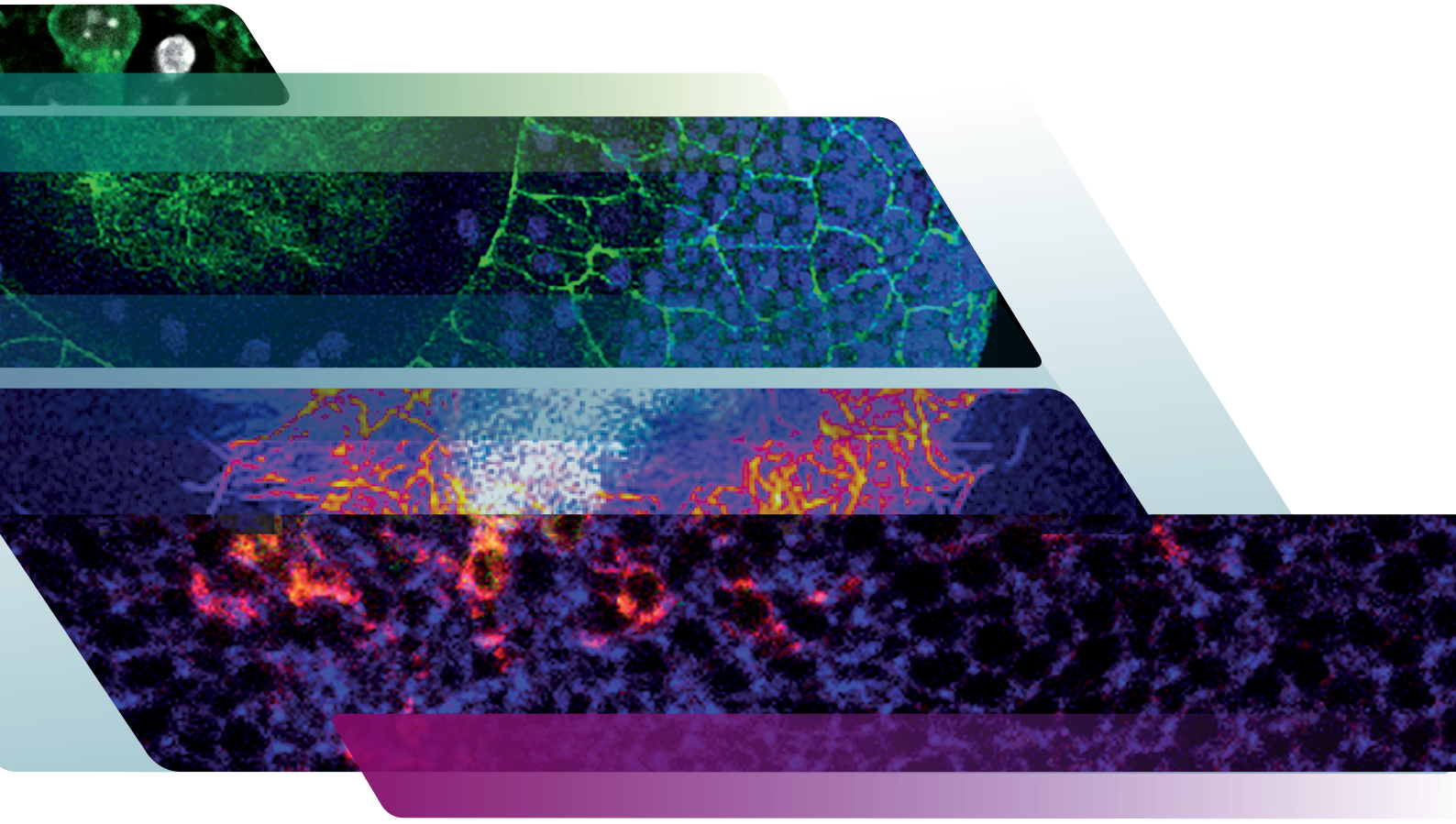
MRC Medical Research Council

Medical Research Council

Annual report and accounts 2016/17



Medical Research Council

Annual Report and Accounts 2016/2017

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Foreword from Chair

The Government continues to provide excellent support for UK science from the Research and Innovation budget, committing an additional £4.7bn for research and innovation over the next five years, recognising the value of investment in research for human health and society.

The ambition to invest in science, research and innovation, and to do more to commercialise our world-class science to spread economic growth right across the UK, is of particular relevance to the research councils and is at the heart of MRC strategy.

