institutes** – long-term flexible multidisciplinary investments.
2. **Units** – more focused investments established for as long as needed to support a scientific need and/or deliver a research vision.
3. **Centres** – investments which build on existing MRC and other support to add value and help establish a centre of excellence.

All three are mission-focused and carry out ground-breaking research including innovative methodology and technology development. Developing strategically driven initiatives, led by an expert scientific director, can help promote novel, high-risk approaches, cooperative research programmes, or the development of shared infrastructure.

At 31 March 2016, the MRC's large investments included two institutes, 27 units (including 16 MRC university units and two research units in Africa) and 21 centres, plus the Cancer Research UK (CRUK)/MRC Oxford Institute for Radiation Oncology (partnership). All institutes, units and centres are reviewed every five years. Further information on the purpose of these reviews can be found at:

<http://www.mrc.ac.uk/documents/pdf/summary-of-mrc-unit-and-institute-quinquennial-reviews/>

The MRC is also the largest funder of the Francis Crick Institute in London, which is a unique partnership between the MRC, Cancer Research UK, the Wellcome Trust, University College London, Imperial College London and King's College London. The MRC's National Institute for Medical Research and CRUK's London Research Institute (at Lincoln's Inn Fields and Clare Hall) became part of the Francis Crick Institute on 1 April 2015 but will remain at their existing locations until they move into the new laboratory building at St Pancras later in 2016.

In addition, the MRC has a portfolio of strategic partnerships and hubs including five UK Clinical Research Collaboration (UKCRC) Public Health Research Centres, the Scottish Collaboration for Public Health Research and Policy, the Research Complex at Harwell, six methodology hubs, four high-throughput hubs and the Farr Institute for Health Informatics Research.

See page 13 for a summary of significant activities during 2015/16 relating to our large-scale research investments.

Our strategy

In 2013 we published a refreshed strategic plan, *Research Changes Lives 2014-2019*, which continues our strategic direction, building on our strengths and achievements and also taking into account new scientific opportunities to secure tangible impact from MRC research.

MRC strategic aims:

- Picking research that delivers: setting research priorities which are most likely to deliver improved health outcomes (see page 34).
- Research to people: bringing the benefits of excellent research to all sections of society (see page 37).
- Going global: accelerating progress in international health research (see page 41).
- Supporting scientists: sustaining a robust and flourishing environment for world-class medical research (see page 42).

MRC large-scale investments

Significant activities during 2015/16 included:

Institutes

- Following the completion of the section reviews in 2014/15 the overall institute review for the MRC Clinical Sciences Centre, took place in 2015/16. Council endorsed the support of a five-year programme of research. The institute will continue to use innovative techniques to explore the interface between genomics, physiology and epigenetics to gain a better understanding of metabolic diseases and how best to treat them, and use mechanistic studies, integrative computational and imaging approaches to evaluate the impact of environmental stresses on gene regulation, expression and inheritance. Council also approved the re-naming of the institute to the 'MRC London Institute of Medical Sciences', to be officially adopted later in 2016.
- The MRC Laboratory of Molecular Biology is undergoing its quinquennial review. The four divisional reviews (Cell Biology, Neurobiology, Protein and Nucleic Acid and Structural Studies) were undertaken in 2015/16 and will feed in to the overall institute review in 2016/17.

Units

- New five-year programmes were approved for five units:
 - The MRC Lifecourse Epidemiology Unit at the University of Southampton was awarded a slight increase in funding to support the MRC's investment to understand life course epidemiology. The unit uses a combination of approaches (epidemiology, mechanistic research and intervention studies) to delineate the environmental causes of chronic musculoskeletal and metabolic disorders. This includes developing the epidemiological/biological interface through epigenetics research as well as comparator studies between Southampton and Indian cohorts.
 - The MRC Mammalian Genetics Unit (MGU) at Harwell delivers a leading mouse genetics centre with both research and national service function (the Mary Lyon Centre) to support the functional understanding of genes in human health and disease. While the MRC continued to support the strategic need for the UK to have a leading mouse genetics facility, the MGU was awarded a reduced package of funding and requested to reshape existing research programmes and to integrate greater links with human genetic research.

- The MRC Cancer Unit at the University of Cambridge has undergone a period of significant change since new leadership in 2010. The MRC supported the new vision to advance our understanding of the earliest steps in the development of cancer and improve early detection and new approaches for treatment. The MRC reduced the unit budget to strengthen focus on excellent science associated with the core vision and balance the risks in developing the various novel experimental/technical approaches.
- The Prion Unit was funded for a further five years on a reduced budget to have a stronger focus on molecular and cellular mechanisms of prion biology.
- MRC Unit The Gambia was provided with a level funding to enable it to investigate disease control and elimination, vaccines and immunity for diseases of global importance, and nutrition, with a continued focus on maternal and infant health. In addition, the unit intends to further its West African regional activities, broaden the scope of its research and deliver wider impact.
- In July 2015, Council considered the outcome of the quinquennial review of the MRC Human Nutrition Research Unit and endorsed the recommendation that the unit should close on 31 August 2016. Council supported the transfer of strategic research elements to new locations and has supported the contractual fulfilment with Public Health England for completion of the National Diet and Nutrition Survey (NDNS).
- During 2015/16, the MRC continued to consider the future of toxicology research. An options appraisal was presented to Council in October 2015 and Council supported the relocation of the MRC Toxicology Unit to the University of Cambridge. The move was required to support the needs of toxicology research in the long-term. The unit will transfer to the University of Cambridge by 1 April 2018, coinciding with the start of a new quinquennium.

Centres

The MRC funds centre grants for a maximum of ten years². MRC centres are valued by our university partners and many are maintained by alternative funding models at the end of the 10 year period. In order to support the transition from MRC funding to alternative models, the MRC has clarified closure processes to allow all MRC centres to apply for a ‘transition period’ (up to two years) where MRC branding can be maintained (without further MRC funding).

- Five-year funding has been approved to establish two new centres:
 - The Medical Mycology Centre at the University of Aberdeen
 - The Centre for Neurodevelopmental Disorders at King’s College London. This Centre will have a distinct remit from the previous Centre with a greater focus on neurological and environmental causes of epilepsy, autism spectrum disorders (ASD) and schizophrenia, and will integrate both basic and clinical programmes.
- The MRC Centre for Reproductive Health at the University of Edinburgh was reviewed and a further 5-year award has been approved.
- Three centres have completed their MRC grant entitlement and have closed:
 - The MRC/UCL Centre for Medical Molecular Virology.
 - The MRC Centre of Developmental Neurobiology, King’s College London (A new centre has been funded in a related area – see above).
 - The Behavioural and Clinical Neuroscience Institute (BCNI) at the University of Cambridge.

2. In exceptional circumstances, where centres offer a unique and recognised national capability, this time period may be extended

- Two centres have completed the MRC grant entitlement of funding (10 years' support) and are now in the transition period:
 - The MRC-Asthma UK Centre in Allergic Mechanisms of Asthma, King's College London GKT Schools completed MRC core funding on 31/01/2016. A short funding extension will support the transition of the centre to Asthma UK by autumn 2016.
 - The MRC Social, Genetic and Developmental Psychiatry Centre at King's College London.

Research at the MRC Clinical Sciences Centre has led to the development of a genetic test to improve the diagnosis of inherited cardiac conditions (ICCs). Professor Stuart Cook led the mechanistic and proof of principle work that identified new cardiac genes, which resulted in a collaboration with the biotechnology company Illumina, Inc. to develop a commercial gene panel. Launched in May 2015, the new test provides a fast and cost-effective way of testing 174 genes related to 17 ICCs. Clinical use of this test within the NHS will help to identify risk in patients with suspected ICCs, and will ensure that patients who are at risk of sudden cardiac death receive the most appropriate interventions.

Table 1: 2015/16 reviews of large-scale investments

	Total at 31 March 2015	Reviewed	Opened	Completion of MRC Funding	Actively in Transition Period (v)	Total at 31 March 2016
MRC institutes	3	1	0	1(iv)		2
MRC institute division & section reviews	n/a	4	n/a	n/a		n/a
MRC research units (i) and joint units (ii)	27	4	0	0		27
MRC university centres and related partnerships (iii)	22	1	2	2	3	22
Total	52	10	2	3	3	51

(i) Includes sixteen university units

(ii) Includes two units with programmes funded by the Chief Scientist Office of the Scottish Government Health Directorates

(iii) Partnerships include:

- Charities – Arthritis Research UK, Asthma Research UK, Cancer Research UK, British Heart Foundation and the Wellcome Trust
- Other research councils and health departments jointly fund UKCRC Centres, Lifelong Health and Wellbeing Centres and the Farr Institute of Health Informatics Research
- A jointly funded MRC and Department of Health Centre

(iv) NIMR was transferred to The Francis Crick Institute on 31 March 2015

(v) The transition period is a period during which the MRC and the university can work together on the integration or remodelling of the investment, which keeps MRC branding but without further MRC funding.

The assurance framework for university units

The annual assurance framework for university units has been implemented since 2014/15 and provides MRC assurance with regards to the scientific leadership, funding and governance of university units. It includes:

- annual university unit assurance statement (JUAS)
- annual meetings between the unit director, the research board chair and the head of theme
- oversight meetings between the MRC and university (year 1 and year 3 of quinquennium)
- quinquennial review (QQR)
- annual financial reports and management accounts from units to MRC Finance

2015/16 was the second year the assurance framework was implemented. Annual meetings were held with 13 university unit directors (units undergoing QQR [four units] did not have an annual meeting). One university oversight meeting which was scheduled for 2015/16 (University of Edinburgh), was deferred for one year to allow time for the new directors to embed into the university setting.

Significant activities for the coming year 2016/17

Institutes

- The institute-wide review for the MRC Laboratory of Molecular Biology in Cambridge will take place in 2016/17.

Units

- Nine units commenced their review in 2015/16 and the outcomes will be agreed during 2016/17:
 - CRUK/MRC Oxford Institute for Radiation Oncology
 - MRC Clinical Trials Unit at UCL
 - MRC-University of Glasgow Centre for Virus Research
 - MRC Human Immunology Unit at University of Oxford
 - MRC Institute of Hearing Research
 - MRC Laboratory of Molecular Cell Biology at UCL
 - MRC Molecular Haematology Unit at University of Oxford
 - MRC/UVRI Uganda Research Unit on AIDS
- One unit will commence its review in 2016/17 and the outcome will be agreed during 2017/18:
 - MRC Toxicology Unit
- The MRC will continue current work to support the closure of the MRC Human Nutrition Unit and the MRC Functional Genomics Unit at the University of Oxford.
- The work required to support the relocation of the MRC Toxicology Unit to the University of Cambridge will continue over the next two years.
- Directorship searches will commence for two units in 2016/17 [MRC Unit for Lifelong Health and Ageing at UCL, and the Research Complex at Harwell]

Unit transfers to universities

During 2016/17 the MRC will be continuing with its programme to transfer MRC intramural units into the legal ownership of universities. Detailed discussions are taking place with several universities with transfers expected to take place in 2016/17.

Agreement was reached with the University of Nottingham to transfer the MRC Institute of Hearing Research on 1 June 2016. The transfer of the MRC Clinical Trial Service Unit to the University of Oxford with 49 employees and assets with a net book value of £554k is scheduled for 1 July 2016.

Centres

- The Wellcome Trust/MRC Stem Cell Centre Institute will be considered for renewal.

The Medical Research Foundation

The MRC continued to work in partnership with the trustees of its independent charity, the Medical Research Foundation (MRF). The public make bequests and donations to the MRF to support MRC research into human health. The MRF prioritises developing research talent and many of its awards are first grants to the research leaders of the future, providing opportunities to establish independent research and careers. During 2015/16 the MRF made 46 new awards amounting to £4.4m for research within the remit of the MRC. The MRF and the MRC also helped to launch the Africa Research Excellence Fund charity which aims to provide research development and career opportunities for researchers across the whole of Sub-Saharan Africa.

Key issues and risks facing the entity

A summary of the principle risks facing the MRC is shown below; details on how these are being managed can be found in the Governance Statement on page 71.

Key risks cover a broad range of concerns. Those identified are the those which would have most impact on our ability to deliver our mission. Mitigation strategies are in place and risks are discussed at a senior level on a regular basis; they are also fully shared with MRC Council and its audit committee. The major concerns are:

- Cross Rail 2 – its close location to the Francis Crick Institute could render major equipment sensitive to miniscule movements in vibration useless thus undermining our investment in the Francis Crick Institute.
- Changes to the structure of science funding – the impact of the Nurse Review, the subsequent publishing of the White Paper and Higher Education and Research Bill, has created uncertainty and the MRC is working closely with BIS and the other Research Councils.
- BIS 2020 Programme and the future of UK SBS – services from our shared service provider – UK SBS are to transfer within the next three years; solutions will be part of a wider programme of change instigated through BIS known as the BIS 2020 Programme. In addition, under the banner of Research Councils Together, the MRC is working with the six other councils on a joint change programme. There may be limited time to address all the major issues affecting services and organisation of staff.
- UK SBS current service provision – the MRC has limited ability to influence delivery of its services from UK SBS. Current concerns exist about the ability of the ERP Oracle system, and UK SBS ability to maintain business as usual in the face of its closure.
- MRC/Innovate UK Biomedical Catalyst – the MRC and Innovate UK are in discussions with BIS on options given the outcome of the spending review. There is a concern about being able to meet stakeholders' expectations.

Going concern

On the 10th February, as part of the spending review (SR), BIS published the allocation of science research funding 2016/17 to 2019/20. The settlement also took into account the proposals of Sir Paul Nurse as set out, to bring together the seven research councils under the banner of Research UK; the Chancellor confirmed in the Spending Review, the Government would take forward these recommendations subject to Parliament. As such, firm allocations were provided for 2016/17 – 2017/18; with indicative allocations only for the later years in the SR period, 2018/19 – 2019/20. Allocations will be provided for these years as changes to the research landscape are taken forward. The MRC received a slight increase in the SR settlement for 2016/17 – 2017/18 (2.3 per cent).

The HE Research Bill has received its first reading in May 2016 setting out the government's intention regarding the research councils future, with the creation of a single executive non-departmental public body operating at arm's length from Government – UK Research and Innovation (UKRI). The Bill states the Government will ensure the seven research discipline areas continue to have strong and autonomous leadership, and that UKRI will incorporate the functions of the seven Research Councils, Innovate UK, and HEFCE's research funding functions. The names and brands of the Research Councils and Innovate UK will be retained amongst a number of other protections. On the basis of this action, and subsequent discussions with BIS, the MRC has no reason to believe that future funding will not be forthcoming. Therefore the accounts are produced on a going concern basis.

Performance summary

There are three attributes of performance detailed in the following section that collectively deliver the MRC's performance:

Evaluation and delivery of science

The MRC Strategic Plan *Research Changes Lives 2014 – 2019* sets out our vision to support excellent discovery science and strengthen partnerships to improve health and economic impact. We will:

- **Prioritise research into the most pressing health challenges worldwide:**
The fight against infections and antimicrobial resistance; promotion of life-long mental health and strategies to address dementia; prevention of chronic non-communicable diseases; and regeneration of damaged tissues.
- **Discover – exploring new scientific principles and setting new paradigms:**
Original discovery research in universities and MRC institutes; ambitious studies in humans to understand disease mechanisms; discovery and validation of targets for the development of medicines; and interdisciplinary discovery science across research councils.
- **Transform health research and innovation:**
Embed informatics and computation in health research; further consortia-based approaches to stratify disease and tailor treatment; develop precision public health for the UK and globally; and broaden innovative academic industry relationships.

The UK's dual support system for publicly funded research includes a holistic and efficient investment appraisal and evaluation cycle compliant with HM Treasury guidance. Research councils evaluate or audit specific investments and processes, during or after their life-times. The MRC has a rolling programme of five-yearly reviews for all its institutes, units and centres which evaluates the past performance and future potential of these investments. In addition, the MRC has an active programme of commissioned and investigator-led research in partnership with other funders and BIS to ensure its evaluations draw on the most appropriate methodologies. We will continue to develop rigorous business cases for large capital proposals and evaluate benefits realised from completed capital projects.

We use our own and independent evidence to evaluate long-term impact outcomes and performance against Royal Charter objectives. This is fully detailed in *Measuring Impact* (below on page 23). An important component of this evidence is the systematic and structured information gathered from all researchers that have held RCUK funding, currently using the Researchfish system. The MRC will provide information about its performance against the objectives in this delivery plan on a quarterly basis to BIS to support discussion about the progress, productivity, quality and impact of medical research.

Sustainable development

The MRC's greenhouse gas emissions are dominated by the use of electricity. The MRC is aiming to conduct research in as economical and sustainable a way as possible and has commenced a range of activities which are outlined in the performance analysis on page 23. Figures in Table 9, page 45 show an overall downwards trend in greenhouse gas emissions.

With regards to waste management, the MRC also aims to recycle as much waste as possible and figures for 2015/16 show that 76 per cent of non-hazardous waste was reused/recycled, composted or incinerated with energy recovery. This compares to 70 per cent in 2014/15. The MRC also undertakes proactive steps to achieve water saving at high use sites as detailed on page 48.

Facts and figures summary

In 2015/16 the MRC's gross research expenditure, funded by our BIS budgetary allocation and contributions from other bodies, was £927.8m compared to £771.8m in 2014/15. The support for world-class medical research to improve human health and enhance the economic competitiveness of the UK included:

- £506.8m on grants to researchers in universities, medical schools and research institutes.
- £171.7m on programmes within the MRC's own units and institutes including £5.4m on studentships.
- £167.3m on programmes within university units and the Francis Crick Institute, including transfer of property, plant and equipment with a net book value of £27.0m.
- £65.6m on studentships and fellowships in universities, medical schools and research institutes; there were approximately 1400 postgraduate students and 370 fellows in March 2016.
- £16.4m for international subscriptions.

See page 27 for key facts and figures relating to the MRC's research spending in 2015/16.

Budget performance summary

The MRC's key financial metric is performance against budget. The financial statements do not take into account the £580.3m budgetary allocation from BIS due to differences in accounting treatment of our budget in international accounting standards. The reasons for this are fully described in the financial results in the performance analysis.

Against programme budget spend was (0.1 per cent) less than budget, well within allowable tolerance of £5.8m (1 per cent). Our capital and administration budgets were 0.9 per cent underspent and 11 per cent underspent respectively also within forecast expectations.

Table 2: 2015/16 and 2014/15 budget performance summaries

2015/16	Programme Near Cash Resource £000	Admin Near Cash Resource £000	Capital £000
Total income	(200,405)	(98)	(5,472)
Total expenditure	780,227	22,020	189,270
Net income & expenditure	579,822	21,922	183,798
Less income from Dept. of Health	0	0	(141,300)
Adjusted net income & expenditure	579,822	21,922	42,498
DEL Budget	(580,307)	(24,636)	(42,900)
(Underspend)/overspend	(485)	(2,714)	(402)

2014/15	Programme Near Cash Resource £000	Admin Near Cash Resource £000	Capital £000
Total income	(178,466)	(105)	(1,774)
Total expenditure	758,389	24,506	99,814
Net income & expenditure	579,923	24,401	98,040
Less income from Dept. of Health	0	0	(18,000)
Adjusted net income & expenditure	579,923	24,401	80,040
DEL Budget	(579,959)	(25,600)	(80,100)
(Underspend)/overspend	(36)	(1,199)	(60)

Financial statements summary

Our Statement of Financial Position, Assets less liabilities and Total Equity increased by some £74m largely as a result of an increase of £101m in the pension asset and a £27m reduction due to the transfer of a material business unit, assets and staff, to the private sector as part of the establishment of the Francis Crick Institute.

Table 3: 2015/16 and 2014/15 financial statement summaries

Summary Statement of Consolidated Net Expenditure	2015/16 £000	2014/15 £000
Total income	(205,953)	(179,770)
Total expenditure	1,070,181	887,565
Other expenditure/(income)	3,541	(1,848)
Net expenditure for the year	867,769	705,947

Summary Statement of Financial Position	2015/16 £000	2014/15 £000
Non-current assets & held for sale	956,493	895,088
Current assets	115,282	80,997
Current liabilities	(267,683)	(253,536)
Non-current liabilities	(19,194)	(14,420)
Assets less liabilities and Total Equity	784,898	708,129

Performance analysis

How the MRC measures performance

Measuring impact

The MRC is a world-leader in tracking research progress and capturing and assessing outputs and achievements. We have played a crucial role in developing and establishing researchfish^{®3,4}, an online system that enables researchers to feed back on their impact, in the research community. The MRC led the development of a harmonised, multi-disciplinary question set used by all research councils following their uptake of the system in 2014. In 2015 the MRC led the shaping and adaption of this question set to ensure that it remained fit for purpose and optimised the information provided by all 30,000 researchers.

This harmonisation is important to help simplify the process for researchers who hold grants from more than one funder as they only need enter an output once and can link it to grants from different funders. This approach is also helpful for funders as it provides them with an unprecedented view of the progress, quality and impact of the research we fund.

We also continued an arrangement with the Association of Medical Research Charities (AMRC) to support small and medium sized charities' use of the system. Around 50 are using the approach and 32 have completed data-gathering exercises, adding almost 40,000 outputs to the dataset. This takes the number of research organisations subscribing to the system to more than 100.

In 2015 the MRC also played an instrumental role in starting to align researchfish[®] with university and other researcher systems. In 2015, researchfish[®] was integrated with ORCID⁵, a central registry of unique identifiers for individual researchers, meaning that information can be exchanged between the two systems and potentially between a wider range of research information systems.

The federated researchfish[®] system has now gathered 1.1 million reports of output, including detailed, structured, qualitative and quantitative information linked to more than £40 billion of research and development funding. It is estimated that this will grow by more than £4.5bn each year.

The data collected – both qualitative and quantitative – is invaluable to the MRC and is used in many different ways. We use it to assess progress against our Strategic Plan, Research Changes Lives⁶ and in policy development, for example to review our spending in particular disease areas and to evaluate funding mechanisms, for example schemes and units. We used the data extensively last year to evaluate the multi-funder National Preventative Research Initiative (NPRI)⁷. It will also be used to help track the benefits of establishing the Francis Crick Institute. We also use it to communicate the benefits of MRC funding to various stakeholders, from the Government in the form of spending review evidence, corporate reporting and ad-hoc

3. Researchfish website: <https://www.researchfish.com/>

4. The MRC's involvement in Researchfish: <http://www.mrc.ac.uk/funding/guidance-for-mrc-award-holders/researchfish/about-researchfish/>

5. <http://orcid.org/>

6. <http://www.mrc.ac.uk/research/strategy/>

7. <http://www.mrc.ac.uk/research/initiatives/national-prevention-research-initiative-npri/npri-report-2015/>

requests, researchers, other research organisations and the public. We publish a high level analysis of the outputs, outcomes and impacts information collected through Researchfish each year, which is made available on the MRC website⁸.

The MRC has also run an economic impact research funding programme for the past four years to better understand and maximise the links between medical research and its economic and societal impacts. We have so far funded seven projects under this scheme, with the most recent being awarded in mid-2014. The first completed project investigated the elapsed time between the research and its eventual impact and what can speed this up or slow it down. Its findings were published in *Health Research Policy and Systems* in 2015⁹. Results from one of the studies funded in 2014, measuring the impact of publicly-funded medical research by examining the effect on investment by the pharmaceutical industry, will be published shortly.

Research outputs, outcomes and impact

Generating world-leading knowledge

Accessible, peer-reviewed publications are an important primary output from research. Their main functions – communicating information, building a knowledge base and validating research quality – have remained largely unchanged since they first came into existence, around 350 years ago^{10,11}.

We have used the extent to which MRC papers are cited by the global research literature over time as a proxy measure of knowledge uptake. MRC papers have consistently achieved an overall average citation impact, normalised for year and subject area, of at least twice the world average. This analysis shows that MRC-funded research generates a greater percentage of highly-cited papers¹² and very highly-cited papers¹³ than other UK clinical and biological sciences research.

In 2015 Thomson Reuters conducted an analysis of 51,100 papers linked to MRC funding published between 2006 and 2013, with citation data to the end of 2014, compiled from MRC funded researchers using researchfish®. The average normalised citation impact (NCI) for these papers was 2.08, that is more than twice the world average NCI. In the table below MRC publication output is compared with UK clinically relevant journal articles, UK biomedical journal articles, and the total output from the 24 Russell Group universities (each dataset with MRC linked publications removed). The information included is the number of papers analysed, the average NCI of these papers, and the proportion of highly cited papers (papers with an NCI of greater than/equal to four times the world average).

8. Chapters from the 2014/15 report can be found at: <http://www.mrc.ac.uk/research/achievements/outputs-report/>

9. Hanney SR et al. How long does biomedical research take? Studying the time taken between biomedical and health research and its translation into products, policy, and practice. *Health Res Policy Syst*. 2015 Jan 1;13(1):1. doi: 10.1186/1478-4505-13-1.

10. Solomon, DJ. The Role of Peer Review for Scholarly Journals in the Information Age. *The Journal of Electronic Publishing*. Volume 10, Issue 1, Winter 2007. DOI: <http://dx.doi.org/10.3998/3336451.0010.107>

11. Schaffner, Ann C. The future of scientific journals: Lessons from the past. *Information Technology and Libraries* v13 n4 p239-47 Dec 1994

12. With an NCI of greater than four.

13. With an NCI of greater than eight.

Table 4

Publications	Number of papers 2006-2013	Average NCI	% Highly cited papers (NCI>4)
MRC	51,142	2.08	12.7
UK Clinical	254,396	1.29	5.9
UK Biomedical	128,169	1.39	6.5
Russell Group Universities	490,123	1.46	7.7

Impact on health

The MRC supports excellent science where there is the greatest potential to improve health, and have societal and economic impact. MRC research delivers benefits across the whole spectrum of society, from developing new medicines and technologies, influencing national and international policies and building a strong foundation to encourage inward investment to the UK. This is highlighted in the Researchfish entries provided by more than 4,000 MRC researchers. A small selection of these latest outputs can be found below. More are available in the *Outputs, outcomes and impact of MRC research reports*¹⁴.

Influencing international policy

In 2015 a major international trial co-led by the MRC Clinical Trials Unit found that starting antiretroviral treatment for HIV early, rather than waiting until the disease has damaged a person's immune system, reduced the risk of developing serious illnesses¹⁵. Despite antiretroviral therapy being very effective in treating HIV, it does have serious side effects. Until now, it was not clear whether it was better for a person to wait until their immune system had been weakened by the disease before starting treatment for life or starting while they were still healthy. Results from the Strategic Timing of Antiretroviral Treatment (START) trial are likely to change guidelines worldwide. The World Health Organization (WHO) has since released updated guidelines with recommendations that reflect the results of the START trial. They say that the new policies could help avert more than 21 million deaths and 28 million new infections by 2030. The first new recommendation is that all people living with HIV should begin HIV treatment as soon after diagnosis as possible, without waiting for their immune system to weaken or symptoms appear.

14. <http://www.mrc.ac.uk/research/achievements/outputs-report/>

15. http://www.ctu.mrc.ac.uk/news/2015/start_results_28052015

Developing new products

Scientists at **Imperial College London** have developed a 'patch' device containing microscopic needles for continuous glucose monitoring (CGM) in type 1 diabetes.