Following the review by Sir Paul Nurse of the research councils, *Ensuring a successful UK research endeavour*, and Parliamentary approval, a new organisation – UK Research and Innovation (UKRI) will be established from 1st April 2018. UKRI will bring together the individual research councils, Innovate UK and Research England, to optimise our collective expertise in research and innovation.

I very much welcome Sir Mark Walport's appointment as the chief executive designate of UKRI. Sir Mark will work with all stakeholders to ensure that UKRI becomes the best agency in the world for the public funding of research and innovation. We look forward to working with him to ensure that both UKRI, and the MRC within it, are successful in the future.

It is encouraging that within the structure of UKRI, Sir Mark is keen to maintain the autonomy of individual councils. The decision to recruit an executive committee to UKRI is also positive, providing an important space for the executive chairs of each council to engage in decision-making. This recognises the central role of the councils, putting them at the core of UKRI.

Enshrining the Haldane principle in law is another important step; I am pleased that an amendment to the bill to introduce this principle into legislation was accepted. This will ensure that all research proposals continue to be scrutinised by independent scientific experts who consider the viability, quality, cost-effectiveness and impact of the science concerned.

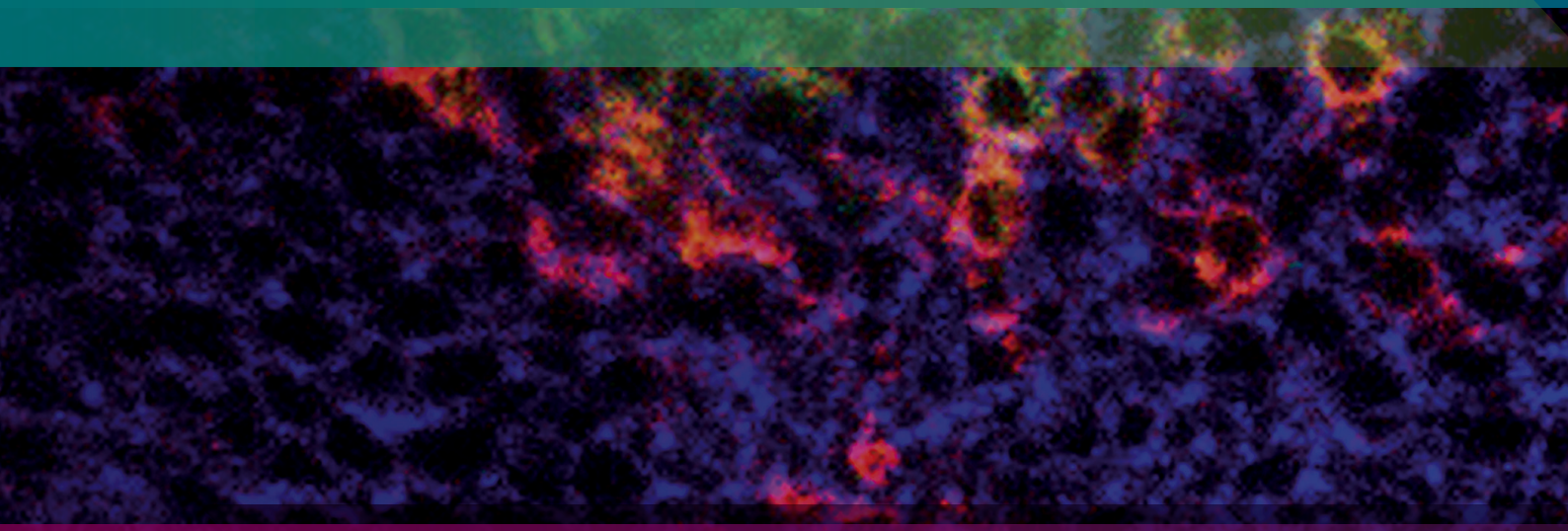
I am delighted to have been reappointed as Chairman. The MRC is an organisation whose work has a direct impact on people's lives across the globe. This impact is demonstrated by the excellent research undertaken throughout 2016/17, of which highlights are described in this report.

Some considerable investments over the past year demonstrate the MRC's commitment to supporting world-class science, research and innovation. These include co-founding an institute to lead the UK's dementia research efforts (page 14), opening the largest biomedical institute under one roof in Europe (page 11) and installing a range of revolutionary technologies aimed at identifying the causes of diseases as part of the Clinical Research Infrastructure Initiative (page 18).