People with type 1 diabetes need to regularly monitor their own glucose levels so they can take appropriate action should they become too low (hypoglycaemia) or high (hyperglycaemia). Over the last two decades, it has been established that good glucose control is associated with significantly reduced serious long-term complications of the disease¹⁶. Depending on their type of insulin therapy, patients are advised to monitor their glucose levels at least two to six times a day¹⁷. However, these readings fail to provide information on the context, for example, whether the level is increasing or decreasing. In many cases, they also fail to provide sufficient warning of pending hypoglycaemia or hyperglycaemia, thus limiting the patient's ability to take action.

CGM machine use is slowly increasing, however, in the UK, funding for them is awarded on a case-by-case basis¹⁸. Existing monitors also require skin puncture to access interstitial fluid, the solution that surrounds tissue cells, and to sense its glucose content. Their use is associated with discomfort and, due to there being a lag time between changes in blood glucose and interstitial fluid glucose, their accuracy is questionable in hypoglycaemia¹⁹.

Developing a painless continuous glucose monitor is regarded as the top research priority by patients with diabetes²⁰.

There has been extensive research into microneedle technology for drug delivery and its advantages include painless insertion and low infection risk.

Based on this technology, the researchers, funded by an MRC Confidence in Concept²¹ award, have developed a small, wearable patch around 1cm² containing microscopic needles. These needles only penetrate the outermost skin layer and so access the interstitial fluid without stimulating skin nerve fibres or reaching blood vessels within the skin layers. The patch has a large surface area and so has the potential to improve sensitivity and accuracy. Early tests have demonstrated its ability to respond accurately to variable glucose concentrations and to penetrate the outermost skin layer without breaking the skin. The device is also fairly cost-effective in comparison to existing monitors and so will potentially increase CGM use.

The device is currently undergoing clinical trials in healthy volunteers and in people with type 1 diabetes²². Initial data suggest the device is well-tolerated.

16. Skyler JS et al. Effects of Glycemic Control on Diabetes Complications and on the Prevention of Diabetes. *Clinical Diabetes* October 2004 vol. 22 no. 4 162-166 doi: 10.2337/diaclin.22.4.162

17. Self-monitoring of blood glucose levels for adults with type 1 diabetes. *Diabetes UK*. August 2012. https://www.diabetes.org.uk/About_us/What-we-say/Diagnosis-ongoing-management-monitoring/Self-monitoring-of-blood-glucose-levels/

18. <http://www.inputdiabetes.org.uk/glucose-monitoring/cgm-funding-bigpic/>

19. Wentholt IM et al. Comparison of a needle-type and a microdialysis continuous glucose monitor in type 1 diabetic patients. *Diabetes Care*. 2005;28:2871-2876.

20. Gadsby R et al. Setting research priorities for Type 1 diabetes. *Diabet Med*. 2012 Oct;29(10):1321-6. doi: 10.1111/j.1464-5491.2012.03755.x.

21. <http://www.mrc.ac.uk/funding/browse/confidence-in-concept-scheme/>

22. Clinical Assessment of a Novel Microprobe Array Continuous Glucose Monitor for Type 1 Diabetes.

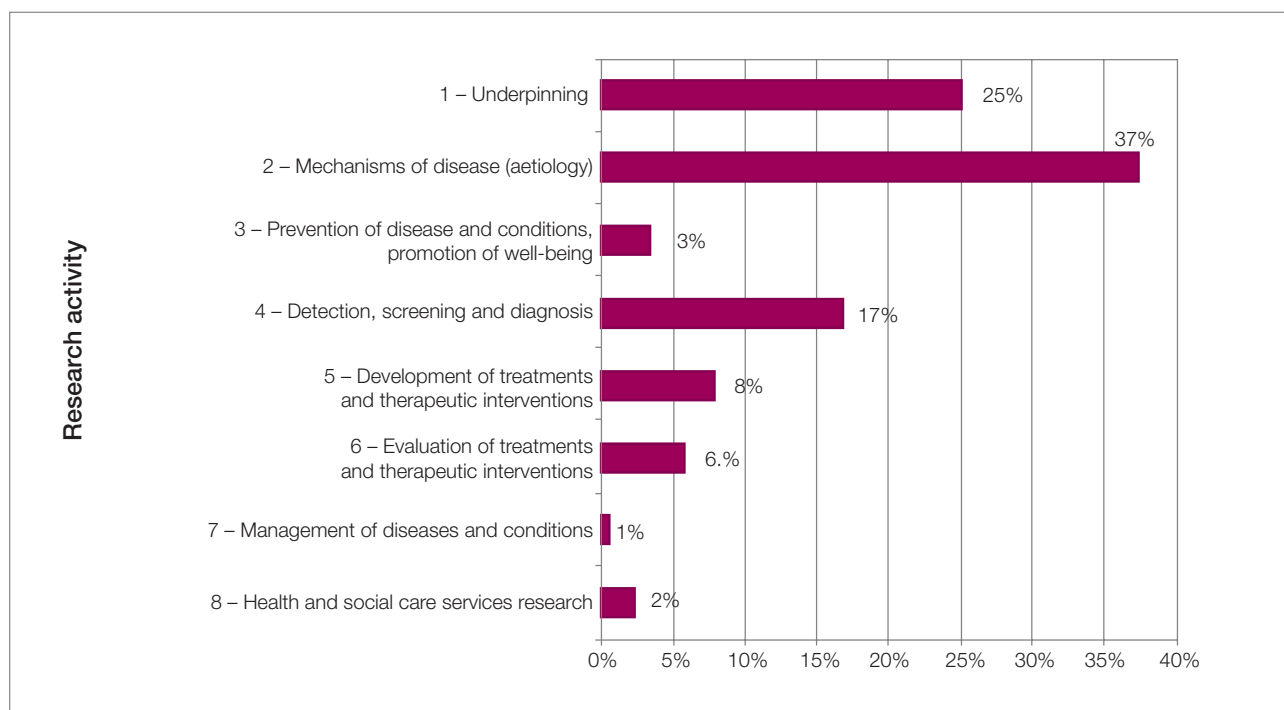
ClinicalTrials.gov Identifier: NCT01908530. <https://clinicaltrials.gov/ct2/show/NCT01908530?term=microprobe&rank=1>

Facts and figures

The following figures show:

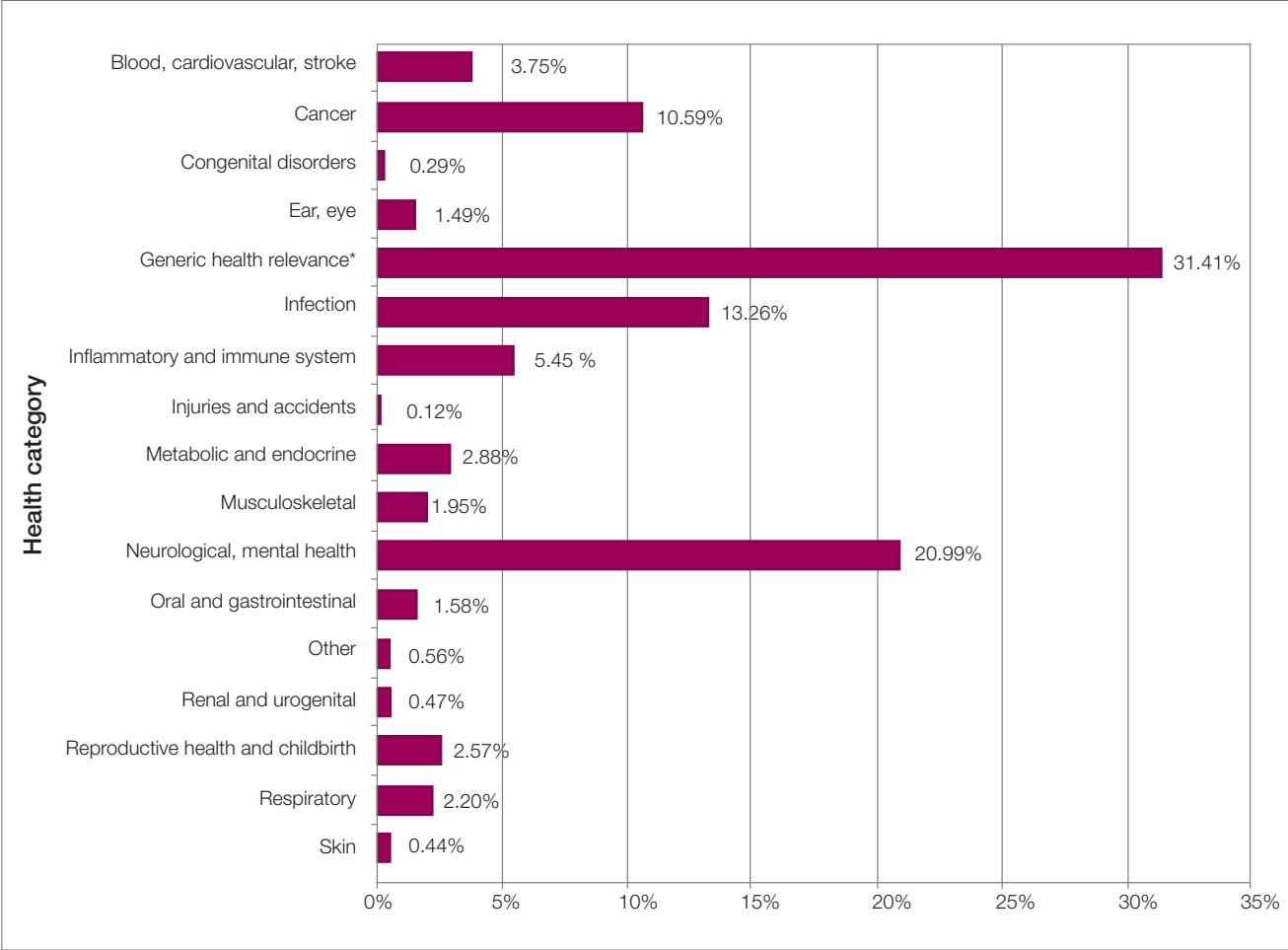
1. A breakdown of MRC research spending in 2015/16 by research activity
2. A breakdown of MRC research spending in 2015/16 by health category
3. Commitment to new grants each year since 2006/07 (full value, across the duration of the awards)

Figure 1: Estimated research programme expenditure by research activity



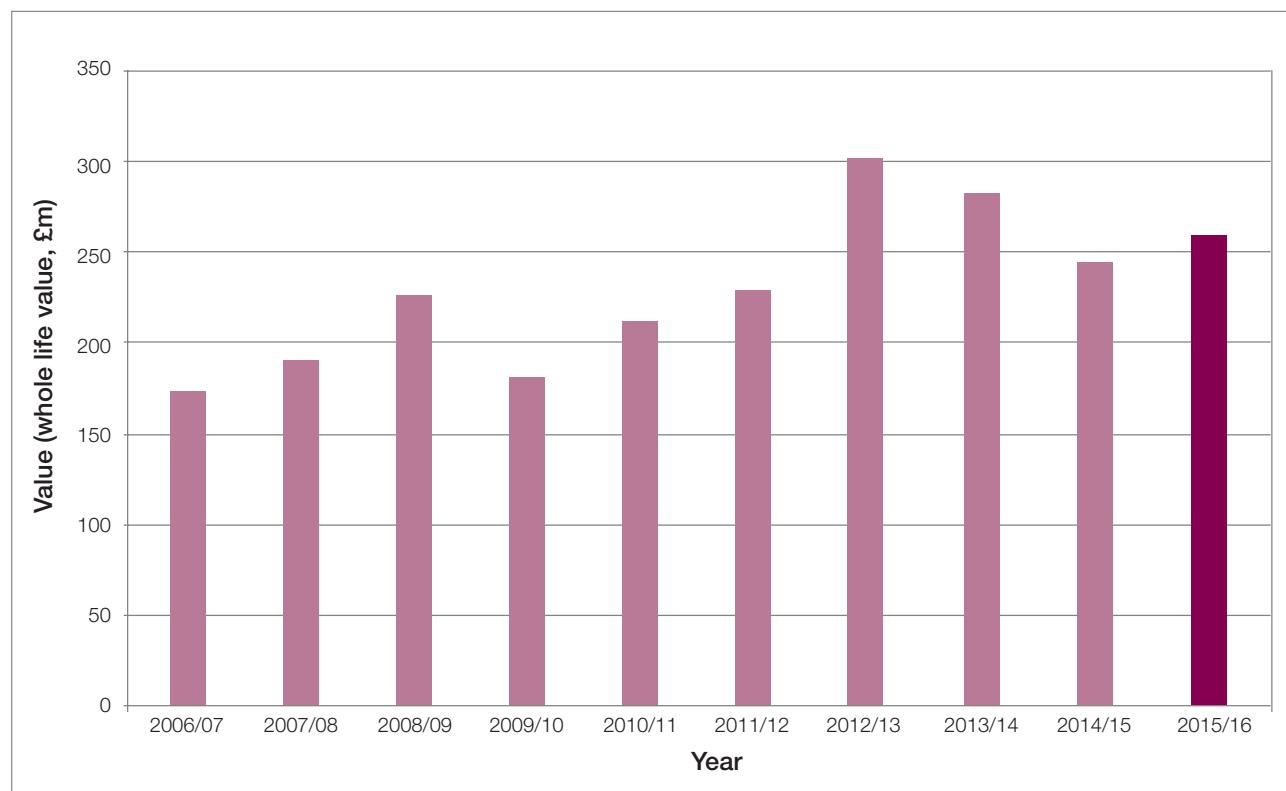
Includes profiled payments for grants and fellowships in the 2015/16 financial year and unit projects with spend in 2014/15

Figure 2: Estimated research programme expenditure by health category



*Generic Health Relevance – This covers research, often looking at the control and/or dysfunction of fundamental cellular and physiological processes, which contributes to research in multiple disease areas. In particular, this domain provides a significant underpinning for more focused research on cancer.

Figure 3: New grant commitment over the past decade, by financial year



Grant funding

Decisions were made on more than 1720 research grant applications during 2015/16. 349 awards were made, leading to the commitment of £259.1m for new research. The average success rate for the year is at 22 per cent per cent which is in line with the nine year average (2006/07 to 2014/15) of 22.4 per cent.

The MRC awards funding in both response mode and managed mode:

Response mode funding opportunities are regular, scheduled opportunities assessed by Boards and Panels. They are available for any area of science relevant to the MRC, to eligible groups and individuals, offering funding on a range of scales, across career stages, from fundamental to translational research.

Managed or strategic mode funding opportunities are in a specific scientific area defined by the MRC usually for a one-off call or a time-limited period. Proposals may have special application and review mechanisms.

The following funding decisions were made in 2015/16:

- 172 research grants, totalling £145.9m, were funded through our four research boards shown in table 1 below
- 52 awards were made, totalling £38.2m through our panels in table 2 below.
- 125 awards were made, totalling £75m through our calls in table 3 below.

Table 5

Boards	Number of applications	Awarded	Success rate (%)	Total amount awarded (rounded whole life values) £m
Infections and Immunity Board	210	39	19%	26.2
Molecular and Cellular Medicine Board	241	49	20%	38.7
Neurosciences and Mental Health Board	271	50	18%	47.0
Population and Systems Medicine Board	256	34	13%	34.0
Grand Total	978	172	18%	145.9

In 2015/16 Board grant success rates were generally close to the average success rate for the year. The Population and Systems Medicine Board experienced a lower success rate due to an increase in the number of applications submitted. This increase did not take place in other Boards. The success rate based on the value of applications submitted to Population Systems Medicine Board was 19 per cent.

Table 6

Panels	Number of applications	Awarded	Success rate (%)	Total amount awarded (rounded whole life values) £m
Developmental Pathway Funding Scheme (DPFS)	60 ^α	22	37%	30.3
Methodology Research Programme Panel*	68	14	21%	5.0
Public Health Intervention Development Scheme	81	14	17%	2.0
Regenerative Medicine Research Committee	8 ^β	2	25%	0.9
Grand Total	217	52	24%	38.2

* Amount awarded includes funding from other agencies

^α Number of full applications only. In 2015/16, DPFS received 145 outline applications, of which 43 were invited to full (a 30% invite rate).

^β Number of full applications only. In 2015/16, RMRC received 15 outline applications, of which 6 were invited to full (a 40% invite rate).

Table 7

Calls	Awarded	Total amount awarded (rounded whole life values) £m
African Research Leaders*	3	2.0
Antimicrobial Resistance*	18	10.7
Centres of Excellence in Neurodegeneration Research	7	1.2
Experimental Medicine	11	13.5
Joint Global Health Trials*	16	22.2
Joint Health Systems Research Initiative*	22	5.6
Joint Programme Initiative A Healthy Diet for a Healthy Life	4	0.5
Joint Programme – Neurodegenerative Disease Research	8	2.4
Newton Fund	35	13.5
Stratified Medicine	1	3.4
Grand Total	125	75.0

* Amount awarded includes funding from other agencies

Fellowship funding

Final decisions were made on 390 fellowship applications during 2015/16 and 72 awards were made, committing £34.8m as shown in table 8 below.

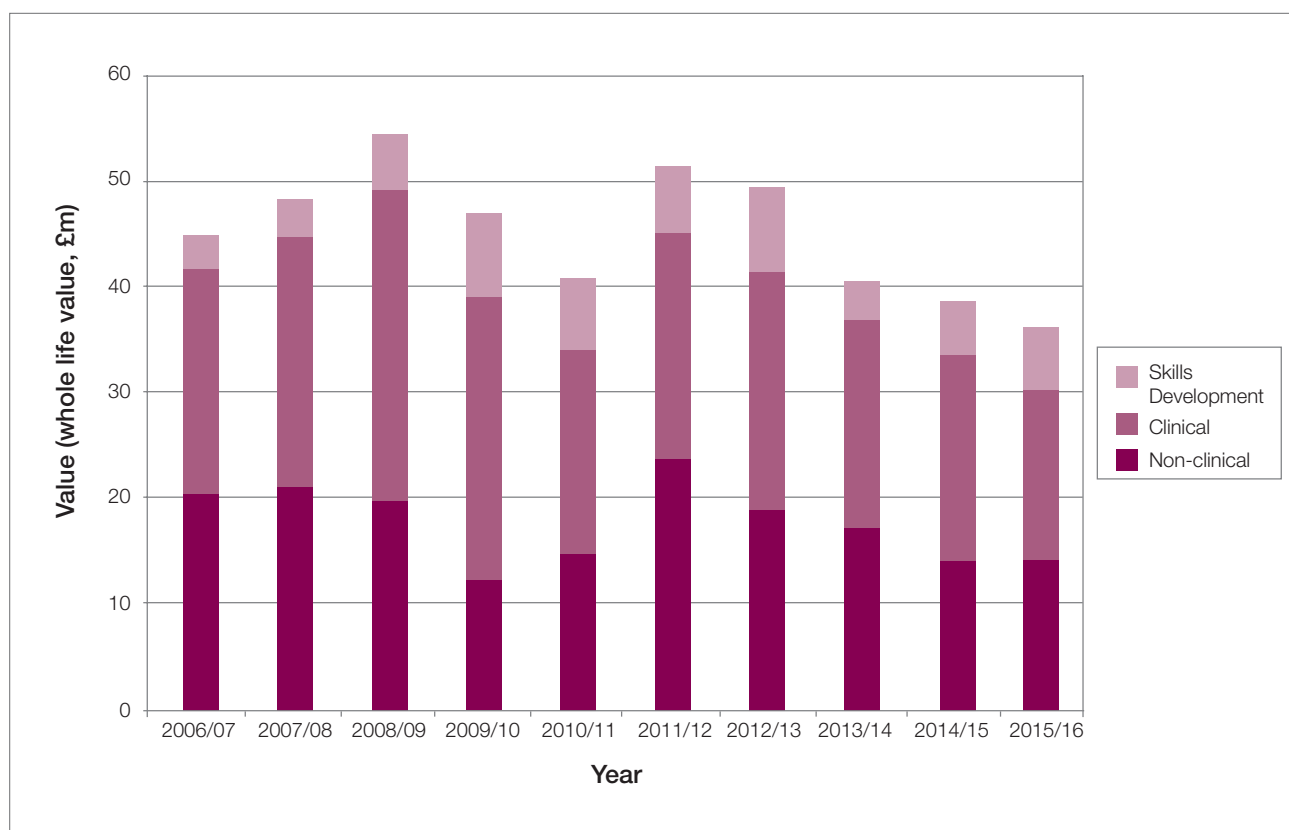
Fellowship awards are made to both clinical and non-clinical researchers across all areas of the MRC's remit, with additional opportunities in quantitative and qualitative research skills provided by the Skills Development Fellowships.

The overall success rate was 18 per cent which is a four per cent decrease over the 2014/15 rate of 22 per cent, mainly due to an overall increase in applications, in particular to our clinical schemes, in combination with a small decrease in numbers awarded. Success rates for non-clinical fellowships have reduced to nine per cent (from 12 per cent in 2014/15); with unsuccessful applications often not demonstrating that the fellowship would underpin a transition to the next level in the applicants' careers. A new vision for fellowships provides applicants with further clarity on the purpose of a fellowship to enable stronger applications.

Table 8

Fellowship type	Number of applications	Awarded	Success rate (%)	Total amount awarded (rounded whole life values) £m
Clinical	181	42	23%	16.0
Non-Clinical	115	10	9%	12.8
Skills Development	94	20	21%	6.0
Grand Total	390	72	18%	34.8

Figure 4: New fellowship committment by financial year



Studentship portfolio

The MRC supports around 1400 PhD students at any one time. The pie chart below shows the breakdown of the MRC studentship population in March 2016.

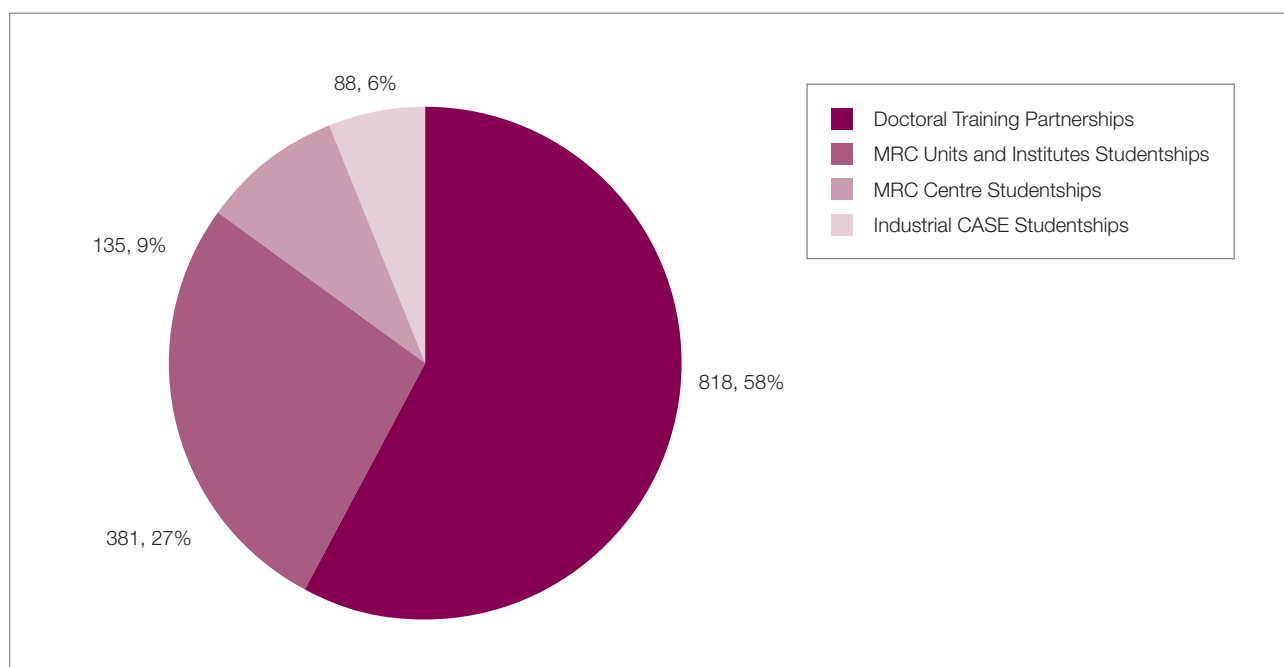
Funding for studentships is awarded to research organisations, including universities, MRC units, institutes and centres, who are responsible for selecting outstanding candidates for projects supervised by leading researchers. All MRC students receive at least the MRC's minimum stipend and allowances, including support for fees, a contribution to consumables and an annual travel and conference allowance²³.

Just over 50 per cent of MRC studentship funding is provided through Doctoral Training Partnerships (DTPs) with universities and enable doctoral training across a broad range of subjects. In 2015, we refreshed our DTP funding (see page 43) for students starting in 2016, 2017 and 2018.

Doctoral Training Partnerships are complemented by Industrial CASE studentships, which provide students with experience of collaborative research in a non-academic environment, with 32 individual awards made in 2015/16.

Studentship training is also aligned to MRC's strategic investments, e.g. in units, institutes and centres. Approximately a quarter of the MRC's studentship investment is delivered from within our units and institutes, with a further nine per cent delivered by centres. These PhD programmes link training and capacity building to the MRC's investment in a high-profile UK centre of excellence.

Figure 5: Number of active MRC students March 2016



23. www.mrc.ac.uk/skills-careers/studentships/studentship-guidance/minimum-stipend-and-allowances/

Analysis and explanation of the MRC's development and performance

Report on key activities

The MRC spends hundreds of millions of pounds directly on research every year. We also work in leading policies around research practice, facilitating vital multidisciplinary and cross-sector collaboration, communicating the importance of medical research to a variety of audiences, and establishing the kinds of research environments that allow scientists to flourish.

The MRC works collaboratively with industry and academia to improve public health, to enhance inward investment and promote economic growth and to deliver fundamental insights that drives medical innovation. The MRC is a world leader and the nexus of an ecosystem that includes public and private funding, the NHS and patients. It transforms health research and innovation by investing in state of the art infrastructure (including technology, networks, resources, collections and datasets), training and skills development across the whole career spectrum. This infrastructure delivers the capacity and capability to support the UK's world-leading industry and life sciences sectors.

Below are a number of highlights of our activities in the year 2015/16 that we think best capture our progress in each of the four areas of the MRC strategic plan for 2014-2019, *Research Changes Lives*.

Picking research that delivers

Research Changes Lives 2014 – 2019 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 2015/16, the MRC continued to support world-class scientists working in fields relevant to these themes.

Broad priority areas within these themes include research into the causes and prevention of neurodegenerative diseases, tackling addiction, and the promotion of mental health; regenerative medicine; investigating the genetic basis of disease; ageing research, including the impact of lifestyles and the environment; and studying how the body protects itself from disease.

Regenerative medicine has the potential to revolutionise the way in which we treat a range of diseases and disorders by repairing, replacing or regenerating cells. In 2015/16 the MRC continued to pursue its strategic aim of translating knowledge in regenerative medicine into treatments. The MRC-led Strategy for UK Regenerative Medicine, published in 2012, guides our work in this area.

The £25m **UK Regenerative Medicine Platform (UKRMP)** remained a key focus of activity in 2015/16. The UKRMP is a collaboration between the MRC, the Biotechnology and Biological Sciences Research Council (BBSRC) and the Engineering and Physical Sciences Research Council (EPSRC). In October 2015 the UKRMP published its second annual report, which sets out its progress in the context of the wider regenerative medicine landscape.

In 2015/16 the remaining partnership funds were allocated within the UKRMP hubs, which have now initiated 21 collaborative projects. The hubs have also undertaken a number of horizon-scanning meetings and are in the process of providing white papers on a range of topics, from the use of nanoparticles for tracking cells after transplantation to the regulatory requirements for cell manufacturing. Twenty companies have engaged with UKRMP's activities, and patents have been filed to cover two new therapeutic approaches.