Over the next year I look forward to helping build on the UK's world-leading research and continuing to play a part in the evolution of the research councils and UKRI in the months ahead.

Donald Brydon CBE

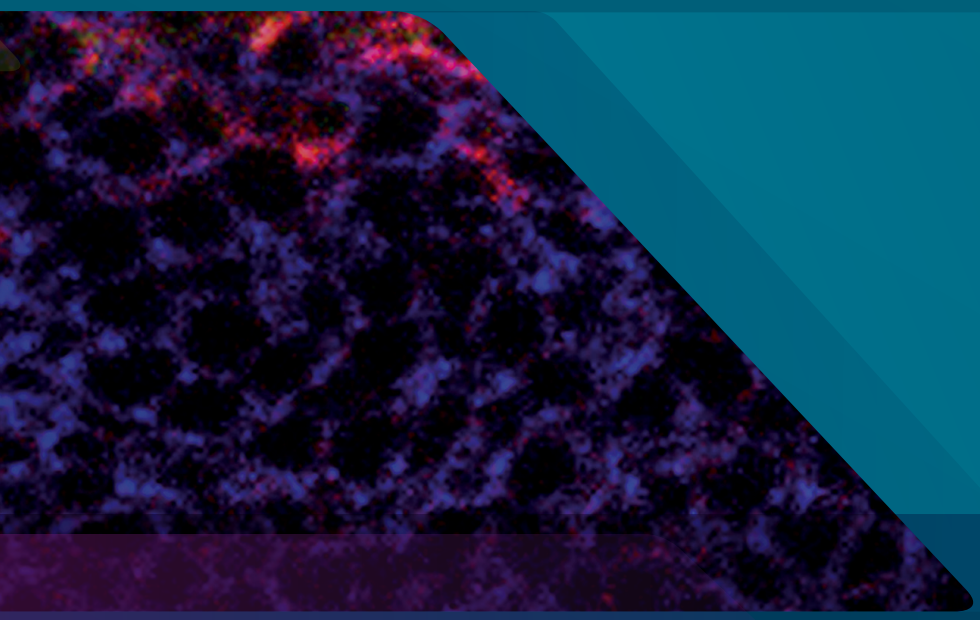
Performance report



The fruit fly, Drosophila melanogaster, larval imaginal wing disc

A confocal image of the wing pouch from the organ precursor. Through complex morphogenesis the imaginal discs of the fruit fly larva form the appendages of the adult fly during pupation. The imaginal discs are pivotal models to study epithelial tissues and their proliferation, polarity, regeneration and morphogenesis. Here, the wing disc is expressing fluorescence-tagged protein, Fascicilin II (green) in the aristaless domain. It is co-stained with phalloidin dye (blue) to mark the actin cytoskeleton and antibody for endogenous Fasciclin II (red). We can probe how protein localisation and expression levels are modified in normal development, as well as observing the effects of mutational perturbations with the extensive genetic tools amenable to the fruit fly.

MRC Laboratory for Molecular Cell Biology



Overview

Chief Executive's perspective on performance

In response to government decisions on very welcome new funding for science and research during 2016, we set out a 'refreshed' delivery plan for the next four years. This was an opportunity to demonstrate how we will prioritise, discover and transform health research and innovation, to support our strategic aims.

I am pleased to report that we have already made considerable headway and established some exciting new initiatives, vital to building on our existing strengths and maintaining the UK's position at the forefront of world-leading research.

Research into lifelong mental health and dementia is one of our four priority challenges. I am delighted that the MRC is working alongside the Alzheimer's Society and Alzheimer's Research UK as co-founders of the new £250m UK Dementia Research Institute. Under the leadership of Professor Bart De Strooper, together we hope to stimulate UK dementia research efforts to search for new ways to prevent, relieve and we hope ultimately cure dementia, as well as to improve the supportive care for people and families affected by dementia. Read more about this on page 14.

To capitalise on the UK's unique research strengths and data assets, the MRC is investing £37.5m to create with seven other funding partners a new £50m institute for health and biomedical informatics research, called Health Data Research UK (HDR UK). Harnessing the power of the NHS and associated health and biomedical data in the UK, the institute will develop and apply the cutting-edge informatics approaches needed to address the most pressing health research challenges facing patients and the public. You can find out more about HDR UK in the box on page 11.