Age-related neurodegenerative diseases present one of the biggest medical and societal challenges for many nations, and are a major research priority for the MRC. In 2015/16 we continued our work with government departments, research funders and medical research charities to shape and coordinate the dementias research agenda in the UK. In response to the **Prime Minister's 'Challenge on Dementia'**, launched in March 2012, the Government doubled its spending on dementia research to around £60m a year in 2015/16, with the MRC's spend also increasing significantly across the last parliament.

The landmark **Dementias Platform UK (DPUK)** entered its second year of operation in 2015/16, supported by a total of £53m funding over five years. DPUK is a public-private partnership that brings together a number of patient and population cohorts – comprised of two million people – to provide researchers with the power to detect pre-symptomatic and early-stage disease, and to take a holistic approach to studying dementia. One of these cohorts is the 500,000-person cohort study UK Biobank, which is a key resource for DPUK. In 2014 **UK Biobank** began an 18-month pilot study to carry out brain and body imaging of 8,000 participants, and genotyping of all 500,000 cohort members. In late 2015 the MRC built on this work by awarding a total of £33m, together with the Wellcome Trust and the British Heart Foundation, to support the imaging of 100,000 participants over the next seven years. The results of this work will provide a unique resource for studying the biological mechanisms of disease, such as dementia.

The UK Biobank Lung Exome Variant Evaluation (UK BiLEVE) study was one of the first projects to make use of genetic data from UK Biobank participants. The study results were published in September 2015, and showed that there are genetic differences which affect the likelihood of whether or not a person will smoke, and the predisposition of both heavy smokers and non-smokers to suffer from poor lung health. It analysed data from 50,000 of the cohort's participants. By sampling the extremes of lung function distribution in UK Biobank, researchers identified novel genetic causes of lung function and smoking behaviour. The discoveries help to explain for the first time why some people can have relatively good lung health, despite smoking, and why some can suffer from lung conditions like chronic obstructive pulmonary disease (COPD) even if they have never smoked. These findings may one day help us to develop better treatments for diseases like COPD and help smokers to quit.

In March 2016 the MRC and NIHR agreed £6.8m joint support for a 'Deep and Frequent Phenotyping' study that will monitor the progression of very early stage Alzheimer's Disease. The study is to be based on UK Biobank participants who show early signs of dementia risk. This will be the first major study based entirely on DPUK and will benefit from the support provided to UK Biobank for brain imaging.

In November 2015 the Prime Minister announced the establishment of the UK's first national **Dementia Research Institute** (DRI), to be led by the MRC. The DRI will bring together world-leading expertise in discovery science to accelerate the pace of dementia research and develop new treatments, placing the UK at the centre of the global effort to tackle the disease. It is set to be fully established by 2020.

At the European and global level, the MRC continues to play a key role in the **EU Joint Programme in Neurodegenerative Disease Research** (JPND) and the **International Network of Centres of Excellence in Neurodegeneration** (COEN) – two major international neurodegeneration collaborations. Twenty-one awards were announced in October 2015 through the 2015 triple call co-funded with the European Commission, nine of which involved UK teams supported by the MRC. In January 2016 JPND launched a call for Working Groups to harmonise and align work in brain imaging, based on the MRC model developed for cohort work. The outcome of this call is expected by mid-2016. COEN launched a second pathfinder award competition led by MRC in mid-2015. Eleven awards were announced in December 2015, seven of which involved MRC centres of excellence.

Bacteria and other microbes are becoming increasingly resistant to current treatments, placing modern healthcare at risk of returning to a pre-antibiotic era. Tackling the threat of antimicrobial resistance remains an important strand of our aim of picking research that delivers, and of securing global health and improving resilience to disease.

In 2013 the MRC established the **Antimicrobial Resistance Funders' Forum** to bring together all seven research councils, along with health departments, Government bodies and charities to develop a coordinated approach to research addressing antibiotic resistance in humans and animals.

We also lead and manage the **Antimicrobial Resistance cross-council initiative**, launched in June 2014, on behalf of the other research councils. This initiative has identified four themes for investment over the next five years. Eleven innovation grants and two large collaboration awards totaling £6 million were awarded in 2014/15 under theme one – supporting research to improve the understanding of antimicrobial resistance and identifying new targets for potential therapies – following two calls in June 2014 and a third in December 2014 by the BBSRC and MRC. In April 2015 the MRC, BBSRC, EPSRC and ESRC launched two further calls under theme two – supporting research to accelerate antimicrobial therapeutics and diagnostics development – eight innovation grants and three large collaboration grants were awarded. A fifth call on understanding antimicrobial resistance in the real world, under theme three, was launched in summer 2015 by the MRC, NERC, BBSRC, and AHRC, with outcomes expected in March 2016.

The MRC has funded a diverse range of **population cohorts** for just over 70 years that have provided important insights into the determinants of health and disease. Maximising the value of these studies to make new scientific discoveries, and contribute to public health policy, is a key strategic priority for the MRC. To date we have funded 22 population cohorts, not including long-running overseas commitments. These have been either fully funded by the MRC, or in partnership with other funders such as the research councils and charities. The portfolio of MRC supported population cohorts includes the MRC National Survey of Health and Development/1946 Birth Cohort – the world's longest running birth cohort which celebrated its 70th birthday in March – and the Million Women Study, the largest longitudinal survey of women's health.

Following the MRC strategic review of UK cohort studies published in 2014, *Maximising the value of UK population cohorts*, we made several recommendations on the 'discoverability' of cohort information, data sharing and accessibility, the adoption of data standards, and the improvement of the quality of metadata. In light of the review, in 2015 we launched a new online cohort directory to help researchers and policymakers more easily discover and access data from the UK's largest population cohorts. We are continuing to work in partnership with other cohort funders to take forward the review's recommendations to strengthen the value of MRC and other UK cohort assets.

UK Biobank is a key MRC investment in this area. Over 10 years, the study has recruited and gathered a wealth of high quality information from 500,000 people across the UK. It will be further enriched by data from the imaging study awarded in 2015 (see page 35), the largest body scanning project in the world. In 2015/16 the MRC also contributed further funding to the 1958 BMR study (£320,000), and to the EPIC-Norfolk study (£1.8m) to understand how individuals may age differently and which factors influence the ageing process, risk of disease and disability.

In partnership with the lead funder, the Economic and Social Research Council (ESRC), we made a considered decision in 2015 to discontinue our support for the Life Study; however, the MRC remains a strong supporter of population cohort studies, and our recent investments to support data linkage and health informatics will help to ensure that the UK's strong tradition of cohort-related research continues to flourish into the 21st century.

In February 2016, we activated an emerging infections rapid response mechanism, drawing on support from the £1.5bn Global Challenges Research Fund announced by the Government in November 2015, to better understand the nature of the risk posed by the **Zika virus**. The rapid spread of the Zika virus through Central and Southern America in late 2015 and early 2016, and the association of this with cases of microcephaly in newborns, poses a potentially serious public health threat. To bring UK research strengths to bear against this threat, we launched a call for proposals, with support from the Newton Fund and the Wellcome Trust. The call used an expedited review process to make 26 awards, totaling £3.3m in March 2016, to collect robust evidence for decision making on Zika. This demonstrated our ability to be agile in the face of public health challenges with the call for proposals launched only two days after the World Health Organization (WHO) announced a public health emergency.

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. It also ensures that the right regulations, ethics, governance and relationships with decision-makers are in place to safeguard the trust of the public and realise the full benefits of research for people and the economy.

One aspect of this is working with industry to accelerate the movement of research from discovery to commercialisation with the **Innovate UK/MRC Biomedical Catalyst**. The programme is a unique partnership between the MRC and Innovate UK (formerly the Technology Strategy Board) to provide responsive and effective support for both academic and industry scientists, from early-stage feasibility testing or establishing proof of concept, to later stage demonstration of clinical effectiveness.

Within the Biomedical Catalyst, the **Confidence in Concept** scheme provides funding directly to universities for early translational projects, which helps them to generate the data needed to support an application to a more substantive translational scheme. In 2015/16 the MRC provided £11.6m to 21 universities through the Confidence in Concept component of the Biomedical Catalyst to support the earliest phases of translational awards within these institutions. More than £30m was provided for 23 more advanced academic projects looking to further develop or test therapies, diagnostics and devices. As of June 2015, when the last joint funding round concluded, nearly £255m had been jointly committed to the Biomedical Catalyst. Over 300 projects have been supported and more than £120m in matched private funding has been leveraged. Funded academics and companies have subsequently realised in excess of £1bn through additional financing, licensing deals, or as a result of acquisition.

In 2011 we launched the prize-winning £8m MRC/AstraZeneca Mechanisms of Disease Initiative to provide academic researchers with access to 22 of AstraZeneca's compounds. Following on from this success, in 2015/16 we launched the **MRC/Industry Asset Sharing Initiative** in which seven pharmaceutical companies – AstraZeneca, GlaxoSmithKline, Janssen Research & Development LLC, Lilly, Pfizer, Takeda and UCB – allowed UK researchers unprecedented access to 68 clinical and preclinical compounds, many of which had already been shown to be suitable for human tests. This unique initiative supports MRC's strategic priority to better understand mechanisms of human disease through discovery science.

The MRC continues to invest in bringing academia and industry together as part of our strategy to drive forward translational medicine that can bring health and economic benefits. In September 2014, Strategy Board supported the unique and collaborative **Experimental Medicine Initiative to Explore New Therapies (EMINENT)** network between UK academia and GSK to improve our understanding of disease. Up to £8m of MRC funding, matched in-kind by GSK, will support a devolved portfolio of innovative experimental medicine projects. Following the completion of a six-way Confidentiality Disclosure Agreement signed by all parties, a formative workshop was held at the Stevenage Biosciences Catalyst in December 2015, attended by representatives of all six partners. Initial projects will be identified in the coming months and it is anticipated that the first projects supported through this initiative will launch in the summer.

Supporting researchers to collaborate with industry is an integral part of our translational research strategy. We continue to implement innovative ways of working with industry partners to support this goal. Different cultures and attitudes in academic and industry environments can be a barrier to effective collaboration. Our **Proximity to Discovery – Industry Engagement Fund** was launched in August 2014 to bring academic researchers and industry closer together to form productive partnerships. These flexible awards of up to £250,000 can be used to support activities that promote the value of academic-industry partnership and facilitate and enhance understanding. In 2015/16 we announced that we will be investing a total of £3.3m in 17 universities across the UK to help them build partnerships with industry, and develop new collaborations and ways of exchanging knowledge and skills.

The MRC recognises that a more flexible funding approach is needed to help universities develop new areas of discovery science faster and more effectively than would be the case through traditional funding routes alone. Our new annual **MRC Discovery Awards** scheme was set up to support universities to carry out “blue skies” biomedical research. The aim is to build critical mass and capacity in high-potential areas of research,

which might otherwise remain underexplored. Successful institutions receive £400k - £1m to build critical mass and capacity in otherwise underexplored, high-potential areas of research. In the scheme's inaugural round, we made 12 awards totalling £8.4m, covering a range of research disciplines and organisations across the UK. Successful proposals covered timely areas such as understanding Ebola virus pathogenesis and potential for linkage to other viruses; strategically important areas of public health relevance such as the brain's regulation of body weight and obesity; and innovative proposals leveraging the UK's interdisciplinary strengths in mathematics and engineering, and linking it with life-sciences for the development of novel technology platforms; for example, in imaging research.

Working with industry forms an important part of our £60m **Stratified Medicine Initiative**, launched in 2011. Stratified medicine is an approach which recognises that patients with the same disease symptoms may respond differently to treatment, and may have a different mechanism causing their disease. This initiative takes a disease-specific approach, helping to form and fund research consortia of varied expertise around a particular disease. In total there are 13 consortia supported by the initiative involving 113 university partnerships (34 UK and US universities involved) and 80 industry partnerships (44 unique companies in total).

The MRC is building on and enhancing the Stratified Medicine Initiative through several new activities, including our **Methodology for Stratified Medicine** workstream to help address methodological challenges encountered by researchers in the field. We held a workshop in July 2015 with the stratified medicine research community to better understand the key issues and challenges they face when designing and analysing studies in stratified medicine, to build consensus around best methodological practice in this area, and to raise standards in the field of stratified medicine research. The workshop informed the development of a guidance document for stratified medicine principal investigators, which is due to be published in the first half of 2016.

If the UK is to capture the opportunities presented by stratified medicine, we need to translate both its therapeutic and diagnostic outputs to patient and economic benefit. To this end, the MRC led a **review of molecular pathology** on behalf of the Office for Strategic Coordination of Health Research, to better understand the needs of the UK in developing and adopting diagnostic tests. This review identified the importance of more closely bringing together researchers, pathology services and industry partners in this area.

Based on this and other strategic challenges highlighted by the review, in 2015 we funded six multidisciplinary molecular pathology nodes in collaboration with the EPSRC for the discovery and development of innovative molecular diagnostic tests, totaling approximately £16m. The nodes are located at universities across the UK, and are exploring new diagnostics for a broad range of disease areas. They will cooperate as a network, addressing skills gaps, sharing best practice and evaluating any new tests. Partnering with the EPSRC will enable us to better engage the engineering and physical sciences communities, who are integral to bringing novel technologies to bear on the development of new molecular diagnostic tests.

Substantial progress has been made in the UK over the past five years to realise the potential of precision medicine. Major public and private investments have been made in the discovery and development of precision medicine solutions, and in strong infrastructure. In December 2015 the MRC, alongside Innovate UK, CRUK and NIHR, held the **Precision Medicine UK: Collaboration Nation** meeting with input from other members

of the Stratified Medicine Innovation Platform Programme Coordination Group. The event was attended by more than 150 experts in the field and featured a presentation by Life Sciences Minister George Freeman MP. The aim of the event was to help researchers and developers of precision medicine identify opportunities for partnering with and benefitting from the UK's rich precision medicine ecosystem. During this meeting the UK Precision Medicine Landscape was launched as the first map of all major precision medicine activity in the UK.

Research Changes Lives, the MRC's strategic plan for 2014 to 2019, builds on the MRC's pledge to bring the benefits of research to all sections of society by making our work accessible to the public, demonstrating value and highlighting achievements.

Engagement with the public and communities is delivered directly by MRC-funded researchers who interact with a wide range of audiences. The most recent Researchfish data show that, since 2006, there have been 30,075 individual engagement activities by MRC researchers, of which 6,783 were reported in the latest round of data-gathering.

Very often, MRC researchers engage local communities informally and face-to-face; for example, by visiting schools or running activities at local science festivals and fairs. This accounts for almost 55 per cent of all reported engagement activities. These encounters not only provide young people with role models of scientists but also enable them to question researchers about their work and share with them their own views on research.

Public surveys have shown that the media is one of the most popular ways for people to find out about science and research, and this continues to be an important way of sharing research findings with the public: in 2015, there were approximately 1,500 mentions of the MRC in the media, and 110 articles quoted MRC scientists as experts in their field.

Dr Alan Gow is an assistant Professor of Psychology at Heriot-Watt University and part of the University of Edinburgh's Centre for Cognitive Ageing and Cognitive Epidemiology. His research focuses on the lifestyle factors that have an impact on **health and wellbeing** in old age, particularly cognitive ageing, such as physical activity and social and intellectual activities. Dr Gow took part in the Edinburgh Fringe Festival with a show called Brain training on trial, as part of the Cabaret of dangerous ideas. He reviews the top 'brain-training' smartphone apps in light of their unverified claims of being supported by research.

Dr Sam Wass, a developmental psychologist at the MRC Cognition and Brain Sciences Unit, was featured in Channel Four's *The secret life of four-year olds*, a documentary observing a group of four-year olds as they meet for the first time in a specially-adapted nursery. Dr Wass' expertise in the **development of attention during childhood** was put to good use as he explored how the children made friendships, stood up for themselves and found their place in a new social group. The programme was first broadcast in February 2015. The previous year, Dr Wass had published research suggesting that frequent eye movement in babies could show differences in visual processing and be a subtle early indicator of autism spectrum disorders.

Dr Jonathan Roiser's research at University College London (UCL) focuses on the neurobiological mechanisms underlying **psychiatric symptoms**. In 2014 he published research showing that a small area of the brain — the habenula — plays a key role in how humans predict, learn from and respond to negative experiences. The researchers propose that these responses in the habenula guide behaviour towards reward and away from punishment or negative events. This suggests a potential role for the habenula in disorders such as depression. This research received national and international media coverage, including articles by the BBC, ITV, the *Daily Mail* and the *New York Times*.

Research by an MRC-funded PhD student at the University of Leeds on the link between **light drinking by pregnant women** and pre-term birth led to the Royal College of Obstetricians and Gynaecologists (RCOG) changing its guidance on alcohol consumption. Camilla Nykjaer used data from the Caffeine and Reproductive Health (CARE) Study, a prospective cohort of 1,303 pregnant women aged 18-45 years. She found that association with adverse birth outcomes were strongest in pregnant women consuming more than two units of alcohol a week and in trimesters one and two. Camilla gave interviews resulting in national coverage including in the BBC, and *The Times*. Following this, she was approached by the Royal College of Obstetricians and Gynaecologists (RCOG) to review their guidance on alcohol consumption in pregnancy.

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, in order to tackle important and challenging research goals. This includes supporting scientists in developing countries to build capacity in global health.

The **European & Developing Countries Clinical Trials Partnership (EDCTP)** aims to accelerate the development of new or improved drugs, vaccines, microbicides and diagnostics against HIV/AIDS, tuberculosis and malaria, as well as other poverty-related and neglected infectious diseases in sub-Saharan Africa. The Ebola outbreak in West Africa highlighted the need for functioning health research infrastructures and increased research capacity in the affected countries. In 2015/16 the EDCTP, the World Health Organization and the MRC launched a €1.4m call for proposals to support the response to the Ebola outbreak in West Africa. A total of six grants have been approved for funding.

The MRC has a strategic commitment to encourage international partnerships to tackle important and challenging research goals. As part of our ongoing collaboration with the **Korean Health Industry Development Institute (KHIDI)**, in 2015/16 we launched a joint call of up to £200,000 to support new and developing collaborations between the UK and Korea's leading researchers. These UK-Korea Partnering Awards are intended to build new links between biomedical and health researchers in the UK and Korea, as well as to strengthen existing partnerships.

A major role of the MRC on the international stage is to represent the UK's interests and shape science policy to ensure it is fit for purpose, supports research and is compatible with UK legislation. In 2014 Chancellor George Osborne launched the £375m five-year **Newton Fund**, led by the Department of Business, Innovation and Skills, to strengthen research and innovation partnerships between the UK and emerging knowledge economies. Following our successful bid for £43.5m in 2014, in 2015/16 we continued to work with partner

organisations in Newton Fund countries to design, develop and deliver calls for proposals for collaborative research by launching six joint calls with the Philippines, Thailand, India, Brazil and China (the latter with the Natural Environment Research Council). A total of 37 research projects have been funded from these calls on infectious diseases, cancer, mental health, women and children's health, and urban air pollution.

The **International Agency for Research on Cancer (IARC)** is the specialised cancer agency of the World Health Organization, and works to promote international collaborations in cancer research. In May 2015 it celebrated its 50th anniversary at a celebratory symposium in Lyon, during which the Mayor of Lyon announced funding to build a new laboratory for IARC within the city. The MRC represents the UK on the Governing Council of IARC, chaired by our Director of International Strategy Dr Mark Palmer, and contributes UK funds to the agency.

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.

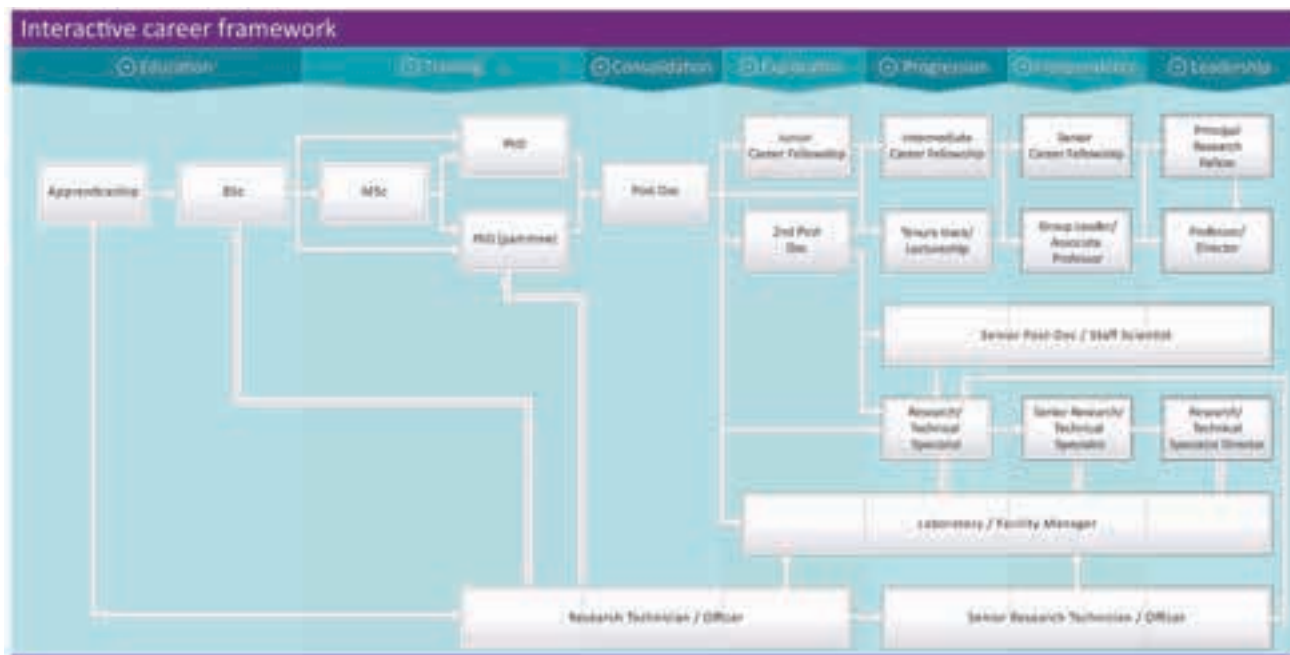
Medical researchers in the UK need access to the latest technologies to help them tackle the biggest scientific challenges in clinical research. In October 2014 we announced 23 awards under our **Clinical Research Infrastructure Initiative**, which aims to boost scientific innovation in clinical research, enhance the translation of research and industry partnerships, and add value to existing clinical research infrastructure in the UK. We have since awarded 34 infrastructure projects worth £169m to a total of 18 higher education institutions and consortia, which began in 2015. They have been funded in three areas: innovative technologies for stratified and experimental medicine, dementias research and single cell functional genomics. This initiative has had direct contribution from the Welsh Government, Northern Ireland's Department of Health, Social Services and Public Safety, the British Heart Foundation and Arthritis Research UK.

In addition to enabling new state-of-the-art facilities for clinical research, the initiative has encouraged the formation of networks that promote the sharing of knowledge, data, methodology, and skills. In July 2015 the UK7T network was awarded a partnership grant of £1.2m by the MRC's Neurosciences and Mental Health Board.

Supporting scientists is not just about providing the right infrastructural environment, it is also about providing the right support at the right time. The MRC is committed to ensuring that our researchers feel supported in making career choices. In 2014 we initiated a review to improve our understanding of the factors that act as 'enablers' in pursuing a career in medical research, and those that may act as obstacles. As a result of this review we launched a unique **interactive career framework** in 2014/15 that provides guidance for all those wishing to pursue a career in non-clinical medical research (see Figure 6 on page 43). We also led the development of guidance on the impact of career breaks in 2015/16. This is the first of its kind to recognise that the impact of career breaks cannot be fully defined by the period of an individual's absence.

Other initiatives to help our researchers achieve a good balance between work and home life include flexible working hours and an emergency care service called 'My Family Care'. In addition, we removed the qualifying period for parental leave in March 2015 so that all staff are entitled to full benefits.

Figure 6



MRC interactive career framework. Access it at: <http://mrc.ac.uk/interactivcareerframework>

The MRC recognises that different routes are available for scientists to transition to independence. Early career researchers can apply for MRC funding to transition to becoming independent investigators through the boards via **new investigator research grants** (NIRGs) which were re-launched in February 2016, and through the training panels via fellowships. To support early career researchers with an often challenging step to independence, we have:

- Clarified the different routes to support an individual’s transition to independence via fellowships and NIRGs.
- Increased the flexibility of our support by removing eligibility criteria based on years of post-doctoral experience for both routes. This allows for variations in career paths and recognises that the speed of career progression can be affected by factors unrelated to a person’s scientific potential.
- Provided improved guidance on the skills and experience applicants are required to demonstrate at the time of their application in order to be competitive.

In 2015 we also led the first comprehensive **cross-funder survey** of past clinical fellows to understand the routes by which people first become interested in academic clinical careers, the career pathways they pursue, and any barriers and ‘enablers’ which will hinder or help them along the way.

We implemented a new approach to our **Doctoral Training Partnerships** (DTP) funding in 2015 in which all bids are assessed by peer review rather than awarded by ‘algorithm’ based on the proportion of an institution’s research income. This change has increased the number of research organisations that received DTP funding via beneficial partnerships and boosted support for skills priorities. It has also increased leverage, including the universities committing 106 matched funded studentships per annum (~ £9m) to complement our investment of 156 studentships (~ £13.5m).

The UK has the potential to lead the way in informatics research by harnessing its unique resource of clinical, socioeconomic and biomedical data. We have contributed substantially to achieving this vision through significant investments in informatics research and infrastructure, and in the people who have the skills needed to effectively use health records and biomedical datasets in research.

Over the last three years the MRC has invested more than £100 million, in partnership with Government and charity funders, in informatics capabilities and infrastructure. These investments include the **Farr Institute of Health Informatics Research**, six major medical bioinformatics awards, and the GeL data centre established together with Genomics England.

Generating new knowledge and understanding from health data requires linking and integrating complex and diverse datasets, and bringing together skills and expertise across a range of disciplines. To address these needs, in 2015/16 the MRC has focused on developing a vision for **a national informatics research institute** to be implemented in 2016/17. A sustainable and cohesive health and biomedical informatics infrastructure will be vital to accelerate the pace and scale of research using health data, and to improve the health and care for patients and the public.

The proposed institute will support a UK-wide network of interdisciplinary centres of excellence, provide strategic oversight and leadership, create a framework for generating and sharing new analytics and tools, and boost skills training and informatics capabilities. Work has focused on engagement with senior scientific leaders across health and bioinformatics communities and the establishment of an Office for Strategic Coordination of Health Research.

In August 2014 a £24m capital investment in **Genomics England's 100,000 Genomes Project** was announced to establish the Genomics England (GeL) data centre. The initiative aims to sequence the genomes of NHS patients with rare diseases, and their families, as well as cancer patients. In 2015, to help establish partnerships between the devolved UK governments and their research organisations, and GeL, we awarded £750k to Northern Ireland and £2m to Scotland to help develop their genomics capabilities and deliver against national genomics strategies. These awards have been partnered by funds from the Northern Ireland and Scottish governments. Northern Ireland and Scotland will sequence 1,300 genomes and 1,000 genomes in the study of rare diseases, respectively, while Scotland will also explore ways for researchers to work across complex datasets held in different places and collected at different times. These awards will help to build a UK-wide asset of genomic data that links to phenotypic and health record information, leading to unprecedented research opportunities in this area.