Accelerating the linkage of excellent UK-based research to our global health research will help us transform health research and innovation. From testing an effective new formulation of pneumococcal vaccine, to demonstrating safer protocols for infection control measures within hospitals, MRC-funded research impacts lives. Over the next five years, the research councils, Research England and the National Academies will deliver the Global Challenges Research Fund to ensure the UK research base takes a leading role in addressing the problems faced by low- and middle-income countries, and to build resilience and tackle major world challenges.

An increase in grant funding for innovation and a new cross-disciplinary fund – the Industrial Strategy Challenge Fund – provides opportunities for researchers to get involved. In 2016 we strengthened our commitment to innovation through £23.2m in new funding, to take pioneering ideas from UK universities into industry and out into healthcare. This funding is made up of three different MRC initiatives, set up specifically to target different innovation needs: the Discovery Awards mechanism, the Confidence in Concept awards and the Proximity to Discovery scheme. The early outcomes of awards made under these schemes are promising, showing that, through devolved decision-making, UK researchers have exploited the flexibility and collaborative potential of these innovative schemes.

At the MRC we strive to identify and encourage exciting science, and bring different disciplines and cultures together to form strong collaborations. Interdisciplinary collaboration is at the heart of the new Francis Crick

Institute which opened in 2016 – you can read more on page 19. By harnessing the expertise of researchers, in interdisciplinary relationships, we aim to continue supporting discovery science to help improve the social, economic and health outcomes for people in the UK and around the world.

Joint working between academics and industry is an important partnership which leads to the creation and sharing of ideas, knowledge and skills. Our stratified medicine consortia is one example of how we have brought together biotech and pharma companies with academic expertise from all parts of the UK, including Manchester, Belfast, Newcastle and Glasgow.

We aim to support the careers of our researchers so that they can become tomorrow's leaders in biomedical science. By making some improvements to maximise the flexibility of some of our studentships and training programmes, as described on page 19, we hope to continue enhancing the research base for academia, industry and the UK more broadly.

Through collaboration we can stimulate innovation and speed up the transfer of the best ideas into new preventive and therapeutic interventions for improving human health. Our new initiatives and investments, combined with the government's industrial strategy, put us in a strong position to encourage and deliver this innovation in the years ahead.

Sir John Savill

Health Data Research UK

Appointment of the director, Professor Andrew Morris (University of Edinburgh), in March 2017 was a landmark step towards establishing a new UK informatics institute, called Health Data Research UK (HDR UK). Harnessing the power of the NHS and the wealth of health and biomedical data in the UK, HDR UK will develop and apply the cutting-edge informatics approaches needed to address the most pressing health research challenges facing patients and the public. This builds on previous MRC strategic investments in developing informatics capacity and skills, informatics and data science, and infrastructure, that have totalled £100m since 2012 and established the virtual Farr Institute which has laid the groundwork for the new HDR UK through development of a health and biomedical informatics network.

HDR UK is a £50m partnership between the MRC and the health research departments of England, Scotland and Wales, along with EPSRC, ESRC, the British Heart Foundation and Wellcome. The partners will work with Professor Morris to refine his strategic vision for the institute and appoint the UK research organisations (which have now submitted statements of interest in participating) that will comprise HDR UK. This will enable the connection and coordination of interdisciplinary skills, expertise and national and international partnerships needed to accelerate progress, analysing complex and diverse health-related data at an unprecedented depth and scale.

The institute will launch towards the end of 2017, delivering a national informatics strategy for the benefit of the UK research community.

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. Research funded by the MRC is carried out in universities, hospitals and in our own research units and institutes across the UK and in Africa.

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 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 accountability report (page 47) provides information about Council's membership and performance and that of its subcommittees.

The MRC's strategy *Research Changes Lives 2014-19* was refreshed in 2014 and has four strategic aims:

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

In 2016, the MRC's new *delivery plan* identified areas of priority focus which would combine with our continuing support of outstanding underpinning research to address the strategic aims.

Going forward we will:

- **Prioritise** research into the most pressing health challenges worldwide: infections and antimicrobial resistance; lifelong mental health and dementia; prevention; regeneration of damaged tissues.
- **Discover** – exploring new scientific principles and setting new paradigms: through MRC and partnership institutes; experimental medicine approaches; therapeutic target discovery and validation; and new interdisciplinary science.
- **Transform** health research and innovation: embed informatics and computation in health research; further consortia-based approaches to stratify disease and tailor treatment; broaden innovative academic industry relationships; and promote public health in the UK and globally through precision interventions.