The development of the **Francis Crick Institute** is central to our aim to provide world-class facilities and training environments for our scientists. The institute is a joint venture by the MRC, Cancer Research UK, the Wellcome Trust, University College London, King's College London and Imperial College London. Its construction was completed in November 2015 and commissioning of the new building is forecast to be complete in 2016, after which the physical transfer of staff and equipment will begin. Approximately two-thirds of the new facility will be occupied by September 2016. The MRC's National Institute for Medical Research (NIMR) in Mill Hill became part of the new institute on 1 April 2015, as planned, and the NIMR now operates as "the Crick at Mill Hill". Research will be moved to the new building later in 2016.

Sustainability report

Environment

Environmental policy/sustainability

This MRC Sustainability Report is in accordance with HM Treasury reporting guidelines for public sector sustainability reporting. This report sets out the MRC's UK environmental performance against a common basket of metrics: greenhouse gas emissions; water usage and waste disposal, and their corresponding financial data.

In line with HMT sustainability reporting guidelines, MRC facilities located overseas and MRC shareholdings in scientific facilities in the UK and overseas are excluded from the data presented. The MRC recognises the limitations of the dataset and aims to continuously improve environmental reporting.

Table 9

Greenhouse Gas Emissions					
Non-Financial (000 tonnes CO₂)	2011/12	2012/13	2013/14	2014/15	2015/16
Total Gross Emissions	38.74	44.74	35.53	39.86	37.47
Total Net Emissions	38.74	44.74	35.53	39.86	37.47
Gross emissions – Scope 1 (direct)					
Gas & LPG	6.28	6.01	8.28	7.67	7.42
Owned Transport	0.01	0.01	0.01	0.01	0.01
Gross emissions – Scopes 2&3 (indirect)					
Electricity (1)	30.51	36.93	27.26	31.96	29.87
Business Travel (2)			0.12	0.22	0.18
Related Energy (million kWhr)					
Electricity		68.27	56.37	59.50	59.7
Renewable electricity		0.00	0	0	0
Gas		33.20	44.30	40.60	40.2
Other		0	0.5	0.6	0.5
Finance (£m)					
Expenditure on Energy	5.66	6.52	6.32	6.32	6.48
CRC Costs	0.3	0.3	0.4	0.5	0.5
Business Travel (2)			2.74	2.47	2.37

Notes: (1) MRC science facilities account for the majority of the MRC's electricity usage. Facilities such as the Mary Lyons Centre and the ARES building are required by Home Office regulations to have a large number of air changes per hour and research carried out in other buildings involves use of power hungry machinery.

(2) Figures for 2011/12 and 2012/13 unavailable

Performance commentary

MRC greenhouse gas emissions are dominated by the use of electricity. All research activities are energy hungry and specialised building like those that the MRC use, often including containment laboratories and animal houses, require many air changes per hour, 24 hours a day, 365 days per year. The MRC is endeavouring to conduct research in as economical and sustainable a way as possible – for instance reduced out of hours air changes to as low a level as is acceptable for health (both of staff and of animals).

The MRC has commenced a range of activities aimed at reducing the environmental footprint of its estate. For example:

Ground source heat pumps were built into the Laboratory of Molecular Biology in Cambridge. These reduced gas consumption by over 2,000,000 kWh per annum which represented a 44 per cent reduction in consumption and a reduction of 440 tCO₂e per annum in emissions.

An “Aircuity” Demand Ventilation Control system was introduced at the MRC/Hutchison building in Cambridge which was the first of its kind in the UK. The result was a reduction in electricity consumption in the building of nine per cent and a reduction of gas consumption by 41 per cent. Carbon emissions from the building fell by 400 tCO₂e per annum.

Other MRC sites are also taking steps to make improvements, for example, proactive initiatives at MRC Harwell actions include insulation of pipes in the plant rooms that were not already lagged; timers put on photocopiers, printers and other appropriate equipment; solar film installed on office windows; and future plans include installation of a Biomass burner to be fuelled by animal waste.

The Research Complex at Harwell on the Rutherford Appleton Laboratory site in Oxfordshire has an Earth Tube installed, the first one in the UK. The Earth Tube is 100m long and is buried under a grassy mound next to the Complex. Air is drawn from the exterior through the tunnel and, because the temperature below ground is relatively stable, it cools the air by up to 5°C in summer and warms it by up to 4°C in winter. This helps reduce energy use and building’s carbon footprint.

In addition all new build and large scale refurbishment projects require designers to achieve the best Building Research Establishment Environmental Assessment Method (BREEAM) ratings feasible while still meeting the purpose of the building.

The buildings remaining part of the MRC estate are now largely of modern design and more sustainable than their predecessors were and where older buildings remain, steps have been taken to make improvements, for example the replacement of windows at the Clinical Sciences Centre.

At the Head Office buildings in Swindon and London efficient lighting and Passive InfraRed (PIR) detectors are fitted in offices, meeting and drop-in rooms.

The MRC is developing an Energy Management Plan aimed at reductions in energy usage and a revised Environmental Policy both of which are due to become operational in the first half of 2016.

The MRC is registered with the Environment Agency administered CRC Energy Efficiency scheme and purchases allowances based on carbon emissions.

Waste management

Table 10

MRC Waste Management Data			
Non-Financial (000 tonnes CO₂)	2013/14	2014/15	2015/16
Total Waste	922	1044	1209
Hazardous Waste (total)	137	177	278
Non-Hazardous Waste			
Landfill	168	257	220
Reused/Recycled	570	485	507
Composted	47	53	56
Incinerated with energy recovery	0	72	148
Finance (£m)	2013/14	2014/15	2015/16
Total Disposal Cost	0.55	0.72	0.47
Total Hazardous Waste	0.08	0.12	0.11
Non-Hazardous			
Landfill	0.10	0.18	0.09
Reused/recycled	0.34	0.33	0.20
Composted	0.03	0.04	0.02
Incinerated with Energy recovery	0.00	0.05	0.05

Note: Reliable waste data is not available prior to the 2013/14 financial year

Performance commentary

The MRC recycles as much material as possible and has amongst other things installed a polystyrene compactor at one of its sites. The nature of the research conducted means that a substantial amount of clinical waste is produced and this is disposed of properly in line with legislative requirements. Future initiatives planned include installation of Biomass burners where appropriate to be fuelled by animal waste.

Finite resource consumption

Table 11

Water				
Non-Financial (000 cubic metres)	2012/13	2013/14	2014/15	2015/16
Water Consumption (Office Estate)				
Supplied	10	4	5	10
Water Consumption (Non-Office Est.)				
Supplied	325	198	197	277
Finance (£m)				
Water Supply Costs (Office Estate)	0.01	0.01	0.01	0.01
Water Supply Costs (Non-Office Est.)	0.44	0.36	0.38	0.33

Performance commentary

Water consumption has been measured by the MRC for several years. While consumption can sometimes be high because of individual building's purposes – such as animal houses; measurement itself can help to identify previously unknown leaks and similar issues which reduce wastage and expense. Proactive steps taken in order to achieve water saving at high use sites include use of a reverse osmosis system in animal drinking units and reuse of water collected from the main air handling units (rejected water produced as part of the humidity control system). Resulting savings were 1,500 cubic metres.

Financial results

Each year we receive a budgetary allocation from BIS in the form of a Departmental Expenditure Limit (DEL). The DEL is the primary control mechanism set by HM Treasury in resource accounting and budgeting, limits are set in the Spending Review.

The MRC is required to control budgets within DEL under the Resource Accounting and Budgeting regime and may not exceed the limits that they have been set. There is no flexibility allowed in practice to carry forward previous years' underspends.

The MRC has separate budgets for:

- Resource – which includes Near-Cash current expenditure such as pay or procurement and Non-Cash including depreciation, which is the current cost associated with the ownership of assets.
- Capital for new investment and renewal.

Within the resource budget some transactions will have an immediate or near-immediate impact on the fiscal position, for example pay, procurement and depreciation. Other transactions will only have an effect in future periods, for example the take-up of provisions, or revaluation of assets. Both types of transaction fall within the resource budget. Administration budgets are controlled to ensure that as much money as practicable is available for science programmes. Provision in the resource budget that is not in administration budgets is termed programme spending.

A summary of the MRC's financial results for 2015/16 is shown in table 12 and for the preceding year in table 13. Tables 12 and 13 show results using the accounting conventions required for reporting to central government. This form of accounting differs in a number of ways from that required for our formal audited accounts. A reconciliation between the two sets of accounts is shown at table 14.

The Programme Resource Near-Cash outturn of £579,822k was £485k lower than budget. Capital expenditure at £42,498k was £402k lower than budget. Administration expenditure was £2,714k less than budget of £24,636k. These results were within the parameters expected by the organisation.

Table 12: Summary of Financial Return for 2015/16

	2015/16						
	Programme Resource		Admin Resource			Capital	Total
	Near Cash £000	Non Cash £000	Total £000	Near Cash £000	Non Cash £000	Total £000	£000
External Income	(104,412)	0	(104,412)	(98)	0	(98)	(109,982)
Income from Commercial Activities	(95,993)	0	(95,993)	0	0	0	(95,993)
Total Income	(200,405)	0	(200,405)	(98)	0	(98)	(205,975)
Pay and Operating Costs (1)	222,033	(2,350)	219,683	22,020	(0)	22,020	241,703
Depreciation of property, plant and equipment	0	19,989	19,989	0	0	0	19,989
Amortisation of Intangible assets	0	31,835	31,835	0	0	0	31,835
Impairment of property, plant and equipment	0	732	732	0	0	0	732
Reversal of prior year downward revaluation of property, plant and equipment	0	0	0	0	0	0	0
Reversal of prior year impairment of property, plant and equipment	0	0	0	0	0	0	0
Provision movement	741	0	741	0	0	0	741
Research grants	540,892	0	540,892	0	0	0	743,828
International Subscriptions	16,377	0	16,377	0	0	0	16,377
Loss on Disposal of Property, plant and equipment	184	0	184	0	0	0	184
Direct Capital	0	0	0	0	0	0	(13,666)
Total Expenditure	780,227	50,206	830,433	22,020	(0)	22,020	1,041,723
Net Income & Expenditure	579,822	50,206	630,028	21,922	(0)	21,922	835,748
Less Income from Dept of Health (2)	0	0	0	0	0	0	(141,300)
Adjusted Net Income & Expenditure	579,822	50,206	630,028	21,922	(0)	21,922	694,448
DEL Budget	(580,307)	(52,748)	(633,055)	(24,636)	0	(24,636)	(700,591)
(Underspend)/overspend	(485)	(2,542)	(3,027)	(2,714)	(0)	(2,714)	(402)

(1) Non cash relates to exchange rate (gains)/losses (2) Capital contribution re: Clinical Research Infrastructure

Table 13: Summary of Financial Return for 2014/15

	2014/15 (Restated)							
	Programme Resource		Admin Resource		Capital		Total	
	Near Cash £000	Non Cash £000	Total £000	Near Cash £000	Non Cash £000	Total £000	Near Cash £000	Non Cash £000
External Income	(83,018)	0	(83,018)	(105)	0	(105)	(1,774)	(84,897)
Income from Commercial Activities	(94,899)	0	(94,899)	0	0	0	0	(94,899)
Total Income	(178,466)	0	(178,466)	(105)	0	(105)	(1,774)	(180,345)
Pay and Operating Costs (1)	273,784	(2,155)	271,629	24,506	(12)	24,494	0	296,123
Depreciation of property, plant and equipment	0	27,160	27,160	0	0	0	0	27,160
Amortisation of Intangible assets	0	22,571	22,571	0	0	0	0	22,571
Impairment of property, plant and equipment	0	3,807	3,807	0	0	0	0	3,807
Reversal of prior year downward revaluation of property, plant and equipment	0	(2,026)	(2,026)	0	0	0	0	(2,026)
Reversal of prior year impairment of property, plant and equipment	0	0	0	0	0	0	0	0
Share of (profits)/losses of joint venture	0	805	805	0	0	0	0	805
Provision movement	8,633	0	8,633	0	0	0	0	8,633
Research grants	458,850	0	458,850	0	0	0	63,144	521,994
International Subscriptions	16,097	0	16,646	0	0	0	0	16,646
Loss on Disposal of Property, plant and equipment	476	0	476	0	0	0	0	476
Direct Capital	0	0	0	0	0	0	36,670	36,670
Total Expenditure	758,389	50,162	808,551	24,506	(12)	24,494	99,814	932,859
Net Income & Expenditure	579,923	50,162	630,085	24,401	(12)	24,389	98,040	752,514
Less Income from Dept of Health (2)	0	0	0	0	0	0	(18,000)	(18,000)
Adjusted Net Income & Expenditure	579,923	50,162	630,085	24,401	(12)	24,389	80,040	734,514
DEL Budget	(579,959)	(43,729)	(623,688)	(25,600)	0	(25,600)	(80,100)	(729,388)
(Underspend)/overspend	(36)	6,433	6,397	(1,199)	(12)	(1,211)	(60)	5,126

(1) Non cash relates to exchange rate losses and bad debts (2) Capital contribution re the Francis Crick Institute Note: Notional Service Charge of £6.1m not included in DEL budget

Table 14: Reconciliation of finance tables to Annual Accounts

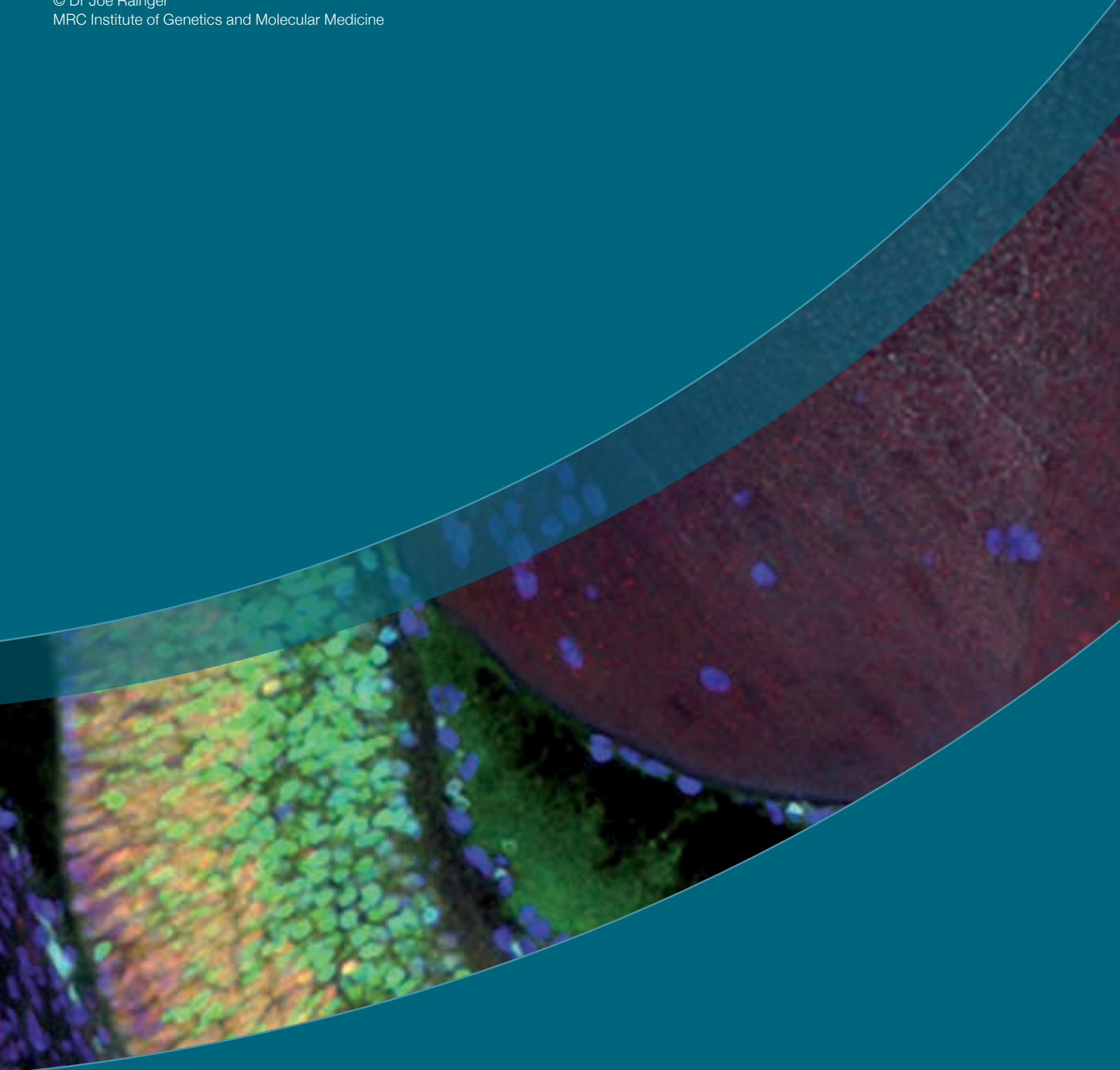
Account Note	2015/16				2014/15 Restated	
	Programme £000	Admin £000	Capital £000	Total £000	Total £000	
External Income						
Contributions from other government departments	4	(39,903)	0	(4,292)	(44,195)	(23,610)
Contributions and grants from other bodies	5	(54,986)	(92)	(1,180)	(56,258)	(57,713)
Other Income		(9,501)	(6)		(9,507)	(3,548)
Interest Receivable		(22)	(0)		(22)	(26)
External Income per Finance Table		(104,412)	(98)	(5,472)	(109,982)	(84,897)
Other Finance Income						
Total Other Finance Income	6f	(709)	0	0	(709)	(3,163)
Less: IAS 19 pension income adjustments	6e	709	0	0	709	3,163
Other Finance Income		0	0	0	0	0
Pay and Operating Costs						
Staff Costs		106,973	13,864	0	120,837	138,774
Less: IAS 19 current service costs		(9,855)	0	0	(9,855)	4,274
Other expenditure	8	76,470	8,156	0	84,626	101,764
Commercial Activities	13	46,095	0	0	46,095	51,311
Pay and operating costs per Finance Table		219,683	22,020	0	241,703	296,123
Provision Movement						
Amount provided in year (charged to AME not DEL)		176			176	1,762
Less Amount expended in year (DEL Charge)		565			565	6,871
Provision movement per Finance Table		741	0	0	741	8,633
Research Grants						
Research Grants	9	280,049	0	165,017	445,066	305,144
Other Research	10	189,870	0	37,919	227,789	145,743
Postgraduate training awards	11	70,973	0	0	70,973	71,107
Research grants per Finance Table		540,892	0	202,936	743,828	521,994
Direct Capital						
Property, plant & equipment additions	14			13,614	13,614	28,199
Intangible asset addition – software licences	15				0	0
Plus investment in Joint Ventures addition	16			1,278	1,278	38,044
Less net book value of disposed property, plant & equipment	14			(27,147)	(27,147)	(1,073)
Less net book value of disposed software licences	15			0	0	0
Less disposal of assets held for sale				(1,411)	(1,411)	(28,500)
Direct Capital per Finance Table		0	0	(13,666)	(13,666)	36,670

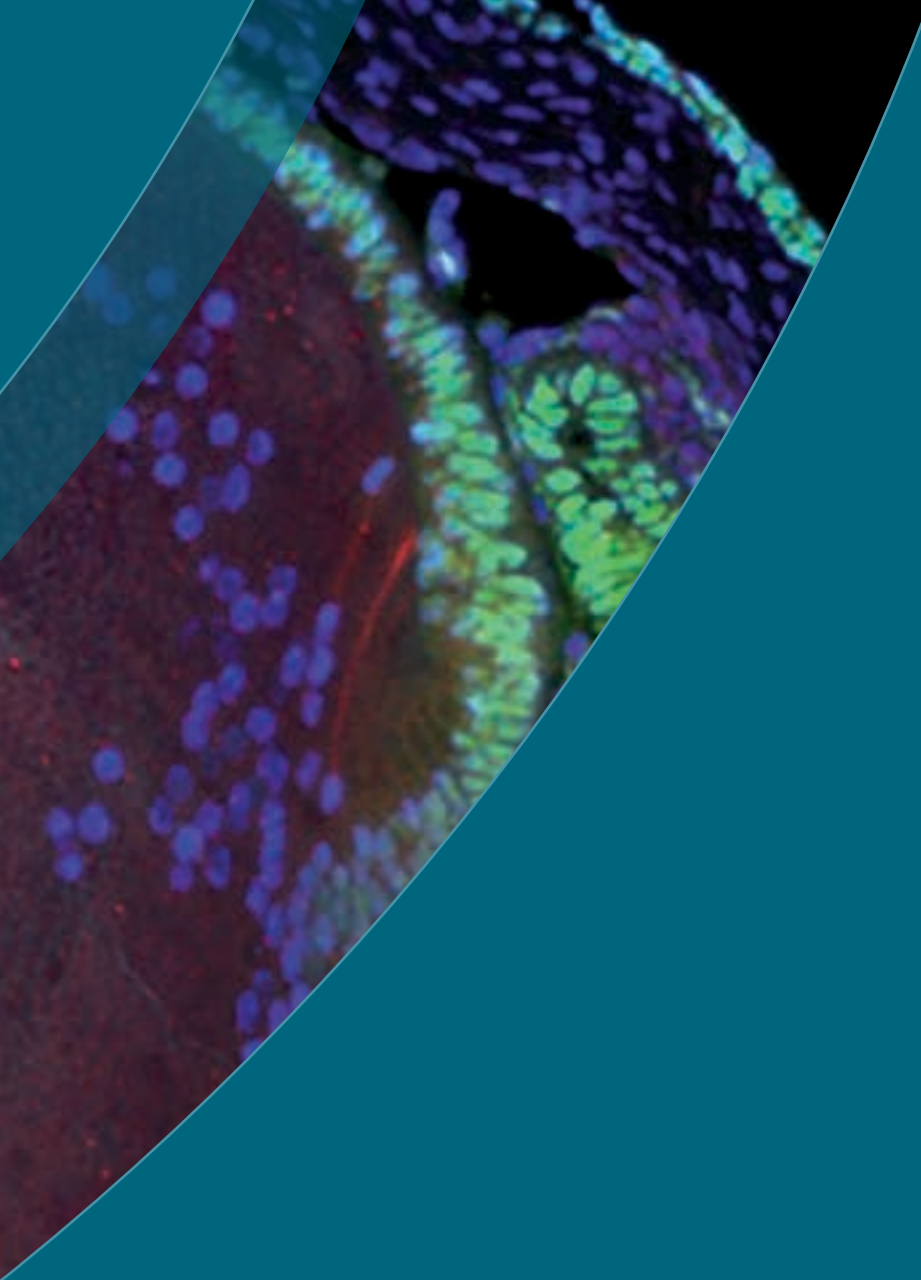
Sir John Savill
Accounting Officer/Chief Executive Officer
Medical Research Council
Date: 28 June 2016

Immunohistochemistry performed on an embryonic mouse eye illustrating the distribution of Pax6 and Sox2 proteins within specific cells of the retina and lens

These proteins are well characterised during eye development and can be used to track normal developmental processes. In this mutant eye, there has been a genetic rearrangement of the Fibrillin2 gene, which encodes for an extracellular matrix protein. The mutation disrupts its normal function and processing, and the protein is inappropriately retained as aggregates within specific cells of the eye. This leads to failure of additional and indirect developmental processes and results in a severely malformed eye.

© Dr Joe Rainger
MRC Institute of Genetics and Molecular Medicine





Accountability report

Corporate governance report

Directors' report

Vision

The MRC supports excellent discovery science and strengthens partnerships in areas where there is the greatest potential to deliver improved health and economic impact. This vision is set out in detail in the MRC strategic plan. During 2015/16 the MRC continued with its support of high-quality research and training leading to, and including, experimental medicine, stratified medicine and mechanisms of disease in people. This work is essential for the translation of ideas between academia, the NHS and industry for economic benefit.

The MRC remains the major funder for several areas of strategic importance to the UK as identified in the UK Life Science Strategy (Department of Health and Department of Business Innovation and Skills in December 2011.) The strategy recognises that the life science sector is a major contributor to UK economic growth and sets out actions to help maintain this by:

- i) building on the strengths of, and partnerships between, universities and the wider research base, the NHS and industry,
- ii) attracting the best talent and encouraging them to work across disciplines and
- iii) overcoming barriers and creating incentives for healthcare innovation. The MRC is well placed within this agenda to further its strategic aims through actions and interventions.

The MRC reports on the outputs of activities every six months to the Department for Business Innovation and Skills, where progress can be measured against a series of milestone reports/data and evaluations used to assess progress against delivery plan areas. These are published in the MRC delivery plan. A copy of the delivery plan can be found at <http://www.mrc.ac.uk/about/spending-accountability/delivery-plan/>

Pension liabilities

The accounting treatment of pension liabilities and details of the MRC's pension scheme are fully disclosed in the Remuneration report (page 75), accounting policy note 1(o) (page 102) and note 6 to the accounts (page 108).

Council and Management Board members

The membership of the MRC's Council and its committees is listed on page 63 in the Governance Statement. Council members' remuneration is listed in the Remuneration Report (page 80). The Chairman of the MRC's Council is Mr Donald Brydon and the Chief Executive Officer is Professor Sir John Savill. Management Board membership is as follows:

Name	Job title
Sir John Savill	Chief Executive
Dr Jim Smith	Deputy Chief Executive and Chief of Strategy
Mr Bruce Minty	Chief Operating Officer
Dr Declan Mulkeen	Chief Science Officer
Dr Tony Peatfield	Director of Corporate Affairs
Mr Hugh Dunlop	Director of Finance and Information Technology
Mr Sandy Bulger	Director of Major Projects
Ms Sally-Louise Smith	Director of Human Resources

Conflicts of interest

During 2015/16 all Management Board members were circularised for details of conflicts of interest. Identified conflicts are included in the Remuneration report on page 80. Council members are asked to complete a declaration of interests form when they are appointed and to inform the MRC of changes in their circumstances as they arise. Additionally, the Chairman asks members to state if there are any changes to their declared interests at each Council meeting. Completed forms are published on the MRC website at the following link: www.mrc.ac.uk/about/council/members-declarations-of-interest/

Information assurance and security

Information assurance and security is covered in the Governance Statement on page 60. For the year ending 31 March 2016, the MRC IT Security team logged 20 information security incidents, none of which required reporting to BIS or the Information Commissioner.

Freedom of information

Thirty-seven requests were handled under FOIA and one under EIR in calendar year 2015, all (100 per cent) within the statutory time limit. A breakdown of FOIA requests by type and requestor is provided in tables 15 and 16 below.

The majority of the requests received were from the public (56 per cent); many of these requests related to contracts and IT. The next highest category was the private sector (16 per cent) and these mainly related to contracts. Requests from the media followed (11 per cent), which included requests for information on the MRC's Risk Register for the Francis Crick Institute, cases of research misconduct, funding received from oil and gas companies and peer reviewer acceptance rates. The proportion of requests from academics/research organisations (five per cent) and charities and interest groups (five per cent) was lower than previous years.

Table 15: Request by requestor

Requestor type	No. (%)
Academic/RO	2 (5.4%)
Charity/Interest Groups	2 (5.4%)
Media	4 (10.8%)
Private Sector	6 (16.2%)
Public Sector	2 (5.4%)
Public	21 (56.8%)
Total	37

Table 16: Request by type

Request type	No. (%)
Contracts and IT	18 (48.6%)
Finance/accounts	2 (5.4%)
Policy/governance	5 (13.5%)
Research/strategy	5 (13.5%)
Other	7 (19.0%)
Total	37

Statement of Accounting Officer's responsibilities

The financial statements presented on page 94 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).

The Accounting Officer has taken all reasonable steps to ensure that he is aware of any relevant audit information and to ensure that the Council's auditors are aware of that information. As far as the Accounting Officer is aware, there is no relevant audit information of which the MRC's auditors are unaware.

MRC Governance Statement for 2015/16

This Governance Statement sets out my assessment of the MRC's potential vulnerabilities and capability to deal with the challenges facing us in our operating environment.

1. Scope of responsibility

As Accounting Officer, I have personal responsibility for maintaining a sound system of governance and internal control that supports the achievement of MRC's policies, aims and objectives whilst safeguarding the public funds in accordance with the responsibilities assigned to me and disclosed in "Managing Public Money".

The MRC is an independent non-departmental public body of the Department for Business Innovation & Skills (BIS). The MRC's lines of accountability with BIS are defined through a management statement, code of practice and financial memorandum.

The MRC together with other research councils is reliant on the UK Shared Business Services Ltd (UK SBS LTD) for the provision of administration systems and this statement explains the oversight and assurance process and results for the service supplied.

2. The purpose of the Governance Statement

This Governance Statement for 2015/16 sets out the dynamics of the MRC and its control structure. It explains the review processes which enable me to have confidence in the effectiveness of the controls and provides a sense of the MRC's performance during the year and how successfully it has coped with the challenges it faced. This statement explains how the MRC has complied with the principles of good governance, reviews the effectiveness of these arrangements, and complies fully with the Corporate Governance Code..

3. The governance framework/structure

The MRC governance framework includes Council, the Council Audit and Risk Assurance Committee (CARAC), Management Board, Strategy Board, Operations Board and other fora, senior management, officials and staff. The MRC's decision-making and advisory bodies are described below.

The MRC's Council meets five times a year. Council is the MRC's top level decision-making body directing and overseeing corporate policy and science strategy. It decides all issues of major importance including issues of corporate strategy, sets key strategic objectives and targets, makes 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 any statutory or administrative requirements for the use of public funds.

Council appointments: Council is led by the Chairman, with the MRC Chief Executive as Deputy Chairman and twelve other members, at least half of whom are appointed on account of their scientific qualifications. Council members are appointed by and are accountable to the Secretary of State for Business, Innovation and Skills in accordance with the Code of Practice for Ministerial Appointments to Public Bodies. In addition there is a BIS observer on Council.

Main activities for 2015/16²⁴:

- Reviewing delivery of the commitments in the MRC strategic plan, and other items of strategic importance; Advising on priorities for the 2015 spending review; Reviewing and approving decisions on MRC intramural investments including progress and future plans for the university unit programme;
- Reviewing and approving the refreshed MRC Human Resources and Organisational Development Programme 2015-17;
- Monitoring progress with major initiatives including the Francis Crick Institute;
- Overseeing the transfer of staff, equipment, records, intellectual property and research programmes from the National Institute of Medical Research to the Francis Crick Institute in April 2015.
- Reviewing and approving financial plans and performance;
- Reviewing and approving operational activities and discussing the implications of the Nurse Review, Research Councils Together and the Operational Cost Reduction Programme;
- Receiving reports from subcommittees including the Council Audit and Risk Assurance Committee, the Ethics, Regulation and Public Involvement Committee and the Remuneration Committee.

Review of effectiveness.

During 2015/16, the Council Chairman reviewed the performance of individual Council members. No issues were identified.

Boards and subcommittees

Council is supported in its role by a number of boards and subcommittees²⁵. There are four subcommittees made up of Council members and supplemented, where appropriate, with other members bringing specialised expertise and knowledge. Subcommittees have responsibility for specific areas of Council's remit; in some cases authority is delegated to them to act on behalf of Council, and in other cases they are acting in an advisory capacity either to Council (Ethics, Regulation and Public Involvement Committee (ERPIC)) or to the Chairman (Nominations Committee). Council is also advised by an Employee Representation Forum.

The **Council Audit and Risk Assurance Committee (CARAC)** met six times in 2015/16. It supports and advises Council and the Chief Executive on matters of governance, risk and control. Meetings are attended by representatives from the National Audit Office (NAO) and the Research Councils' Audit and Assurance Service Group (AASG).

CARAC main activities for 2015/16:

- Reviewing audit reports and tracking implementation of recommendations;
- Detailed scrutiny of annual accounts;
- Oversight of risk management with particular emphasis on the management of corporate and fraud risks;
- Review of information assurance and cyber security;
- Review of assurance process and findings;
- Monitoring of major programmes.

24. Agendas and redacted minutes are available on the MRC website.

25. The terms of reference and membership of the committees are available on the MRC website www.mrc.ac.uk/About/Structure/Council/CouncilCommittees/index.htm

Review of effectiveness

CARAC carried out a review of effectiveness in April 2015. No significant issues were identified.

The **Remuneration Committee** (RemCom) reports to Council and met in May 2015 and January 2016. It is chaired by the MRC Chairman and there are four additional members, who are all Council members. The MRC Chief Executive, the Chief Operating Officer and the HR Director are also invited to attend and advise RemCom. RemCom reviews the HR Strategy, in particular the pay, grading and bonus arrangements for the most senior staff.

The **Ethics, Regulation and Public Involvement Committee (ERPIC)**. It is chaired by Baroness O'Neill of Bengarve (a Council member) and currently has six other members. It is an advisory committee which meets twice a year and reports to Council.

The **Nominations Committee** (NomCom) reports to Council. It is chaired by the MRC Chairman and there are four additional members. NomCom advises the Chairman on senior key appointments and meets as and when required. NomCom met once in 2015/16 to advise the Chairman on the succession planning. NomCom also advised the Chairman via email on the extension of a senior staff member's contract.

Strategy Board meets eight times a year, it is chaired by the CEO and is responsible for developing, coordinating, and overseeing the implementation of and evaluation of the MRC's strategic plan. Membership includes the Chair of each of the Research Boards and Strategic Overview Groups plus an MRC institute or unit director and a representative of the extramural programme. Strategy Board reports to Council and has a budget delegated by Council for strategic awards.

The four **Research Boards** each meet three times a year and 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 with more focused remits (e.g. Fellowship awards, translational research), are responsible for assessing applications for research funding and have delegated budgets for new awards. There are four strategic overview groups (Training and Careers, Global Health, Translational Research, and Population Health Sciences) which are responsible for ensuring that the MRC's activities in these key areas are well coordinated and strategically positioned.

Council and Committee attendance, 1 April 2015 – 31 March 2016

Name of Member	Attendance				
	Council	RemCom	CARAC	ERPIC	NomCom
Dr John Brown	4/5	1/2			
Mr Donald Brydon ²⁶	5/5	2/2			1/1
Prof Doreen Cantrell	5/5				
Prof Dame Sally Davies	3/5				
Prof Chris Day	4/5	1/2			1/1
Prof Dame Janet Finch	5/5		6/6		
Prof Patrick Johnston	2/5	1/2			
Prof Dame Sally Macintyre	5/5				1/1
Baroness Onora O'Neill	4/5			2/2	
Dr Menelas Pangalos	1/5	2/2			
Mrs Vivienne Parry ²⁷	4/5			1/2	0/1
Dr Ruth McKernan	2/5				
Prof Michael Schneider	5/5		5/6		
Prof Sir John Savill ²⁸	5/5		4/6		
Ms Anna Anderson			5/6		
Mr Alastair Hewgill ²⁹			1/2		
Mr Roger Dunshea			5/6		
Mr Andrew Murphy			3/6		
Ms Charlotte Moar ³⁰			3/4		
Ms Kathryn Packer ³¹			4/4		

Key

- Council member
- Independent CARAC members
- Management

Management Board is the MRC's principal executive decision-making body. It meets eleven times a year and is accountable to Council through the Chief Executive.

Operations Board is the MRC's principal body for operational decisions. It meets alternate months and is chaired by the Chief Operating Officer. It includes representatives from each corporate directorate and Senior Unit Administrators representing the Units and Institutes.

26. Mr Brydon also chairs RemCom and NomCom

27. Mrs Parry stepped down on 31 March 2016

28. Prof Sir John Savill is the Chief Executive and Deputy Chair of Council

29. Mr Hewgill stepped down on 30th June 2015.

30. Ms Charlotte Moar joint the audit committee on 1st September 2015

31. Ms Kathryn Packer joint the audit committee on 1st September 2015

Partner organisations

The MRC is a key funder in a variety of partnerships. The MRC's interests in each of these partnerships are governed via a Joint Venture Agreement or by contracts. In some instances separate companies have been established and the MRC has a nominated Director on each board. Whilst the detail for each partnership differs, the MRC has appropriate agreements in place and actively engages through representation at senior level. The partnerships are:

- UK BioBank
- Imanova
- The Francis Crick Institute (The Crick)

Our risk and assurance frameworks ensure that matters emanating from these partnerships activities are reported and that issues are responded to in an appropriate manner. The governance arrangements for these partnerships are subject to audit by AASG on a rolling programme.

MRC university units – the university units are governed by strategic alliance agreements and have specific assurance arrangements. These arrangements are subject to audit by AASG.

4. The risk and internal control framework

The MRC believes that identifying and managing risks and opportunities plays a critical part in the effective and efficient delivery of the MRC's long-term organisational objectives, creating confidence and trust within the scientific community and the general public and enabling better planning for the future.

The system of internal control is designed to manage risk to a reasonable level rather than eliminate all risk of failure to achieve policies, aims and objectives.

The MRC has a robust risk management system designed to identify and prioritise the risks to the achievement of MRC's policies aims and objectives, to evaluate the likelihood of those risks being realised and the impact should they be realised, and to manage them efficiently and effectively. The system of control has been in place in MRC for the year ended 31 March 2016 and up to the date of approval of the annual report and accounts, and accords with HM Treasury guidance.

The task of overseeing the risk management strategy is delegated to the Head of Risk Management and Assurance. The Risk and Assurance Team provides challenge and support. The team co-ordinates the documenting and updating of corporate and fraud risks, these are reviewed regularly by Management Board and then reported to CARAC and Council.

All MRC directors and managers share the responsibility to ensure the effective implementation of risk management and internal controls.

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

The risk management framework includes:

- setting out a risk management policy and strategy and defining the risk appetite for the MRC;
- signing up to overall assurances statement by directors; (DASIC see 15)
- updating and reviewing the corporate and fraud risk registers at least quarterly by senior management and reviewing at CARAC;
- underpinning the corporate risk register with directorate, unit and project level risk registers;
- requiring all risks to have a senior manager/director as “risk owner”;
- a formal project management approach with embedded risk management for major activities, including the business critical programmes;
- All decision papers to Council, Management Board and Strategy Board require a statement on the risks relevant to the decision.
- The use of risk management software “EasyRisk” to record and track all risks and audit recommendations.

5. Fraud and error risk management

The MRC is committed to standards of regularity and propriety and does not tolerate any form of fraud, bribery and/or corruption.

The MRC has a detailed fraud and error risk register that is reviewed regularly by Management Board, CARAC and Council.

There is a mandatory e-learning programme on fraud and bribery for all senior staff and those working in high risk areas.

The Head of Risk Management and Assurance attends the BIS Counter Fraud Working Group where best practice is shared and current fraud issues discussed.

There was one fraud identified during the year the results of the investigation were reported to CARAC and an action plan approved

6. Information assurance and information security

The management of information risks is fully integrated within the risk management process and the Finance Director is the MRC’s Senior Information Risk Owner.

Every MRC unit and institute undergoes an annual review of their 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 thirteen areas. The results of the annual review together with any actions are reported to Operations Board and CARAC. The initial results show that all MRC establishments have met the requirements in 2015/16.

In 2015, this review was extended to cover the government framework “10 Steps to Cyber Security” and the Cyber Essentials standard.

The MRC receives IT Infrastructure services from an external IT supplier and receives key business services from UK SBS Ltd. These are subject to robust governance arrangements and regular audits. These arrangements allow us to continuously assess and challenge performance including the review of cyber security threats and management of security incidents. These are reported separately in the annual report.

The MRC remains committed to assessing our cyber security controls against the Cyber Security Essentials scheme and the 10 Steps to Cyber Security to identify any improvements that are required, based on the risk appetite agreed with our audit committee.

The MRC submits an annual Security Health Check return to BIS. The security health check confirms compliance with the mandatory security outcomes described in the HMG Security Policy Framework. The return reflects an assessment of specific Information Assurance risk areas that are consistent with the risks recorded in the Council’s risk register together with any areas of concern.

AASG (Audit and Assurance Services Group) carried out an assessment of compliance with the 10 Steps to Cyber Security Framework across all of the Research Councils and UK SBS Ltd. The MRC is committed to continuously improving security and to meeting the 10 Steps to Cyber Security requirements.

The MRC has adopted the Cabinet Office policy on Government Security Classifications. The MRC has produced its own guidance to support the policy and has ensured that all relevant staff have received appropriate training.

Information Security Incidents

For the year ending 31 March 2016, the MRC IT Security team logged twenty security incidents, none of which required reporting to BIS or the Information Commissioner. Eight related to data being exposed to non-authorised parties, one was due to loss of information, nine relating to the loss of an encrypted device and two related to compromised email addresses. All of the incidents related to human error rather than system failure or loss of data due to deliberate attack. No incidents were reported to CARAC.

7. Transparency

In line with the Government’s commitment to greater transparency of public information, the MRC publishes information on how we spend the public funding we receive. Information on senior staff pay, management and staffing structures, spending over £25,000 and transactions on Government Procurement Cards over £500 is routinely published on our website and is also accessible on www.data.gov.uk. All new contractor and consultancy appointments are vetted to ensure that they are not deliberately avoiding paying appropriate tax and NI. All contract renewals have to provide the MRC with the same assurances. Data is presented for the MRC’s intramural research units and institutes, head office, regional administrative centres and research facilities.

The MRC, jointly with the other research councils, has participated in the Gateway to Research project. This project provides a website with information about the research that the councils have funded, together with the associated outputs and outcomes.

8. Austerity measures

The MRC has robust control processes, checks and reporting arrangements in place to review and manage expenditure in keeping with the austerity measures introduced in May 2010.

9. Tax assurance

The Alexander Review was published in May 2012 making a number of recommendations to ensure that the highest standards of integrity could be demonstrated in the tax arrangements of senior public appointees. I can confirm that the MRC's senior staff are all paid through the payroll and that arrangements are in place through retained HR to provide assurance that appropriate tax arrangements are in place to cover any other appointees covered by the report.

In 2015/16 MRC identified eight Contractors who fell within the Alexander Review criteria. The MRC has sought and gained assurance that the appropriate tax arrangements are in place for the contractors identified.

Council members are 'office holders' as defined within HMRC guidance and their remuneration is subject to income tax and National Insurance contributions under PAYE where applicable and managed through the payroll.

As such, the MRC is in compliance with the recommendations in the HM Treasury 'Review of the tax arrangements of public sector appointees' published in May 2012.

10. Macpherson Review

The review of quality assurance of Government analytical models undertaken by Sir Nicholas Macpherson and published by HM Treasury in March 2013 made a number of recommendations for government departments and their Arm's Length Bodies.

To comply with the recommendations and BIS requirements, the MRC has reviewed its use of analytical modelling in 2015-16 and we have not identified any uses that were considered to be business critical.

11. Efficiency

Since 2010 the research councils have been implementing 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 Institution*. 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 across all research councils for the period to March 2016 are consistent with the original targets. Details can be found in the RCUK Efficiency Programme Report 2011-15.

<http://www.rcuk.ac.uk/Publications/policy/Efficiency2011/>

Alongside these measures the research councils also introduced changes to the requests for equipment on grants, including asking applicants to demonstrate how the usage of the equipment would be maximised. RCUK has worked with university partners to develop options to promote and assist equipment sharing, including exploring the issues around asset registers. There is good anecdotal evidence of significant progress by universities to promote sharing, and of very efficient usage of large pieces of experimental equipment.

RCUK Change Programme

The Research Council Chief Executives have agreed to take a collective, research council-wide, programme approach to operational efficiency and through a Change Programme with a targeting savings over the next three years. They have also agreed to move to a unified operations approach for business IS/IT, finance, HR, office estates, a common grants funding platform, and communication services to serve the head offices (Polaris House and London base) of all the research councils (not institutes, centres, units).

In March 2016 the RCUK Strategic Executive (SE) (comprising the Research Council Chief Executives and the RCUK Executive Director) agreed for the programme to include wider change. The focus would now be on centralising and moving to single operating models in identified functional areas alongside the Grants Delivery Platform and the safe transition of UK SBS services and building works. SE agreed the programme should be called the RCUK Change and Cost Reduction Programme, and would build on the existing OCRP programme team and board members in order to resource and support the wider change programme and would move to a two year programme.

In 2015/16 a new governance model was agreed to cover the collective activities of the research councils. The RCUK Executive Group has been replaced by the RCUK Strategic Executive, with membership comprising of the seven research councils' CEOs plus the RCUK Executive Director. Work will continue in 2016/17 to develop the further tiers of governance to support the new group and its sub-boards.

The MRC aims to be a leading body in evaluation and in capturing of outcomes of funding research through comprehensive use of Researchfish, and funding independent and external research into outcomes and impacts.

12. Regularity and propriety

I can confirm that for 2015/16 neither I nor my staff authorised a course of action, the financial impact of which would have been that transactions would have infringed the requirements of regularity as set out in Managing Public Money; and that Treasury approval has been obtained for all novel, contentious or repercussive transactions relating to 2015/16.

13. Whistle-blowing

The MRC has a whistle-blowing policy which sets out ways to report concerns include a dedicated confidential email address and options to contact the Chair of the Audit and Risk Committee. The policy has not been invoked during 2015/16.

14. Research integrity

MRC Council receives an annual report on research integrity, including information on any cases of misconduct relevant to MRC-funded work. A summary report for 2014/15³² has been published on the MRC website in line with responsibilities agreed under the Concordat to support research integrity.

15. Review of effectiveness

As the MRC Accounting Officer I have responsibility for reviewing the effectiveness of the system of governance, risk management and internal control. My review is informed by the work of the executive managers within the MRC who have responsibility for the development and maintenance of the internal control framework, as well as by internal auditors 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 Management Board and CARAC and have developed plans to address weaknesses and ensure that 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.

Directors' Annual Statement of Internal Control (DASIC)

All MRC directors (intramural institutes/units, overseas offices and head office) provide 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.

All units now embedded in universities have provided a University Unit Assurance Statement, similar to the DASIC statement.

All returns are reviewed and validated by corporate leads for each area of responsibility before being considered by Operations Board and CARAC, no significant weaknesses were identified.

32. <https://www.mrc.ac.uk/research/research-policy-ethics/allegations-of-research-misconduct/>

Funding assurance activities

Across the RCUK community research funding totals £2.9bn of which £760.2m relates to the MRC.

The MRC funding landscape has two major funding streams: 1. Grants administered through the Siebel system (c£483.5m) and awarded to eligible research organisations (ROs); 2. Funding distributed outside the Siebel system (c£276.6m).

Siebel Grants

I am assured on the regularity of spend within the community through a range of mechanisms:

- The Funding Assurance Programme (FAP) is a common activity which all research councils place reliance upon in relation to the use of grant funding;
- ISA260 reports from Russell Group Universities and other top ranked HEIs. These have identified no major errors or concerns in the application of funds within the university sector;
- A letter from HEFCE providing an Annual Assurance Statement confirming that they have reviewed 24 institutions during the year and provide assurance on:
 - The financial stability of the institutions;
 - The absence of material threats to research council funds;
 - that HEIs work within sound governance frameworks; and
 - That they are unaware of any improper or irregular expenditure.
- Final Expenditure Statements submissions – each grant holder is required to submit a Final Expenditure Statement at the end of the grant. These are checked and reconciled (100%) by UK SBS.

In particular, the FAP methodology provides assurance on the control environment in operation within ROs and vouches a targeted sample of transactions to confirm compliance with grant terms and conditions. This assurance programme assesses the overall control environment of the universities and tests transactions through a process of risk and judgemental testing. The results (i.e. very low level of current and historic errors identified) are for all Councils consistent with our key assertion regarding the robustness of the overall research council funding system. In his report the Head of Funding Assurance provides Moderate Assurance based upon the programme of work undertaken in 2015/16 and the previous two years. In 2015/16 the main outcomes of this programme were:

- 20 assurance assignments.
- £32.1m of MRC expenditure reviewed.
- Ineligible expenditure identified £1.4k in 2015/16.
- Two payments in advance of need were identified.

The issues raised in the report have been reviewed subsequently by MRC staff, and due to the size and nature of the issues there are no major concerns arising. Combined with the other layers of assurance such as the processes around grant application, approval and payment plus the independent ISA260 audit reports for universities (reinforced by HEFCE framework for control of HEIs), I am able to make positive assertions around regularity of spend by ROs.

Non-Siebel awards/funding

These cover our large partnerships, joint ventures such as the Francis Crick Institute and university units; it also includes international subscriptions. Many of these assurance processes are commented upon elsewhere within this report; I am satisfied that the range of staff monitoring activities, our presence on Board representation and sight of external or other independent assurance is sufficient to provide confidence over this area of expenditure. Reflecting on the aggregation of all these sources of assurance I conclude on a strong framework that provides adequate assurance on the efficient and effective expending of public resources.

16. Current significant risks

The most significant risks to the MRC are set out below; all risks are discussed quarterly at Management Board and at CARAC:

The Crick – impact of Cross Rail 2

There is a risk that the construction and operation of Cross Rail 2 adjacent to the Crick will cause vibrations that will impact on the sensitive equipment installed in the basement. There is a risk of an adverse effect on the research programmes of the Crick reducing the benefits of the investment.

Mitigation – the MRC and the Crick are working with TFL to understand the risk and identify possible engineering solutions.

Changes to the structure of science funding

There is a risk that the structure of science funding bodies is reviewed/changed in a way which limits the effectiveness and agility of Council or causes temporary disruption to the delivery of the MRC mission. The MRC is working in partnership with the other research councils following the changes in the research funding landscape from the Nurse review and the subsequent White Paper and Higher Education and Research Bill. It will seek to ensure that changes are implemented in a way that do not reduce effectiveness or have an adverse impact on the delivery of our mission.

BIS 2020 and the future of UK SBS

Services are to transfer from UK SBS within the next three years; new solutions (service suppliers or systems) need to be in place for HR, payroll and finance transactional services transferred within two years. This allows limited time to address residual issues of service provision, and the archiving of data from the Oracle platforms. These issues were discussed at the Change Programme Operations Oversight Board in January, and through its auspices the research councils have been pressing BIS for clarity. However, the key programme decisions remain with BIS as part of the BIS 2020 agenda; a defined transition plan which works within these overall constraints is not yet available.

UK SBS current service provision

There is a risk that the MRC does not receive services to the agreed standard affecting performance or requiring 'work around' such as scientific recruitment. The MRC has limited ability to influence delivery.

Mitigation – The MRC has on-going dialogue with UK SBS about performance. In addition issues are raised at customer forum and through BIS, for example the BIS 2020 review.

MRC/Innovate UK Biomedical Catalyst

There is a risk that MRC and Innovate UK are unable to jointly develop a sustainable mechanism which meets the expectations of stakeholders.

Mitigation – the MRC and Innovate UK are in discussion with BIS on longer-term sustainable options for the Biomedical Catalyst.

17. Assurance

Audit and Assurance Service Group (AASG)

In 2015/16 The Head of Internal Audit provided the MRC with an overall Moderate level of assurance on the adequacy and effectiveness of MRC's controls framework.

The internal audit programme is developed annually in consultation with CARAC, Management Board and the Head of Risk Management. In 2015/16 the audit programme (including cross council) included 23 audits (three still to be reported), two (8.7%) gave substantial assurance, 17 (73.9%) moderate and four (17.4%) limited assurance, giving the MRC a realised assurance of 82.6%. All reports have been discussed by CARAC.

The MRC has a comprehensive system for tracking implementation of audit recommendations. Progress on implementation is reviewed at Operations Board and CARAC at least quarterly.

An assurance programme is in place for the Francis Crick Institute in the form of Infrastructure & Projects Authority (formerly Major Projects Authority) Gateway Reviews. The timing was such that no review was required for 2015.

18. UK Shared Business Services Ltd (UK SBS) assurance

The UK SBS provides processing services in human resources, procurement, payroll, finance, and grants to all seven Research Councils.

2015/16 performance

The Accounting Officer of UK SBS has written to me stating that the company's overall assurance status is amber, 73% of the controls are assessed as green, 26% of the controls are assessed as amber with one control, IT Disaster recovery as red.

To compensate for the weaknesses in UK SBS, the MRC has been operating a system of detective controls to identify and rectify service failings. AASG has examined this additional control system, the outcomes of which were:

- Payroll – Moderate Assurance;
- GPC & iExpenses – Moderate Assurance;
- Purchase to Pay – Moderate Assurance;
- Strategic Procurement – Limited Assurance.

The accepted recommendations in these areas will be taken forward in 2016-17. UK SBS have provided assurance that work continues to strengthen the controls on procurement.

During the year there was an unplanned system outage of two weeks; the databases sitting behind Oracle were updated to bring them back into technical support from Oracle. This update did however lead to an unplanned system outage of two weeks which resulted in business continuity plans being implemented by UK SBS, the research councils and RCUK. Within the MRC we continue to experience service issues, particularly in relation to financial reporting, these are being managed collectively with UK SBS.

Business continuity and disaster recovery (BC/DR)

In 2015, the research councils and UK SBS collectively started a number of initiatives to mitigate the most serious risks that were faced. In this context it was recognised that the business systems employed by the research councils and UK SBS are currently out of support, although there are alternative arrangements in place to provide on-going support for Oracle 12.0.3. Additionally, UK SBS is entering into a transition period over the next three years, as new business systems are implemented and UK SBS disbanded. These factors pose a significant risk to the research councils.

A cross research council group, which includes UKSA and AASG, was set up in August 2015 to consider possible erosion of UK SBS services as plans for their future evolve. The group considered and agreed mitigations in the key areas of research council business:

- Identify potential areas at risk in each area in the event of any reduction in the quality of service provided by UK SBS;
- Compile a summary detailing the background, key activities, overview of risks and options for mitigation of risks;
- Liaise with UK SBS to identify the current status of their business continuity plans and take appropriate actions to ensure this are aligned to minimise disruption in the areas identified by the research councils;
- Harmonise as far as possible research council BC/DR plans under an overarching umbrella;
- Plans to upgrade and test the existing disaster recovery facilities.

It has become clear that the potential for erosion of service is increasing, evidenced by recent losses of service when UK SBS had a major Oracle and Siebel issue with the systems being down for a period of several days. UK SBS, in liaison with the research councils, has carried out a lessons learnt exercise for the most recent loss of service. The Chair of RCUK Strategic Executive has written to the BIS Principal Accounting Officer alerting him of the collective concerns of the research councils regarding the on-going vulnerability and fragility of UK SBS systems.

Future operations

BIS announced in 2015 that services will transfer from UK SBS over the following three years and in February 2016 that the Company will close in 2-3 years. The closure will require the MRC to move to alternative providers within that time. BIS have indicated that the providers could be a combination of private sector, other parts of government or retained functions within BIS organisations.

UK SBS has continued to highlight risks to continued resilience, including reliance on legacy systems. The company's ability to maintain service delivery, prepare for and transfer services over the next two to three years will be highly dependent on capacity and capability. Decisions on the BIS shared services strategy and other programmes will impact on UK SBS's ability to manage change and retain key skills.

To date, there have been no material errors or omissions reported to me, although the risk of error has increased. Whilst the resolution of the above systems issues could be seen as a positive outcome, I am concerned there is a need to assess and stabilise the platform in order to minimise the risk of further disruptions. The MRC, the other research councils and the RCUK Executive Directorate will continue to strengthen the business continuity plans already in place, including a review of the lessons learned from the outage this year.

19. Conclusion

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 AASG and CARAC. Although there are considerable challenges within the organisation, the conclusion of the review is sufficient to satisfy me that the operation of systems of governance, risk management, and control are appropriate for the MRC and its risk profile.

Remuneration and staff 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 committee is chaired by the MRC Chairman and there are four additional members who are all Council members. Remuneration Committee membership during 2015/16 was:

- Mr Donald Brydon, Chairman
- Professor Chris Day, Newcastle University
- Dr John Brown, Edinburgh
- Professor Patrick Johnston, Queens University Belfast
- Dr Mene Pangalos, Astra Zeneca

The MRC Chief Executive, Sir John Savill, also attends Remuneration Committee meetings. Bruce Minty (MRC Chief Operating Officer), Sally-Louise Smith (MRC Director of Human Resources) 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. 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. In 2014/15 it was agreed that the MRC would be exempt from needing to request SROC advice in cases where they wished to pay senior scientists in their institutes/facilities a remuneration package of between £100k - £142.5k.

2015/16 marked the seventh year of pay restraint for the MRC. When not in a pay restraint, 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, and 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 (branded Special Award 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 at the end of year or a smaller quantum in-year.

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.

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 summary of the level of remuneration for the MRC's Management Board is shown in table 17. The levels of honoraria for MRC Council members are also shown in table 20.

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.

The Chief Executive was an ordinary member of the MRC's pension scheme until the end of March 2012 when he withdrew.

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.

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 17: Senior staff remuneration (audited information)

	2015/16				2014/15			
	Remuneration	Bonus	Pension benefit	Total	Remuneration	Bonus	Pension benefit	Total
	£000	£000	£000	£000	£000	£000	£000	£000
John Savill (1)								
Chief Executive	135-140	5-10	-	140-145	135-140	15-20	-	155-160
Jim Smith (2)								
Deputy Chief Executive and Chief of Strategy	85-90	10-15	40	140-145	155-160	10-15	35-40	205-210
Bruce Minty								
Chief Operating Officer	150-155	10-15	34	195-200	140-145	10-15	30-35	185-190
Declan Mulkeen								
Chief Science Officer	115-120	-	34	150-155	110-115	5-10	85-90	205-210
Sally-Louise Smith (3)								
Director of Human Resources	100-105	0-5	36	145-150	20-25	-	30-35	50-55
Hugh Dunlop								
Director of Finance and Information Technology	125-130	5-10	37	170-175	105-110	-	35-40	140-145
Sandy Bulger								
Director of Major Projects	140-145	10-15	42	195-200	125-130	10-15	25-30	165-170
Tony Peatfield								
Director of Corporate Affairs	115-120	-	33	145-150	105-110	5-10	30-35	140-145
Ted Smith (4)								
Director of Human Resources	-	-	-	-	110-115	25-30	25-30	165-170

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

(1) John Savill works part-time and his full year equivalent salary is £170k-£175k. He is not a member of the MRC pension scheme

(2) Jim Smith works part-time and his full year equivalent salary is £185k-£190k. The figure for 2014/15 included his salary received as Director of NIMR (NIMR transferred to the Crick on 1 April 2015).

(3) Sally-Louise Smith was appointed Director of Human Resources from 1 January 2015 her full time equivalent salary was £85k-90k for 2014/15.

(4) Ted Smith resigned from 31 December 2014 his full year equivalent salary was £145k-£150k.

Table 18: Senior staff pension (audited information)

	Accrued pension at Retirement Age as at 31.3.16 and (Lump sum)	Real increase/ (decrease) in pension and related lump sum at retirement age	CETV at 31.3.16 or date left	CETV at 31.3.15	Real increase/ (decrease) in CETV
	£000	£000	£000	£000	£000
Professor John Savill					
Chief Executive	-	-	-	-	-
Dr J Smith					
Deputy Chief Executive and Chief of Strategy	10-15 plus 40-45 lump sum	0-2.5 plus 5-7.5 lump sum	238	220	18
Mr B Minty					
Chief Operating Officer	10-15 plus 30-35 lump sum	0-2.5 plus 5-7.5 lump sum	179	160	19
Dr D Mulkeen					
Chief Science Officer	35-40 plus 115-120 lump sum	0-2.5 plus 5-7.5 lump sum	602	629	(27)
Mrs S-L Smith					
Director of Human Resources	5-10 plus 15-20 lump sum	0-2.5 plus 5-7.5 lump sum	60	46	14
Mr H Dunlop					
Director of Finance and Information Technology	40-45 plus 125-130 lump sum	0-2.5 plus 5-7.5 lump sum	684	715	(31)
Mr A Bulger					
Director of Major Projects	10-15 plus 30-35 lump sum	0-2.5 plus 5-7.5 lump sum	193	170	23
Dr A C Peatfield					
Director of Corporate Affairs	40-45 plus 120-125 lump sum	0-2.5 plus 5-7.5 lump sum	757	794	(37)

Pensions and lump sums are those calculated as at retirement age or date of leaving. Details of the MRC Pension Scheme appear in Note 6 of the Annual Account.

Fair pay disclosures

(audited information)

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. The range of staff remuneration is £15,170 to £217,040 (2014/15 £14,920 to £226,244). MRC Median pay is £32,648 (2014/15 – £32,324). The mid point of the banded remuneration of the highest paid director is £177,500 (2014/15 – £187,500). The Chief Executive's full time equivalent pay based upon working

four days a week as a multiple of median pay is 5.4 (2014/15 – 5.8). The highest paid director is the Director for Africa Research Development. The mid point of his remuneration is £217,500.

Compensation for loss of office

Entitlements under conditions of service are the same as those for other members of staff and, should their contract be terminated early, they would be entitled to compensation under the terms of the MRC Redundancy Scheme. Details of the service contract of the Chief Executive and staff on personal contracts are given in the table below. These individuals do not have any specific contractual rights for termination of their contract.

Table 19: Senior staff contracts

Chief Executive and Directors	Contract Start Date	Contract End Date	Notice Period
Professor Sir John Savill Chief Executive	1 Oct 2010	30 Sept 2018	3 months
Dr J Smith Deputy Chief Executive and Chief of Strategy	1 Apr 2015	31 Mar 2018	3 months
Mr B Minty Chief Operating Officer	Permanent contract	-	3 months
Dr D Mulkeen Chief Science Officer	Permanent contract	-	3 months
Mrs S-L Smith Director of Human Resources	Permanent contract	-	3 months
Mr H Dunlop Director of Finance and Information Technology	Permanent contract	-	3 months
Mr A Bulger Director of Major Projects	Permanent contract	-	3 months
Dr A C Peatfield Director of Corporate Affairs	Permanent contract	-	3 months

Council members

(unaudited information)

MRC Council members are appointed by the Minister of State for Universities and Science 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. In exceptional circumstances members may be re-appointed for one further four-year term.

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 20 below.

Dr Ruth McKernan, as an employee of Innovate UK and Professor Dame Sally Davies, as an employee of the Department of Health, are not entitled to receive honorarium.

Table 20: Council honoraria 2015/16 (audited information)

Member	Position/Affiliation	Annual Honoraria	
		2015/16 £000	2014/15 £000
Mr Donald Brydon	Chairman	15-20	15-20
Professor Sir John Savill (1)	Deputy Chair	-	-
Professor Jeffrey Almond (2)	Visiting Professor, Oxford and Reading	-	0-5
Professor Michael Arthur (2)	University College London	-	0-5
Dr John Brown	Cell Therapy Catapult/Life Science Advisory Board	5-10	0-5
Professor Doreen Cantrell	University of Dundee	5-10	0-5
Mr Tony Caplin (3)	Alternative Networks plc/Public Works Loan Board	-	0-5
Professor Dame Sally Davies	Department of Health	-	-
Professor Chris Day	Newcastle University	5-10	5-10
Professor Dame Janet Finch	Nursing and Midwifery Council	5-10	0-5
Dr Richard Henderson (2)	MRC Laboratory of Molecular Biology, Cambridge	-	-
Professor Patrick Johnston	Queens University Belfast	5-10	0-5
Professor Dame Sally Macintyre	University of Glasgow	5-10	5-10
Dr Ruth McKernan	Pfizer, Cambridge	-	-
Professor Paul Morgan (4)	Cardiff University	-	5-10
Baroness Onora O'Neill	House of Lords	5-10	5-10
Dr Menelas Pangalos	Astra Zeneca, Cheshire	5-10	5-10
Ms Vivienne Parry (5)	Writer and Broadcaster, London	5-10	5-10
Professor Michael Schneider	Imperial College London	5-10	5-10

(1) Professor Sir John Savill is also the CEO so does not receive an honorarium. His remuneration is covered in table 17

(2) Professor Jeffrey Almond, Professor Michael Arthur and Dr Richard Henderson's terms came to an end on 30 September 2014

(3) Mr Tony Caplin resigned on 19 April 2014

(4) Professor Paul Morgan's term came to an end on 31 March 2015

(5) Ms Vivienne Parry's term came to an end on 31 March 2016

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. Declan Mulkeen is a Board member of MRCT (MRC Technology). Jim Smith is Deputy Director of Science at the Francis Crick Institute.

Staff report

(audited information)

Reporting of Civil Service and other comprehensive schemes – exit packages

Exit packages cost band	Number of compulsory redundancies	Number of departures agreed	Total number of exit packages by cost band
	2015/16(2014/15)	2015/16(2014/15)	2015/16(2014/15)
<£10k	7(3)	22(45)	29(48)
£10k-£25k	8(11)	32(39)	40(50)
£25k-£50k	3(5)	16(8)	19(13)
£50k-£100k	1(2)	9(4)	10(6)
£100k-£150k	0(0)	1(1)	1(1)
£150k-£200k	0(0)	0(0)	0(0)
>£200k	0(0)	0(0)	0(0)
Total number of exit packages	19(21)	80(97)	99(118)
Total resource cost (£000)	£341(£491)	£1,933(£1,539)	£2,274(£2,030)

Staff costs and related numbers

a. Staff costs

	2015/16 £000	2014/15 £000
Salaries and wages	91,529	113,594
Social security costs	7,981	9,023
Other pension costs (note 6e)	26,847	20,821
Non-permanent staff	1,126	1,658
Council and committee honoraria	397	369
Early retirement costs	(176)	75
Gross staff costs	127,704	145,540
Less commercial activities	(6,867)	(6,766)
Staff costs for general activities	120,837	138,774

b. Staff numbers

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

	2015/16	2014/15
Science	910	1,049
Research project support	494	569
Infrastructure and Administration	298	307
Technical services	433	518
Locally employed staff (overseas)	1,462	1,441
Total	3,597	3,884

MRC Employees

(unaudited information)

The number of people of each gender who were employed by the MRC (UK only) as at 31 March 2016 were as follows:

Gender	MB directors (incl. CEO)	Other band one staff	All employees
Female	1	18	985
Male	7	55	935
Total	8	73	1920

Ethnic group	No. of employees	Percentage
Black and minority ethnic (BME)	243	12.6
Non-BME	1416	73.8
Not disclosed	244	12.7
Other ethnic group	17	0.9
Total	1920	100%

Disability	No. of employees	Percentage
Yes	23	1.2
No	1012	52.7
Not disclosed	885	46.1
Total	1920	100%

Sickness absence	2015/16
Total no. of employees (UK only as at 31/03/16)	1,920
Total days lost to sickness	8,352
Avg. working days lost per employee	4.4

For all off-payroll engagements as of 31 March 2016, for more than £220 per day and that last for longer than six months

No. of existing engagements as of 31 March 2015	3
Of which...	
No. that have existed for less than one year at time of reporting.	3

For all new off-payroll engagements, or those that reached six months in duration, between 1 April 2015 and 31 March 2016, for more than £220 per day and that last for longer than six months

No. of new engagements, or those that reached six months in duration, between 1 April 2015 and 31 March 2016	8
No. of the above which include contractual clauses giving the department the right to request assurance in relation to income tax and National Insurance obligations	8
No. for whom assurance has been requested	8
Of which...	
No. for whom assurance has been received	8

For any off-payroll engagements of board members, and/or, senior officials with significant financial responsibility, between 1 April 2015 and 31 March 2016

No. of off-payroll engagements of board members, and/or, senior officials with significant financial responsibility, during the financial year.(1)	0
Total no. of individuals on payroll and off-payroll that have been deemed "board members, and/or, senior officials with significant financial responsibility", during the financial year. This figure should include both on payroll and off-payroll engagements.(2)	14

The 14 Board members includes 8 members of the Management Board and 6 directors of MRC Institutes and Units

Employment of disabled persons

The MRC has worked with the other Research Councils to produce an overarching Equality and Diversity Action Plan. In addition the MRC has an Equality and Diversity Vision that sets out the MRC commitment to fulfil obligations as a public body under the Equality Act 2010, Disability. Part of the vision sets out the specific duties that the MRC undertakes such as publishing an action plan which will be reviewed in 2016, gathering information on how MRC policies and procedure affect equality, assessing the impact of our policies on equality and consulting with key stakeholders (including employees and trade unions).

It is MRC policy that there should be no discrimination, harassment or less favourable treatment or victimisation of any employees, job applicant or funding applicant, either directly or indirectly related to a protected characteristic (including disability) or trade union membership or activity. The MRC reviews the impacts on equality of our new and existing policies, processes and functions on an ongoing basis by the policy owner.

The MRC undertakes equality training for managers and employees. In 2014 the MRC piloted 'unconscious bias' training which is being rolled out across the organisation.

The MRC is a 'Two Ticks Employer', which means that any disabled candidates must be shortlisted for interview if they meet the minimum criteria. The MRC has developed a 'reasonable adjustment guide' so that managers are aware of their responsibility for employees with disabilities or who become disabled. The MRC has also developed a network of employees who are 'equality champions'. These employees work with HR, local trade unions and health and safety to ensure that employees are supported in the workplace.

Disabled employees are offered the same training and development opportunities as any other staff and adjustments are made to attend training as necessary. In addition, the MRC has asked several disabled staff to 'trial out' leadership training specifically created for disabled people to see if that meets their specific needs. The results are equivocal.

Equality and diversity

As highlighted in the section on disability above the MRC has an Equality and Diversity Vision, with underpinning action plans and policies. The vision reflects the MRC's obligations under the Equality Act 2010. During 2015/16 the MRC has continued to go beyond these obligations and has continued to focus on improving opportunities for Women in Science. The proportion of women employed in senior posts has increased and MRC units have been successful in achieving Athena Swan accreditation. In addition, working with other Research Councils, the MRC has been leading the way in publishing equality data. Other significant progress has been made with regard to family-friendly policies, including dropping qualifying periods for the purposes of maternity and paternity policies and providing flexibility in extending fixed-term scientific appointments to take into account periods of maternity leave. The MRC has also been piloting unconscious bias training which commenced roll-out in 2015/16. The MRC works closely with trade unions and employees through its engagement mechanisms to listen to equality issues, and feed these into action plans and raise awareness of equality and diversity.

Employee engagement

The MRC recognises the importance of its staff and their vital contribution to the organisation's success. We are committed to effective two-way communication and consultation with staff and this is reflected in our staff survey results from the SpeakUp survey in 2015, with 62 per cent of staff agreeing or strongly agreeing that the MRC keeps them up to date on matters that affect them.

Consultation and engagement is managed through a number of channels as outlined below:

- The MRC has an effective partnership with our National Trade Union Side who represent staff on a range of matters including pay, benefits, pensions and organisational change.
- MRC policies have consultation in their core principles, eg. when organisational change is made through the quinquennial review process then there is a formal and rigorous consultation process that is put in place, including the provision for staff to make representations to the MRC Council decision-making body.
- Regular staff bulletins distributed through a cascade method which update staff on contractual and non-contractual employment related terms including pay, benefits, pensions and policies. These are then printed and displayed on staff notice boards at all units.
- All-staff emails from corporate directors (usually the CEO or HR Director) which communicate strategic matters to staff.
- MRC Life newsletter which has articles of interest from around the MRC and also information on HR and development activities.
- The SpeakUp staff surveys (ran in 2012, 2013 and 2015) provide an effective means of getting feedback from our staff on a number of areas including My Work, Learning and Development, My Manager, Pay and Benefits, Resources and Workload, Engagement and Leadership and Managing Change. In 2015 we received a 59 per cent response rate (1,128 respondents) and achieved an engagement index of 65 per cent (which matched the results from the previous survey).
- Senior Leadership Visits – Management Board members visit each MRC site to do a presentation to all staff on the current issues facing the MRC. Staff have the opportunity to ask questions.
- HR Roadshows – when any major HR change is planned for example, pay restructuring, roadshow presentations are made at all units where all staff are invited. These are led by the HR Director.

Parliamentary accountability and audit report

Regularity of expenditure

(audited information)

Our assessment of risk relating to the use of public funds is concerned with all MRC funds being used for the purposes intended by Parliament (regularity), and that fraud and impropriety are adequately safeguarded against. Information for this assessment is derived through the interaction of key controls throughout the year both within the organisation and from external assurance such as the work of internal and external auditors. Detail of the control framework is commented upon in the Governance Statement.

There have been no material issues of regularity (funds not being used for the purposes given) reported through the year.

Audit fees

(audited information)

The accounts have been audited by the Comptroller and Auditor General, who has been appointed under statute and is responsible to Parliament. The cost of the audit was £140,000. No remuneration was paid to the external auditors in respect of non-audit work in 2015/16.

Internal audit was provided independently by the Research Councils' Audit and Assurance Services Group (AASG). AASG reports annually to the Audit Committee. The cost of internal audits and funding assurance undertaken during 2015/16 was £341,483. No remuneration was paid to the internal auditors in respect of non-audit work during 2015/16.

Thefts, losses and special payments

During the year the MRC incurred losses of £22,830.

- A loss of £12,000 resulting from fraudulent activity (one case).
- Thefts of computer equipment, mobile devices and peripherals (eight cases) estimated at £10,830 in total.

In addition there was one case of a special payment made in relation to a personal injury claim for damages of £288,500.

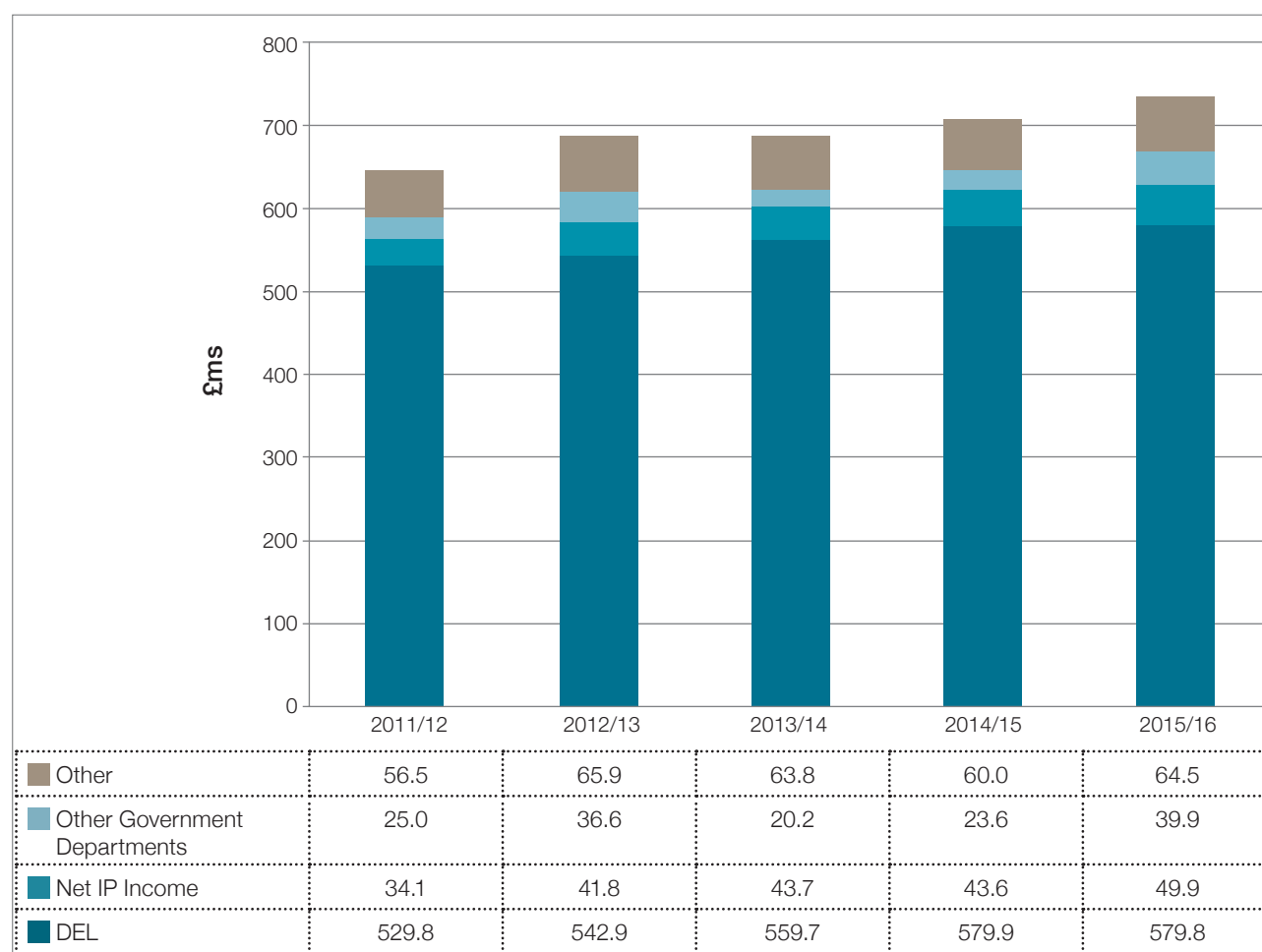
Long term expenditure trends

The MRC's annual expenditure is largely determined by the budgetary allocation (DEL) from BIS which is set as part of the Spending Review. Contributions from other bodies and income from intellectual property can also increase the MRC's spending power.

The last Spending Review (SR 10) covered the years 2011/12 to 2015/16. The following figures show expenditure over this period by the following categories:

1. Programme Near Cash Resource
2. Administration Near Cash Resource
3. Capital

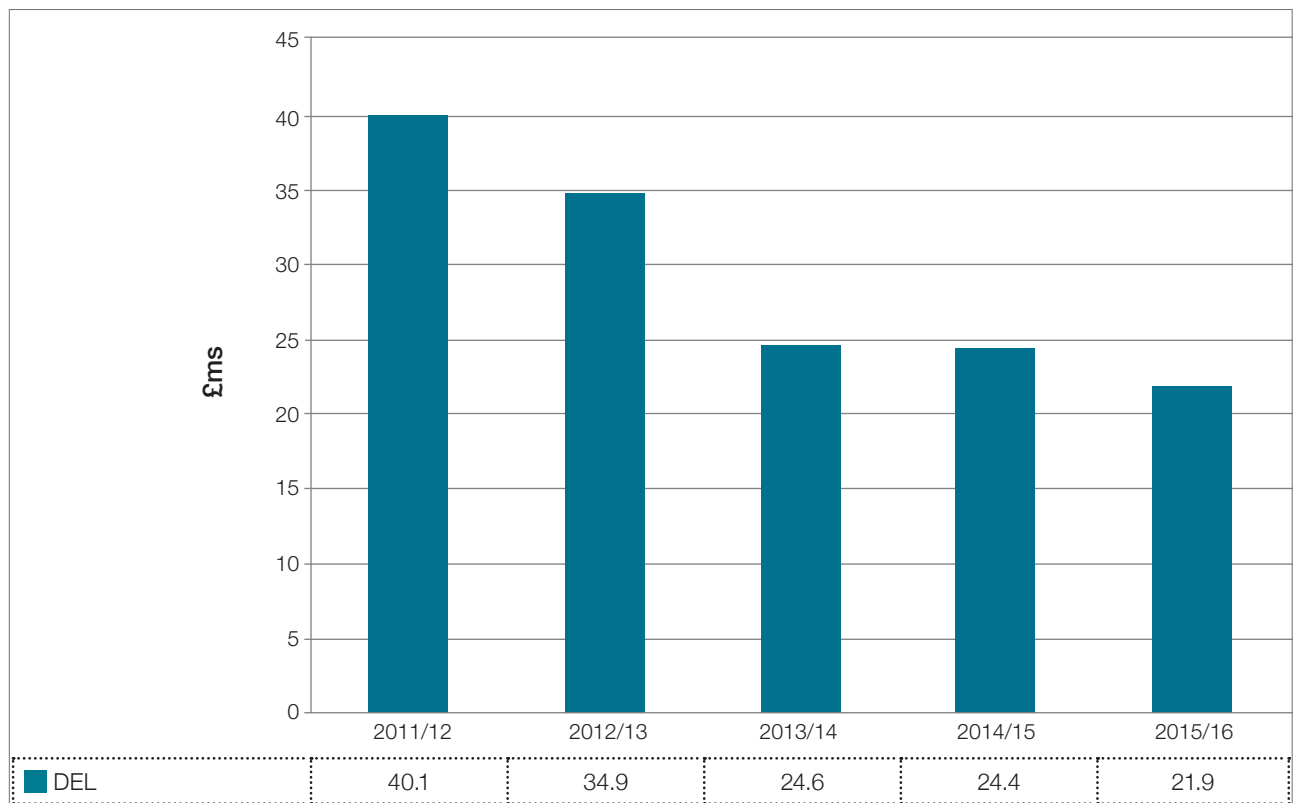
Figure 7: Programme Near Cash Resource Expenditure by source of funding



Programme expenditure increased by more than £88m over the period. The SR 10 settlement protected MRC's Programme expenditure in real terms and this was underpinned by intellectual property (IP) income.

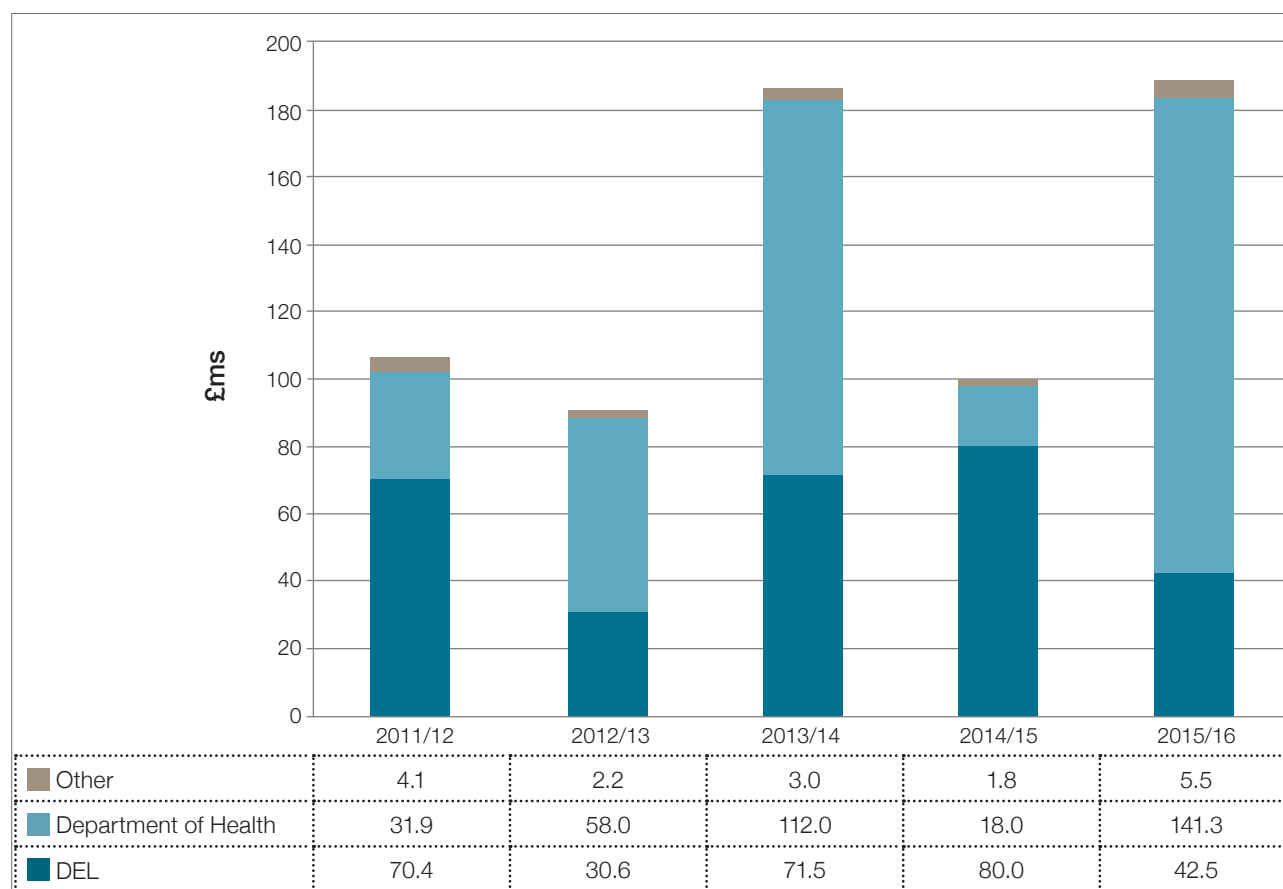
Partnerships and collaborations with other government departments together with grant funding from other bodies have also supported research expenditure over the period.

Figure 8: Administration Near Cash Resource Expenditure



Administration expenditure decreased significantly over the period. The reduction over the CSR reflects the on-going reduction in administration budgets due to public sector efficiency measures.

Figure 9: Capital by source of funding



There was an increase in DEL-funded expenditure in 2011/12 for construction of the new building for the Laboratory of Molecular Biology and in 2013/14 and 2014/15 for investment in Bioinformatics and Regenerative Medicine.

The Department of Health funded the construction of the Francis Crick Institute between 2011/12 and 2014/15 and funded the Clinical Research Infrastructure investment in 2015/16.

Sir John Savill
Accounting Officer/Chief Executive Officer
Medical Research Council

Date: 28 June 2016

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 2016 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 and Staff Report and the Parliamentary Accountability Disclosures that is described in that report as having been audited.

Respective responsibilities of the Council, Accounting Officer and auditor

As explained more fully in the Statement of Accounting Officer's Responsibilities, the Council and the 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 and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by me in the course of performing the audit. If I become aware of any apparent material misstatements or inconsistencies I consider the implications for my certificate.

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

Opinion on regularity

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

Opinion on financial statements

In my opinion:

- the financial statements give a true and fair view of the state of Medical Research Council's affairs as at 31 March 2016 and of 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.

Opinion on other matters

In my opinion:

- the parts of the Remuneration and Staff Report and the Parliamentary Accountability disclosures to be audited have been properly prepared in accordance with Secretary of State directions made under the Science and Technology Act 1965; and
- the information given in the Performance Report and Accountability 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 returns adequate for my audit have not been received from branches not visited by my staff; or
- the financial statements and the parts of the Remuneration and Staff Report and the Parliamentary Accountability disclosures to be audited are not in agreement with the accounting records and 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.

Report

I have no observations to make on these financial statements.

Sir Amyas C E Morse
Comptroller and Auditor General

Date: 1 July 2016

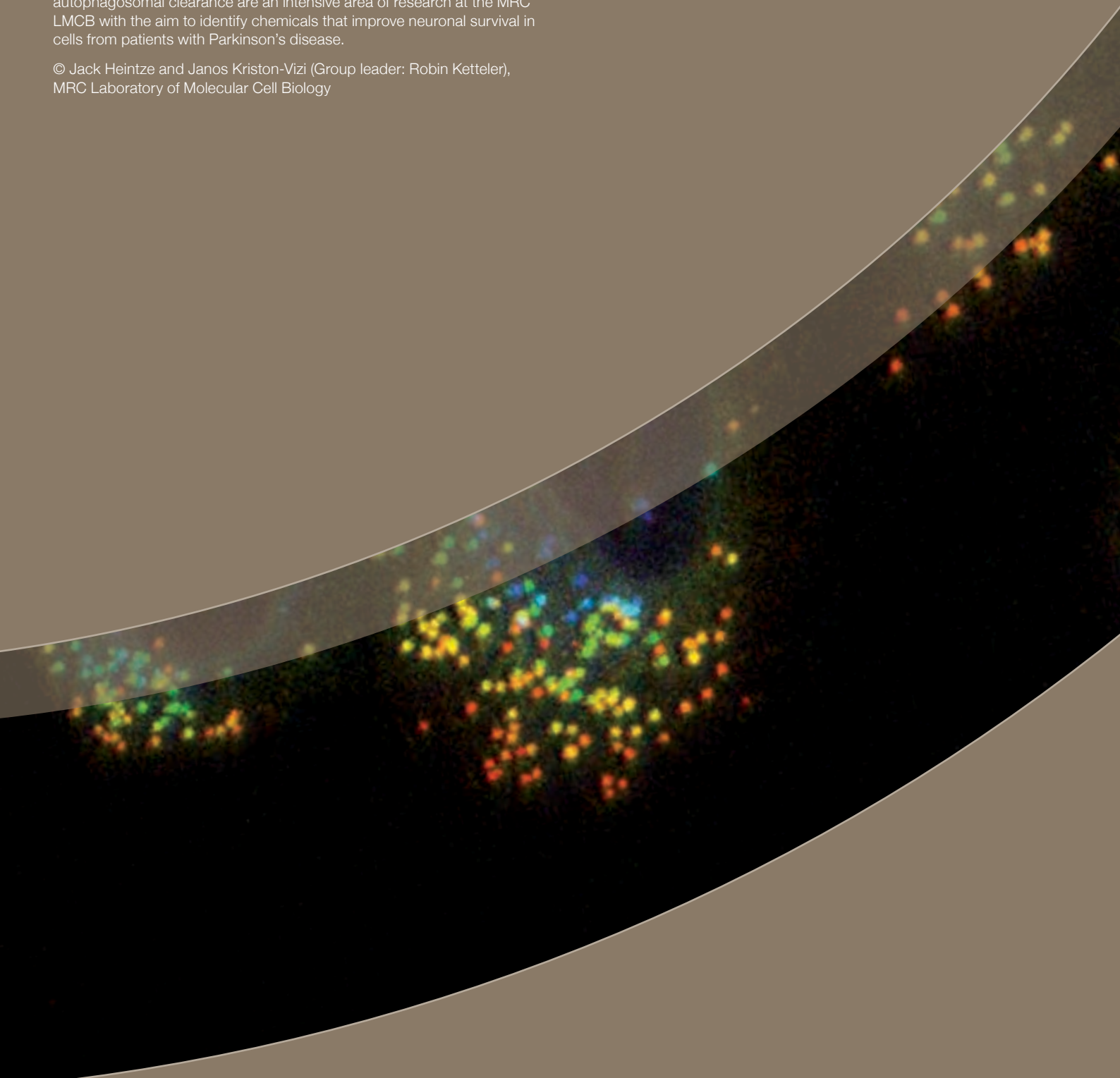
National Audit Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP

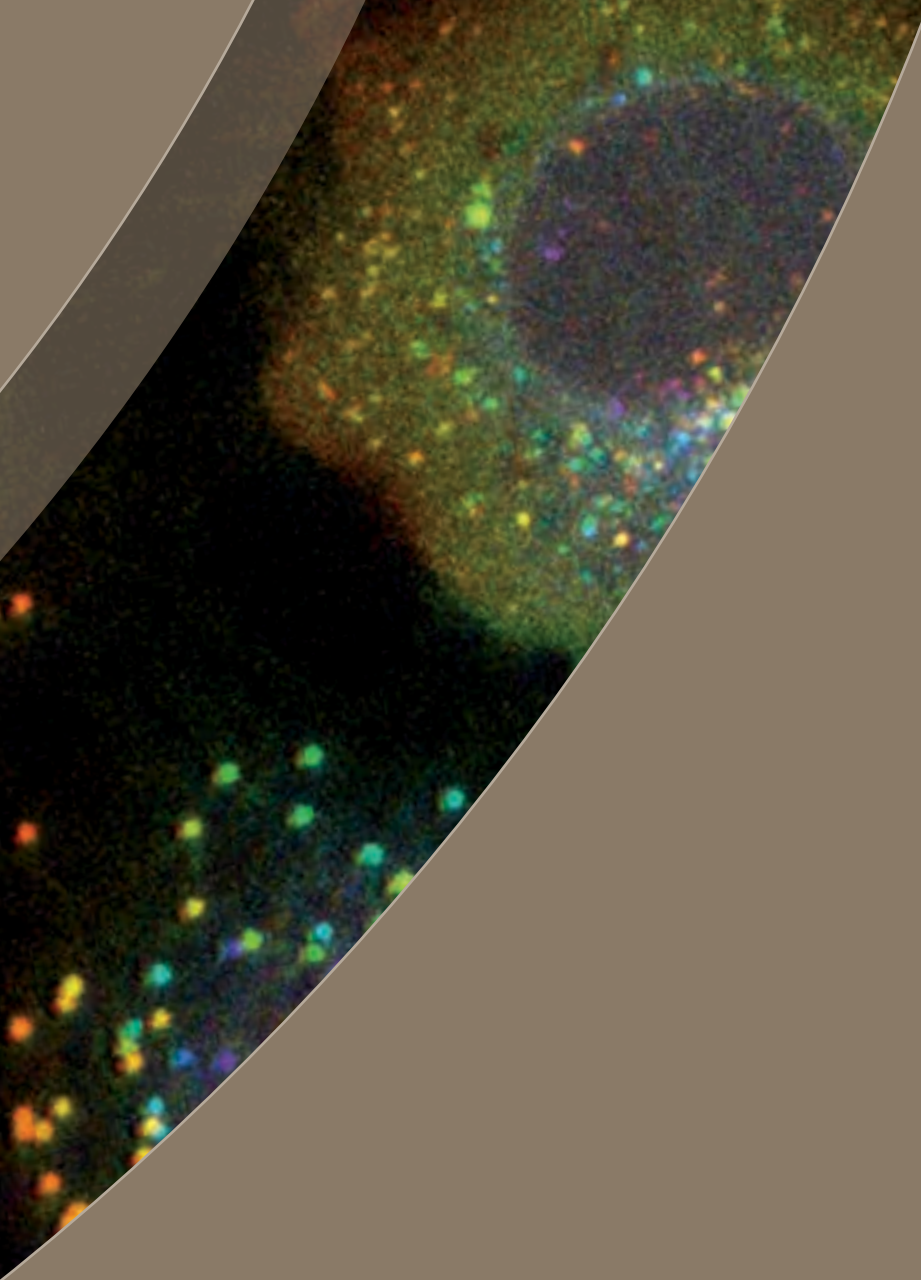
Lung cancer cell line

A549 lung cancer cell line, stably expressing the tandem autophagy marker LC3-eGFP-mCherry. The cells were treated with an autophagy-inducer compound and the spots are autophagosomes. The image is a projection of a stack of 24 slices, the colour coding is corresponded to the z-height.

Background: Cells expressing a fluorescent autophagy marker, imaged using a laser scanning confocal microscope. Autophagosomes are important intracellular organelles that help remove unwanted or damaged material from otherwise healthy cells. Defects in this process can cause diseases such as cancer and neuro-degenerative disorders. Drug screening to improve autophagosomal clearance are an intensive area of research at the MRC LMCB with the aim to identify chemicals that improve neuronal survival in cells from patients with Parkinson's disease.

© Jack Heintze and Janos Kriston-Vizi (Group leader: Robin Ketteler),
MRC Laboratory of Molecular Cell Biology





Financial statements

Statement of Comprehensive Net Expenditure

for the year ended 31 March 2016

	Note	2015/16 £000	2014/15 £000 Restated
Income			
Contributions from other government departments	4	(44,195)	(23,610)
Contributions and grants from other bodies	5	(56,258)	(57,713)
Commercial activities	13	(95,993)	(94,899)
Other Income		(9,507)	(3,548)
Total income		(205,953)	(179,770)
Expenditure			
Staff Costs	7	120,837	138,774
Other Expenditure	8	84,626	101,764
Research Grants	9	445,066	305,144
Other Research	10	227,789	145,743
Postgraduate/training awards	11	70,973	71,107
International Subscriptions	12	16,377	16,097
Commercial Activities	13	46,095	51,311
Amortisation of intangible assets	15	31,835	22,571
Depreciation	14	19,989	27,160
Reversal of prior year downward revaluation of property, plant and equipment	14	0	(2,026)
Impairment of property, plant and equipment	14	732	3,807
Notional service charge	11	5,862	6,113
Total expenditure		1,070,181	887,565
Net Operating Expenditure		864,228	707,795
Interest Receivable		(22)	(26)
Other finance expenditure/(income)	6f	(709)	(3,163)
Unwinding of discount on provisions		28	60
Loss on Disposal of property, plant and equipment		144	476
Loss on disposal of asset held for sale		40	0
Share of (profit)/loss of joint venture	16	1,322	805
Net expenditure for the year		865,031	705,947
Other Comprehensive Expenditure			
Net (gain) on revaluation of property, plant and equipment	14	(6,242)	(51,116)
Net (gain) on revaluation of intangible assets	15	(20,962)	(31,394)
Net (gain)/loss on revaluation of investments		(741)	197
Actuarial (gain)loss on defined benefit pension plan	6b	(103,747)	74,254
Total Comprehensive Net Expenditure for the year ended 31 March 2016		733,339	697,888

The notes on pages 98 to 124 form part of these accounts.

MRC Statement of Financial Position

as at 31 March 2016

	Note	2016 £000	2015 £000 Represented
Non-Current Assets			
Property, plant and equipment	14	511,891	539,903
Intangible assets	15	48,572	59,445
Investment in Joint Ventures	16	268,242	268,286
Investments		3,890	3,149
Pension asset	6d	123,898	22,894
Total Non-current assets		956,493	893,677
Non-Current Assets held for sale		0	1,411
Current assets			
Trade and other receivables	17	53,487	75,135
Cash and cash equivalents	18	61,795	5,862
Total current assets		115,282	80,997
Total assets		1,071,775	976,085
Current Liabilities			
Trade and other payables	19	(264,145)	(250,068)
Provisions falling due within 1 year		(3,538)	(3,468)
Total current liabilities		(267,683)	(253,536)
Total assets less current liabilities		804,092	722,549
Non current liabilities			
Trade and other payables	19	(16,469)	(10,913)
Provisions due after more than one year		(2,725)	(3,507)
Total non-current liabilities		(19,194)	(14,420)
Assets less liabilities		784,898	708,129
Equity			
Revaluation reserve		85,363	83,357
Intellectual property reserve		48,562	59,401
Pension reserve		123,898	22,894
General reserve		527,075	542,477
Total Equity		784,898	708,129

The notes on pages 98 to 124 form part of these accounts.

Sir John Savill,
Accounting Officer/Chief Executive Officer
Medical Research Council

Date: 28 June 2016

MRC Statement of Cash Flows

for the year ended 31 March 2016

	Note	2016 £000	2015 £000
Cash flow from operating activities			
Net expenditure for the year	SoCNE	(865,031)	(705,947)
Depreciation charge	14	19,989	27,160
Amortisation charge	15	31,835	22,571
Capital grant of assets		27,003	372
Reversal of prior year downward revaluation of property, plant and equipment	14	0	(2,026)
Impairment of property, plant and equipment	14	732	3,807
Loss on disposal of property, plant and equipment		144	476
Loss on disposal of asset held for sale		40	0
Share of (profit)/loss on joint ventures	16	1,322	805
Other non-cash items – IAS 19 pension costs		9,146	(7,437)
Notional service charge		5,862	6,113
(Decrease)/Increase in provision for liabilities and charges		(712)	(8,573)
Decrease/(Increase) in trade and other receivables	17	21,648	(3,450)
Increase/(Decrease) in trade and other payables	19	19,633	(4,575)
Net cash outflow from operating activities		(728,389)	(670,704)
Cash flow from investing activities			
Receipts from sale of Property, Plant and Equipment		0	225
Receipts from sale of Non-Current Assets held for sale		1,371	28,500
Payments to acquire Property, Plant and Equipment	14	(13,614)	(28,199)
Payments to acquire investments in joint ventures	16	(1,278)	(38,044)
Net cash outflow from investing activities		(13,521)	(37,518)
Net cash outflow before financing		(741,910)	(708,222)
Cash flows from financing activities			
Grant-in-aid received	3	797,843	703,518
Net cash inflow from financing activities		797,843	703,518
Net (decrease) in cash and cash equivalents	18	55,933	(4,704)
Cash and cash equivalents at the beginning of the period	18	5,862	10,566
Cash and cash equivalents at the end of the period	18	61,795	5,862

The notes on pages 98 to 124 form part of these accounts.

MRC Statement of Changes in Taxpayers' Equity

for the year ended 31 March 2016

	Revaluation reserve	Intellectual Property reserve	Pension reserve	General reserve	Total Equity
	£000	£000	£000	£000	£000
Balance at 1 April 2014	39,163	50,523	73,737	516,989	680,412
Grants from Parent (note 3)				703,518	703,518
Net gain on revaluation of intangible assets (note 15)		31,394			31,394
Net gain on revaluation of property, plant and equipment (note 14)	51,116				51,116
Net (loss) on revaluation of investments	(197)				(197)
Actuarial (loss) in the pension scheme (note 6b)			(74,254)		(74,254)
Transfers between reserves	(6,725)	(22,516)	7,437	21,804	0
Contributions from other employers within the pension scheme			15,974		15,974
Notional service costs				6,113	6,113
Net expenditure for the year				(705,947)	(705,947)
At 31 March 2015	83,357	59,401	22,894	542,477	708,129
Balance at 1 April 2015	83,357	59,401	22,894	542,477	708,129
Grants from Parent (note 3)				797,843	797,843
Net gain on revaluation of intangible assets (note 15)		20,962			20,962
Net gain on revaluation of property, plant and equipment (note 14)	6,242				6,242
Net gain on revaluation of investments	741				741
Actuarial gain(loss) in the pension scheme (note 6b)			103,747		103,747
Transfers between reserves	(4,977)	(31,801)	(9,146)	45,924	0
Contributions from other employers within the pension scheme			6,403		6,403
Notional service costs				5,862	5,862
Net expenditure for the year				(865,031)	(865,031)
At 31 March 2016	85,363	48,562	123,898	527,075	784,898

The notes on pages 98 to 124 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 2015/16 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 2015/16

All International Financial Reporting Standards, Interpretations and Amendments to published standards, effective at 31 March 2016, have been adopted in these financial statements, taking account the specific interpretations and adaptations included in the FReM.

IFRS 13 – Fair Value Measurement – (effective for periods beginning on or after 1 January 2015 per FReM – early adoption not permissible) – 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).

These disclosures have been adopted in full but have little impact within these financial statements due to the nature of the MRC's business.

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.

IAS16 Property, Plant & Equipment & IAS 38 Intangible Assets (effective for periods beginning on or after 1 January 2016) – This amendment is around the clarification of acceptable methods of depreciation and amortisation.

IFRS 9 Financial Instruments: Classification and Measurement (effective for periods beginning on or after 1 January 2018) – 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 15 Revenue from Contracts with Customers – (effective for periods beginning on or after January 2017) – IFRS15 provides for a single, principles based five-step model to be applied to all contracts with customers. Guidance is provided on topics such as the point in which the revenue is recognised, accounting for variable consideration, costs of fulfilling and obtaining a contract and various related matters. New disclosures around revenue are also introduced.

IFRS 16 – Leases – (effective for periods beginning on or after January 2019) – IFRS 16 brings most leases on-balance sheet for lessees. This will be using a single model eliminating the distinction between finance and operating leases. Lessor accounting however remains largely unchanged and the distinction between operating and finance leases will be retained. The impact of this will be assessed in the coming years.

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 2015/16 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

There are no changes in accounting policy in the 2015/16 financial year.

d. Investment in Joint Ventures

A joint venture is a contractual arrangement whereby two or more parties undertake an economic activity that is subject to joint control.

The MRC has two joint venture investments: the Francis Crick Institute (CRICK); and Imanova Limited (Imanova).

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.

The Crick and Imanova are accounted for using the equity method.

e. 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.

Assets under construction are valued at cost, including directly attributable in-house costs required to bring the asset into working condition for its intended use.

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 lease)
Freehold buildings	Up to 60 years
Leasehold buildings	Up to 60 years (subject to length of 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 month the property, plant and equipment are available for use.

f. 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.

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.

g. 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.

h. 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. Once the research has been completed the institution is free to use the equipment without reference to the Council.

i. 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.

j. Income

MRC derives its income from a number of sources. These include income from Commercial Activities, contributions from other government bodies and contributions and grants from other bodies and other income. Commercial activities include royalties from licence agreements relating to intellectual property. It also receives income from government departments and other bodies which help co-fund research both of a collaborative and non-collaborative nature. Other income is derived from service charges derived from the lease of premises, the sale of laboratory and library services, as well as proceeds from the sales of radio isotopes and other items. All income is shown net of trade discount, Value Added Tax and other taxes. Income is recognised in accordance with IAS 18. See note r for details of deferred income.

k. 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.

l. Notional service charge

The MRC receive support services from UK SBS Ltd, which is owned by Department for Business, Innovation and Skills. Rather than transact directly with UKSBS, the department has implemented a recharging solution whereby MRC administration grant levels are reduced, and the Department pays UK SBS on behalf of the council. For 2015/16 this charge was £5,862k (2014/15 £6,113k).

m. Cash and cash equivalents

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

n. 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.

o. Pension costs

Employer superannuation costs are based on an actuarially derived calculation under IAS 19. See Note 6. 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.

p. Derivatives and other financial instruments

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.

q. 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.

r. 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 6 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.

s. Significant judgements/estimates

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.

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. This includes assets of significant value brought into use for the first time. Further details are given in Note 14.

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 16.

t. Going concern

During March 2016, as part of the Spending review (SR) the Department for Business Innovation and Skills published the allocation of science research funding 2016/17 to 2019/20. The settlement also took into account the proposals of Sir Paul Nurse to bring together the seven Research Councils under the banner of Research UK and, as the Chancellor confirmed in the Spending Review, the Government will take forward these recommendations subject to Parliament. As such, firm allocations were provided for 2016/17 – 2017/18; with indicative allocations only for the later years in the SR period, 2018/19 – 2019/20. Allocations will be provided for these years as changes to the research landscape are taken forward. MRC received a slight increase in the SR settlement for 2016/17 – 2017/18 (2.3%).

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	Extramural	Corporate	Technology Transfer	Total
	2015/16	2015/16	2015/16	2015/16	2015/16
	£000	£000	£000	£000	£000
Income					
Contributions from other government departments	(2,941)	(41,104)	(150)	0	(44,195)
Contributions from other bodies	(27,375)	(28,883)	0	0	(56,258)
Commercial activities	0	0	0	(95,993)	(95,993)
Other income	(3,275)	(14)	(6,218)	0	(9,507)
Total operating income	(33,591)	(70,001)	(6,368)	(95,993)	(205,953)
Expenditure					
Staff costs	84,124	6,318	30,395	0	120,837
Other operating costs	68,566	4,590	11,470	0	84,626
Research grants	0	445,066	0	0	445,066
Other research	0	227,789	0	0	227,789
Postgraduate/training awards	5,419	65,554	0	0	70,973
International subscriptions	0	16,377	0	0	16,377
Commercial activities	0	0	0	46,095	46,095
Amortisation of intangible assets	34	0	0	31,801	31,835
Depreciation of property, plant and equipment	19,989	0	0	0	19,989
Impairment of property, plant and equipment	732	0	0	0	732
Notional service charge	0	0	5,862	0	5,862
Total operating expenditure	178,864	765,694	47,727	77,896	1,070,181
Net operating expenditure	145,273	695,693	41,359	(18,097)	864,228

	Intramural	Extramural	Corporate	Technology Transfer	Total
	2014/15	2014/15	2014/15	2014/15	2014/15
	£000	£000	£000	£000	£000
		Restated			Restated
Income					
Contributions from other government departments	(3,328)	(20,132)	(150)	(0)	(23,610)
Contributions from other bodies	(32,432)	(25,281)	(0)	(0)	(57,713)
Commercial activities	(0)	(0)	(0)	(94,899)	(94,899)
Other income	(3,016)	(13)	(519)	(0)	(3,548)
Total operating income	(38,776)	(45,426)	(669)	(94,899)	(179,770)
Expenditure					
Staff costs	109,834	6,312	22,628	0	138,774
Other operating costs	86,660	3,049	12,055	0	101,764
Research grants	0	305,144	0	0	305,144
Other research	0	145,743	0	0	145,743
Postgraduate/training awards	7,160	63,947	0	0	71,107
International subscriptions	0	16,097	0	0	16,097
Commercial activities	0	0	0	51,311	51,311
Amortisation of intangible assets	55	0	0	22,516	22,571
Depreciation of property, plant and equipment	27,160	0	0	0	27,160
Reversal of prior year downward revaluation of property, plant and equipment	(2,026)	0	0	0	(2,026)
Impairment of property, plant and equipment	3,807	0	0	0	3,807
Notional service charge	0	0	6,113	0	6,113
Total operating expenditure	232,650	540,292	40,796	73,827	887,565
Net operating expenditure	193,874	494,866	40,127	(21,072)	707,795

Net expenditure by business segment is detailed above, these are the critical operating segments, consistent with International Financial Reporting Standard 8 (IFRS 8) – Operating Segment. The report mirrors the budgetary and operating components of management information used to make decisions about operating matters. Information regarding operating segments is provided as part of the monthly reporting information to senior management.

Intramural is defined as the group's own research units and institutes. Extramural comprises all research and special contribution grant support to higher education institutes and NHS trusts. Corporate comprises the group's Head Office and administrative functions outside of the intramural programme including all other non-capital expenditure which does not belong to any of the other segments. Technology transfer are activities devoted to the exploitation of the group's intellectual property. Business segments cannot be identified in relation to the Statement of Financial Position items and are not disclosed.

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

The grant-in-aid is provided by BIS for the financial year 2015/16. Grant-in-aid received is treated as financing and credited directly to reserves.

	2015/16 £000	2014/15 £000
Grant allocation received and credited to general reserve	797,843	703,518

4. Contributions from other government departments

	2015/16 £000	2014/15 £000
Department of Health & NHS Executive	7,121	6,208
Department for International Development	22,800	14,466
Scottish Government Health Directorates	1,435	1,451
Department for Business, Innovation & Skills	7,550	150
Welsh Government	4,557	312
Other	732	1,023
Total	44,195	23,610

5. Contributions and grants from other bodies

	2015/16 £000	2014/15 £000 Restated
Other research councils	16,627	16,070
Charities	22,053	24,481
Collaboration with industry	2,071	1,690
European Commission	4,482	6,034
Health Authorities and NHS Trusts	326	355
Universities	8,501	7,403
World Health Organisation	628	108
Other	1,570	1,572
Total	56,258	57,713

£549k was moved from other research council income in 2014/15 to offset against European Molecular Biology Conference expenditure (Note 12).

6. MRC Pension Scheme

MRC Pension Scheme

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.

Due to the number of MRC units transferred to universities in recent years a University section has been set up to account for the obligations to those former employees employed by the universities that remain in the MRC pension scheme. During the year obligations of £5m (2014/15 – £9m) of were recognised under Section 75 (S.75) of the 1995 Pensions Act in respect of liabilities of transferred employees; the University section, has been set up within MRCPS to manage S.75 liabilities. These costs are reflected in the valuation of the pension Scheme.

The required MRCPS contribution rate is assessed every three years in accordance with advice of the Government Actuary. The latest actuarial assessment of the MRCPS was at 31 December 2013 at which showed a surplus of £160.1m (2010 valuation £82.1m) and the market value of the assets of the MRCPS was £1,054m (2010 = £884m), an ongoing funding level of 118% (2010 valuation 110%). The actuarial value of the assets was sufficient to cover 118% 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 present MRCPS employers' contribution rate increased to 14% in 2015/16 (2014/15 – 13%).

The contributions due to the scheme are set out in the schedule of contributions for each section. The most recent schedules of contributions were signed on 10 December 2014 and are due to be reviewed following the next actuarial valuation of the scheme which is due to be carried out as at 31 December 2016.

The following payments are due in 2015/16:

MRC Section

- By the members: 6.5% of pensionable pay
- By MRC: 14.0% of pensionable pay
- By other employers: 4.9% of pensionable pay

The total contribution expected to be paid into the MRC section in 2016/17 is £16m.

University Section

- By the members: 6.5% of pensionable pay
- By the universities: 14.9% of pensionable pay
- By MRC: 21.4% of pensionable pay

The total contribution expected to be paid into the university section in 2016/17 is £9m.

As at 30 September 2014 the average maturity of the scheme as a whole was around 20 years.

The valuation used for IAS 19 disclosures has been based on the data for the most recent actuarial valuations as at 31 December 2013, and updated to take account of the requirements of IAS 19 in order to assess the liabilities of the scheme at 31 March 2016. The mortality assumptions included within the figures are that male (female) members who retire at typical ages will live to approximately age 88 (90).

a. Financial assumptions used to calculate scheme liabilities

	2015/16	2014/15
	%	%
Rate of increase on pensionable salaries	2.85	2.85
Rate of increase on pension payments	1.85	1.85
Discount rate	3.40	3.10
Inflation rate	1.85	1.85
Expected return on equities	3.40	3.10
Expected return on bonds	3.40	3.10
Expected return on overall fund	3.40	3.10

The results of any actuarial calculation are inherently uncertain because if the assumptions which must be made. The table below indicates the approximate effects on the actuarial liability as at 31 March 2016 of changes to the main actuarial assumptions.

Change in assumption		Approximate effect on total liability	
Discount rate	-1/2% a year	+10.0%	+£113m
Rate of increase in earnings	-1/2% a year	-1.0%	-£11m
Rate of increase in pensions	-1/2% a year	-7.0%	-£79m
Removing age rate for pensioner mortality		+2.5%	+£28m

b. Analysis of actuarial gain

	2015/16	2014/15
	£000	£000
Actual return less expected return on pension scheme assets	248	93,422
Experience gains arising on the scheme liabilities	4,854	1,481
Changes in demographic assumptions	17,751	(2,027)
Changes in financial assumptions	80,894	(167,130)
Actuarial gain/(loss)	103,747	(74,254)

c. Analysis of actuarial gain expressed as a percentage of the scheme's assets and liabilities at the statement of financial position date

	2015/16	2014/15	2013/14	2012/13	2011/12
	%	%	%	%	%
Actual return less expected return on pension scheme assets	0.02	7.60	3.51	6.06	(4.12)
Experience gain/(loss) arising on the scheme liabilities	0.43	0.12	(1.29)	1.65	0.33
Actuarial gain/(loss)	9.21	(6.17)	9.81	(5.94)	(6.81)

d. The assets and liabilities in the scheme

	2015/16	2014/15	2013/14	2012/13	2011/12
	£000	£000	£000	£000	£000
Assets					
Equities and property	1,033,492	985,883	925,159	877,449	787,429
Bonds and cash	217,276	241,872	158,261	128,944	112,708
	1,250,768	1,227,755	1,083,420	1,006,393	900,137
Actuarial value of liability	(1,126,870)	(1,204,861)	(1,009,683)	(1,040,420)	(887,192)
Surplus/(Deficit) in scheme	123,898	22,894	73,737	(34,027)	12,945

e. The movements in the scheme surplus

	2015/16	2014/15
	£000	£000
Surplus at the start of the year	22,894	73,737
Current service costs net of employee contributions	(26,847)	(20,821)
Employer contributions	23,395	41,069
Other finance income (note 6f)	709	3,163
Actuarial gain/(loss) (note 6b)	103,747	(74,254)
Surplus at end of year	123,898	22,894

f. Other finance income

	2015/16	2014/15
	£000	£000
Expected return on pension scheme assets	38,060	46,479
Interest on pension scheme liabilities	(37,351)	(43,316)
Net return – other finance income (note 6e)	709	3,163

7. Staff costs

	2015/16 £000	2014/15 £000
Salaries and wages	91,529	113,594
Social security costs	7,981	9,023
Other pension costs (note 6e)	26,847	20,821
Non-permanent staff	1,126	1,658
Council and committee honoraria	397	369
Early retirement costs	(176)	75
Gross staff costs	127,704	145,540
Less commercial activities	(6,867)	(6,766)
Staff costs for general activities	120,837	138,774

8. Other expenditure

	2015/16 £000	2014/15 £000
Rent and rates	4,760	4,165
Utilities	8,736	8,760
Maintenance and cleaning	11,904	13,393
Office supplies, printing and stationery	998	1,538
Laboratory supplies	18,853	29,968
Management consultancy and other professional fees	7,490	9,998
Postage and telephone	2,010	2,340
Audit fee	130	145
Travel, subsistence and hospitality	4,965	5,293
Computing	3,943	4,285
Equipment servicing	4,736	6,024
Minor equipment	3,527	4,984
Miscellaneous	12,315	11,817
Transport costs	423	305
Exchange rate (gains)	(2,350)	(2,203)
Field work – Clinical services	356	588
Biomedical services and licence fees	1,830	2,378
Decommissioning costs	0	(2,014)
Total	84,626	101,764

The 2015/16 audit fee is comprised of the proposed external audit fee of £140k offset by an over accrual of £10k relating to the 2014/15 audit which was finalised after the publication of the 2014/15 financial statements.

9. Research grants

	2015/16 £000	2014/15 £000
Research Grants	357,541	218,036
Programme Grants	53,955	46,229
Centre Grants	12,333	15,743
Trial Grant	10,249	14,838
New Investigator Research Grant	10,988	10,298
Total	445,066	305,144

10. Other research

	2015/16 £000	2014/15 £000
International Health Research Resource	9,807	3,986
University Units	82,044	84,237
The Francis Crick Institute	83,964	9,170
Discovery Awards	8,355	0
UK Infrastructure for large scale Clinical Genomics Research	0	5,997
Science and Innovation Capacity Building in Developing Countries – Newton Fund	3,528	4,794
Translational Imaging capacity	1,099	0
Cryo Electron microscopy facility	0	4,050
Translational Research	17,229	15,133
Phenome Centre	3,125	0
Genomics Partnership	2,750	0
Open Access Block Grants	4,565	3,970
Stem Cell – Human Pluripotent	0	2,500
Neurodegenerative Diseases Initiative	1,074	962
Other	10,249	10,944
Total	227,789	145,743

11. Postgraduate/training awards

	2015/16 £000	2014/15 £000
Research studentships/advanced course studentships	28,882	28,512
Post-doctoral fellowships	42,091	42,595
Total	70,973	71,107

12. International subscriptions

	2015/16 £000	2014/15 £000 Restated
International Agency for Research on Cancer	827	886
European Molecular Biology Conference	1,603	1,593
European Molecular Biology Laboratory	12,625	12,301
Human Frontier Science Program	1,145	1,106
European Science Foundation	29	60
Sciences Europe	69	17
EMBO	79	134
Total	16,377	16,097

£549k was moved from other research council income in 2014/15 to offset against European Molecular Biology Conference expenditure (Note 5).

13. Commercial activities

	2015/16 £000	2014/15 £000
Income during the year	95,993	94,899
Expenditure during the year:		
Staff costs (Note 7)	(6,867)	(6,766)
Other expenditure	(39,228)	(44,545)
Total expenditure	(46,095)	(51,311)
Net income for the year	49,898	43,588

The council 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 council 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 balance sheet.

14. Property plant & equipment

MRC	Land and Buildings £000	Assets under Construction £000	Equipment and Vehicles £000	Total £000
Cost or valuation				
At 1 April 2015	628,120	3,033	218,803	849,956
Additions	2,268	5,386	5,960	13,614
Disposals	0	0	(62,899)	(62,899)
Transfers	732	(3,283)	2,551	0
Revaluation	6,547	0	1,350	7,897
Impairment	(732)	0	0	(732)
Reclassification	14,843	0	3	14,846
At 31 March 2016	651,778	5,136	165,768	822,682
Depreciation				
At 1 April 2015	(181,145)	(0)	(128,908)	(310,053)
Provided during the year	(6,472)	(0)	(13,517)	(19,989)
Disposals	(0)	(0)	35,752	35,752
Revaluation	(954)	(0)	(701)	(1,655)
Reclassification	(14,843)	(0)	(3)	(14,846)
At 31 March 2016	(203,414)	(0)	(107,377)	(310,791)
Net book value				
At 31 March 2016	448,364	5,136	58,391	511,891
At 1 April 2015	446,975	3,033	89,895	539,903

The net book value of land and buildings comprises:

	2016 £000	2015 £000
Freehold	120,117	116,848
Long leasehold	321,336	322,024
Short leasehold	6,911	8,103

Property, plant and equipment include £103,926,207 (2015 – £103,163,866) in respect of freehold land which is not depreciated.

The last professional revaluation was performed by Powis Hughes in 2013/14.

The reclassification relates to a change in the accounting of property, plant and equipment in the accounting system whereby changes in revaluation were previously made to cost are now made to depreciation. This has no effect on Net book value.

MRC	Land and Buildings £000	Assets under Construction £000	Equipment and Vehicles £000	Total £000
Cost or valuation				
At 1 April 2014	555,320	19,902	199,360	774,582
Additions	5,034	0	23,165	28,199
Disposals	(436)	(0)	(21,452)	(21,888)
Transfers	1,531	(16,869)	13,641	(1,697)
Revaluation	68,450	0	4,091	72,541
Reversal of prior year downward revaluation	2,028	0	(2)	2,026
Impairment	(3,807)	0	0	(3,807)
At 31 March 2015	628,120	3,033	218,803	849,956
Depreciation				
At 1 April 2014	(151,786)	0	(130,697)	(282,483)
Provided during the year	(10,751)	0	(16,409)	(27,160)
Disposals	273	0	20,542	20,815
Transfers	200	0	0	200
Revaluation	(19,081)	0	(2,344)	(21,425)
At 31 March 2015	(181,145)	0	(128,908)	(310,053)
Net book value				
At 31 March 2015	446,975	3,033	89,895	539,903
At 1 April 2014	403,534	19,902	68,663	492,099

The net book value of land and buildings comprises:

	2015 £000	2014 £000
Freehold	116,848	80,543
Long leasehold	322,024	316,945
Short leasehold	8,103	6,046

15. Intangible assets

MRC	Patents & Licences £000	Software Licences £000	Total £000
At cost or valuation			
At 1 April 2015	247,423	1,498	248,921
Disposals	0	(145)	(145)
Revaluation	20,962	0	20,962
At 31 March 2016	268,385	1,353	269,738
Amortisation			
At 1 April 2015	(188,023)	(1,453)	(189,476)
Charge for the year	(31,801)	(34)	(31,835)
Disposals	0	145	145
At 31 March 2016	(219,824)	(1,342)	(221,166)
Net Book Value			
At 31 March 2016	48,561	11	48,572
At 1 April 2015	59,400	45	59,445

MRC	Patents & Licences £000	Software Licences £000	Total £000
At cost or valuation			
At 1 April 2014	216,029	1,804	217,833
Disposals	0	(392)	(392)
Transfer	0	86	86
Revaluation	31,394	0	31,394
At 31 March 2015	247,423	1,498	248,921
Amortisation			
At 1 April 2014	(165,507)	(1,790)	(167,297)
Charge for the year	(22,516)	(55)	(22,571)
Disposals	0	392	392
At 31 March 2015	(188,023)	(1,453)	(189,476)
Net Book Value			
At 31 March 2015	59,400	45	59,445
At 1 April 2014	50,522	14	50,536

16. Investments in Joint Ventures

	Joint venture Francis Crick Institute Ltd	Joint venture Imanova Ltd	Total of Joint ventures
	£000	£000	£000
As at 1 April 2015	267,841	445	268,286
Additions	1,278	0	1,278
Share of losses during the year	(1,453)	131	(1,322)
Revaluation	0	0	0
At 31 March 2016	267,666	576	268,242
As at 1 April 2014	229,797	1,250	231,047
Additions	38,044	0	38,044
Share of losses during the year	0	(805)	(805)
Revaluation	0	0	0
At 31 March 2015	267,841	445	268,286

The Francis Crick Institute Limited and UKCMRI Construction Limited

The Francis Crick Institute is a UK registered charity and limited company formed to deliver the proposed UK Centre for Medical Research and Innovation. The MRC, in partnership with Cancer Research UK, University College London, Kings College London, Imperial College of Science Technology and Medicine and the Wellcome Trust, own the Francis Crick Institute Limited. The entity is designed to allow the delivery of the scientific aims of the joint venture. The original Joint Venture Agreement was signed on 9th November 2010 which established the Francis Crick Institute as a charity limited by shares, following agreement of the Charity Commission. A Deed of accession varying the original Joint Venture Agreement was signed by all venturers in 11 October 2011.

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

Shares are issued in respect of payments under the joint venture agreement of £1.2m and these are accounted for as investments. The Francis Crick Institute agreed to issue the Council ordinary shares in the Francis Crick Institute to the same value.

The Institute became operational on 1 April 2015. The investment is therefore valued for the first time under the equity method in accordance with the arrangements of IFRS 11 Joint Arrangements as a Joint Venture and additional disclosures regarding the investment are made under IFRS 12 Disclosure of Interests in Other Entities.

The Crick's objects as set out in its Articles of Association are "the advancement of human health and education for the benefit of the publicly the promotion and carrying out, directly and indirectly, of all aspects of biomedical research and innovation."

The principal places of business are currently at the former National Institute for Medical Research (NIMR) site and Cancer Research's London Research Institute whilst the new building at Brill Place is being completed.

The proportion of share capital of the Crick that the MRC holds is 41.99%

The results of the Crick are summarised below:

Summarised financial details	2015/16
	£000
Current assets	71,294
Non-current assets	589,716
Current liabilities	(23,578)
Non-current liabilities	-
Revenue	141,021
Profit/(loss) from continuing activities	17,260

Other financial information	2015/16
	£000
Cash and cash equivalents	60,391
Current financial liabilities (excl trade and other payables and provisions)	-
Non-current financial liabilities (excl trade and other payables and provisions)	-
Depreciation of non-current assets	(6,617)
Amortisation of intangible assets	-
Interest income	280
Interest expense	-

Other information	2015/16
	£000
Capital commitments	20,981
Grant commitments	-

In addition at the year end the Francis Crick Institute owed the Council £1,499,704 for running costs (2014/15 £151,076) and the Council owed the Francis Crick Institute £290,482 for secondment costs (2014/15 £0).

A lease was made between the original founders and the Francis Crick Institute Ltd on 7th June 2012 granting lease of land at Brill Place, Camden, London (site of the Francis Crick Institute) to the Francis Crick Institute 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 is recorded at £51,926,207 and reflected in the financial statements accordingly, (2014/15 – £51,163,866).

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, in accordance with IFRS11. It holds 25% of the ordinary shares of the company whose provisional results for financial year 2015/16 record a deficit of £0.085m (2014/15 £1.135m) before tax and net assets of £2.30m (2014/15 £1.78m). MRC's share of the net assets of Imanova is therefore £576k and it has accounted for the losses incurred by Imanova on this basis.

During the year MRC had transactions totalling £1.099m (2014/15 £3.78m) with Imanova. There were no outstanding balances owed from Imanova Limited to MRC and MRC to Imanova Limited at the end of the year.

17. Trade and other receivables

	2016 £000	2015 £000
Trade receivables	15,295	15,662
Less provisions for bad debts	(16)	(16)
	15,279	15,646
Other receivables	2,060	1,907
Accrued income	21,930	43,334
Prepayments	14,218	14,248
Total	53,487	75,135

18. Cash and cash equivalents

	2016	2015
	£000	£000
Balance at 1 April	5,862	10,566
Net change in cash and cash equivalent balances	55,933	(4,704)
Balance at 31 March	61,795	5,862
The following balances were held at commercial banks and cash in hand	8,260	4,157
The following balances were held with the Government Banking Service	53,535	1,705
Balance at 31 March	61,795	5,862

19. Trade and other payables

	2016	2015
	£000	£000
Due within 1 year		
Trade payables	(110,124)	(94,973)
Accruals	(138,526)	(133,184)
Taxation and social security	61	(2,961)
Deferred income	(14,574)	(17,517)
Other payables	(982)	(1,433)
Total	(264,145)	(250,068)
Due after more than 1 year		
Accruals	(16,469)	(10,913)

20. Commitments

Capital

The council had no future commitments to capital expenditure (2014/15 =£1,278,605).

Research awards

Forward commitments on research awards:	2016 £000	2015 £000 Restated
Not later than one year	460,481	654,950
Later than one year but not later than five years	720,850	809,377
Later than five years	9,157	48,668

21. 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 UK SBS Ltd. The Council also has related party transactions with the Crick, Imanova, UK Biobank Ltd and Medical Research Council Technology Limited. Crick and Imanova are detailed in Note 16.

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. Grants payment by the council to UK Biobank Limited during 2015/16 were £394,985 (2014/15 = £3,777,560). Additional investments were made during the year totalling £9.4m (2014/15 £0m). There were no outstanding balances to / from UK Biobank Limited at the end of the year, or the prior year.

Medical Research Council Technology Limited

Medical Research Council Technology Limited (MRCT) is a company limited by guarantee and a registered charity. Its principal activity is the management, development and exploitation of the Council's intellectual property assets, including its valuable patent rights associated with the production of monoclonal antibodies.

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. MRCT is a related party of the council.

MRCT is associated with the Medical Research Council and received funding during the year for the management of the MRC patent portfolio and for research purposes as follows: Management fees of £3,195,516 (2014/15 – £4,620,000). At the year end, £1,000,000 (2015 – £1,032,220) was due from the MRC to MRCT and £471,578 (2015 – £25,364) was due to the MRC from MRCT.

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.

Table 1

The table below lists council, board or committee members who are classified as either a Principal Investigator or a Co-Investigator against an award made in the 2015/16 financial year. The value shown is the whole life commitment of the award, if an award is made to more than one related party the value is counted more than once.

Full Name	Research Organisation	Number of awards	Value (£)
Professor John Atack	University of Sussex	1	£1,774,651
Professor Doreen Cantrell	University of Dundee	1	£935,704
Professor Siddharthan Chandran	University of Edinburgh	1	£1,443,664
Professor Andrew Copp	University College London	1	£858,719
Professor David Dockrell	University of Sheffield	1	£2,808,059
Professor Mark Field	University of Dundee	1	£573,341
Dr Paramjit Gill	University of Birmingham	1	£126,888
Professor Stephen Gordon	Liverpool School of Tropical Medicine	1	£525,378
Professor Kim Graham	Cardiff University	1	£1,420,574
Professor Nicholas Grassly	Imperial College London	1	£855,799
Professor Frances Griffiths	University of Warwick	1	£669,627
Professor Jo Hajnal	King's College London	1	£554,587
Professor Jeremy Hall	Cardiff University	1	£2,548,515
Professor Thomas Harrison	St George's University of London	1	£2,220,276
Professor Richard Hayes	London School of Hygiene and Tropical Medicine	1	£3,048,733
Professor Karl Herholz	The University of Manchester	1	£980,273
Professor Kate Hunt	University of Glasgow	1	£146,070
Professor John Isaacs	Newcastle University	1	£2,768,974
Dr Helen Lee	University of Cambridge	1	£1,037,892
Professor David Lomas	University College London	1	£1,999,468
Professor Margaret MacLean	University of Glasgow	1	£595,086
Professor Paolo Madeddu	University of Bristol	1	£622,762
Professor Steve McMahon	King's College London	1	£2,655,494

Full Name	Research Organisation	Number of awards	Value (£)
Professor Zoltan Molnar	University of Oxford	1	£786,945
Professor Laurence Moore	University of Glasgow	1	£244,501
Professor Michael O'Donovan	Cardiff University	1	£288,191
Professor Stuart Pickering-Brown	The University of Manchester	1	£809,913
Professor Lucilla Poston	King's College London	1	£577,332
Professor Magnus Rattray	The University of Manchester	1	£608,146
Dr James Rowe	University of Cambridge	3	£8,134,725
Professor Guy Rutter	Imperial College London	1	£460,142
Professor Ian Sabroe	University of Sheffield	2	£3,717,938
Professor Jane Sandall	King's College London	1	£898,853
Professor Philippa Saunders	University of Edinburgh	1	£2,013,631
Professor Nigel Stallard	University of Warwick	1	£546,631
Professor Stephen Tollman	University of the Witwatersrand	1	£99,605
Dr Martin Turner	Babraham Institute	1	£374,485
Professor Simon Ward	University of Sussex	1	£1,774,651
Professor Helen Weiss	London School of Hygiene and Tropical Medicine	1	£150,563
Professor Moira Whyte	University of Edinburgh	1	£2,808,059
Professor Paul Williams	University of Nottingham	1	£1,715,211
Professor Matthew Wood	University of Oxford	1	£1,950,785

Table 2

The table below lists council, board or committee members who are registered at an organisation that has received funding in the 2015/16 financial year.

Name	Research Organisation	Number of awards	Amount Awarded (£)
Professor Chris Day	Newcastle University	6	£7,085,982.31
Professor Patrick Johnston	Queen's University of Belfast	1	£146,320.20
Professor Sir John Savill	University of Edinburgh	18	£17,321,967.47

22. 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.

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 council in undertaking its activities. Of current outstanding trade debt 8% is greater than 30 days old (2014/15: 12%).

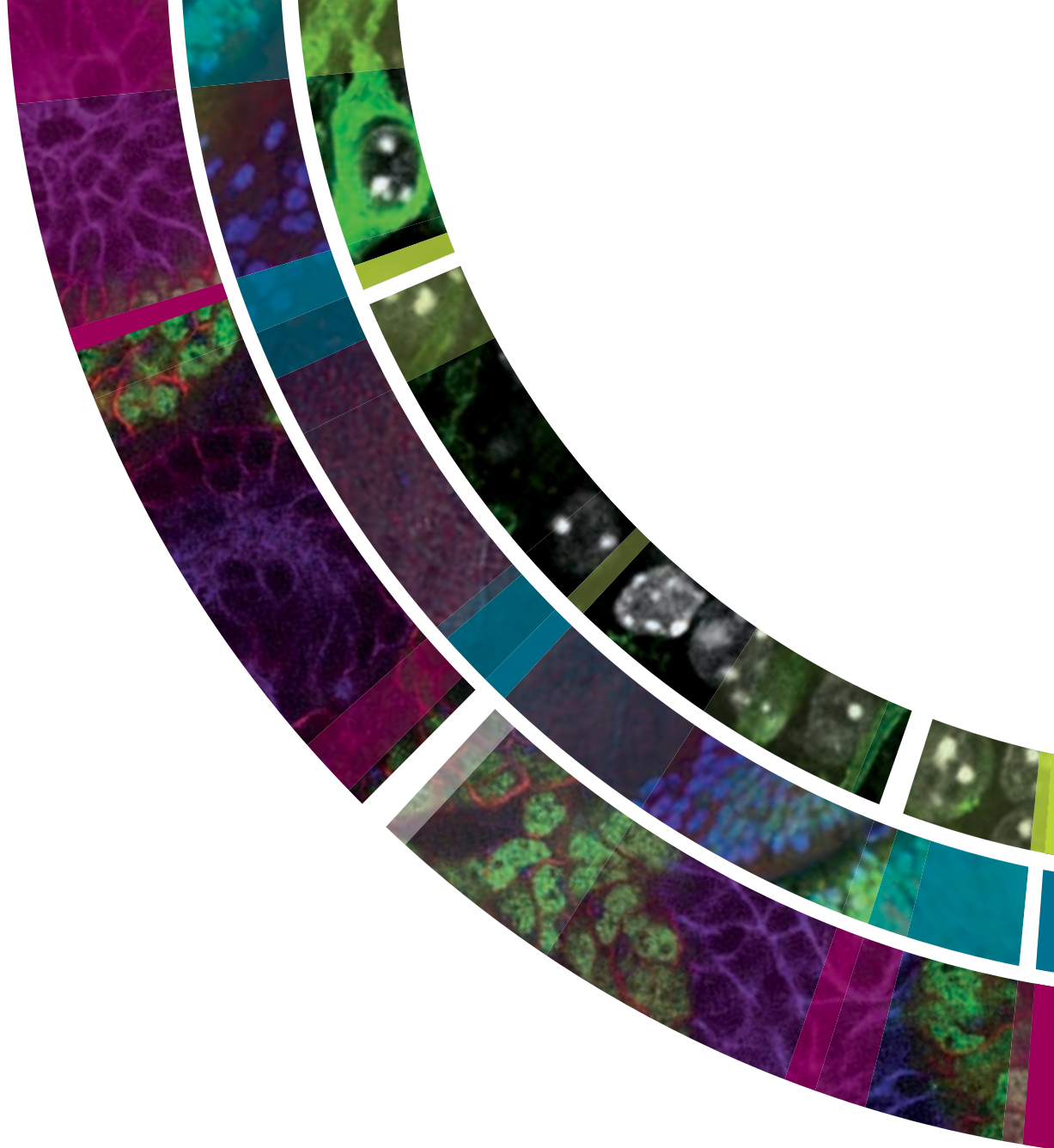
23. Events after the reporting period

In accordance with the requirements of IAS 10 Events after the Reporting Period, post Statement of Financial Position events are considered up to the date on which the Accounts are authorised for issue. This is interpreted as the same date as the date of the Certificate and Report of the Comptroller and Auditor General. There was one post Statement of Financial Position event between the balance sheet date and this date.

The MRC Institute for Hearing Research with 42 employees transferred to the University of Nottingham on 1 June 2016; assets with a net book value of £2,501,291 transferred at the same time.

The result of the referendum held on 23 June was in favour of the UK leaving the European Union. This is a non-adjusting event. A reasonable estimate of the financial effect of this event cannot be made.





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