Building on our existing strengths we are delivering:

- New products, interventions, and policies that will change lives in the UK and globally
- Research that tackles complex problems and achieves the quality and visibility needed to attract inward R&D investment and global partners
- New research technologies, methods, and structures that maximise productivity
- Research capacity and leadership – securing the UK's place at the forefront of medical research.

Scientists apply to the MRC for funding for their research, and applications are reviewed by panels of independent experts. 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.

Additionally, to address important scientific opportunities and health needs, and when stand-alone grant support alone is insufficient, the MRC's three main support mechanisms are:

1. Institutes – very 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 – build on existing MRC, and other, support to add value and help establish a centre of excellence.

As of 31 March 2017, the MRC's large investments encompassed three research institutes (including one in partnership with other funders: the Francis Crick Institute (see box on page 19)) with two institutes under development (the UK Dementia Research Institute and Health Data Research UK – see box on page 11), 26 units (including two research units in Africa) and 21 centres. These include partnerships with the Alzheimer's Society; Alzheimer's Research UK; Arthritis Research UK; Asthma UK; British Heart Foundation; Cancer Research UK; Chief Scientist Office, Scotland; Public Health England, Wellcome and the Welsh Government. The MRC also has an additional 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, the MRC Institute of Genetics and Molecular Medicine, the MRC Weatherall Institute of Molecular Medicine, five methodology hubs, three high-throughput genomic sequencing hubs and the Farr Institute for Health Informatics Research.

Performance summary

This summary provides an overview of MRC activities during the financial year 2016/17 which address the objectives set out in the MRC strategic and delivery plans. Included are representative examples of two types of significant MRC impact:

1) The realisation of initiatives designed to meet identified opportunities for development of health insight, research expertise or infrastructure; and
2) Impacts on knowledge or methodology contributing to improvements in health and well-being arising from MRC funding.

The MRC collects information on the outputs from our funding directly from our researchers via researchfish®. For more information on this system and how data are collected, please see our annual *Outputs and Outcomes* and *Economic Impact* reports.

Neurodegeneration and mental health

The MRC recognises the burden that both neurodegenerative disease and mental illness place on individuals, their families, the economy and society more widely. Neurodegenerative diseases are strongly linked with age and the UK and other European countries have increasingly ageing populations. This raises concerns about the increasing burden these diseases will place on society in future, unless research can provide new approaches for their prevention or treatment. At present, mental health issues affect nearly one in four people in the UK. Mental illness is estimated to cost the UK economy £70-£100bn per year, while among neurodegenerative conditions dementia alone currently costs the economy £17bn a year.

Initiatives/impacts

- The **UK Dementia Research Institute (DRI)** is a new joint £250m investment led by the MRC alongside founding charity partners the Alzheimer's Society and Alzheimer's Research UK.
  The DRI will bring together world-leading expertise in biomedical, care, public health and translational dementia research to understand dementia.
  - **Momentum awards** were launched in 2016 to rapidly boost existing high quality UK dementias research in readiness for establishment of the DRI. Successful awards, totalling £3.9m across five universities, were announced in October 2016.
  - It was confirmed in December 2016 that the **DRI hub will be established at University College London (UCL)** and the institute will be **led by Professor Bart De Strooper**.
- The landmark **Deep and Frequent Phenotyping Study** was announced in August 2016. The study, embedded in the **MRC Dementias Platform UK**, is designed to identify measurable characteristics of Alzheimer's disease in the earliest stages. The project is carrying out the most thorough and rigorous series of tests ever performed on volunteers to detect Alzheimer's disease.
- The **MRC Centre for Neurodevelopmental Disorders at King's College London** was opened in November 2016 to identify the biological mechanisms underlying developmental brain disorders. Integrating approaches from basic to clinical research, the centre is examining the genetic associations shared between autism, epilepsy and schizophrenia.
- The **child and young adult mental health strategic initiative** was launched in 2016. In partnership with the Medical Research Foundation, the funding is designed to initiate innovative networks in mental health research.

Global health, antimicrobial resistance (AMR) and infections

The MRC has a track record of excellence in global health research. Disease outbreaks anywhere are increasingly a concern for people everywhere, and health is closely linked with economic and social development. Specifically the potential threat from AMR to human health in an interdependent world is now recognised as one of the most serious faced in the 21st century. A review from Public Health England published in 2014 estimated that by 2050, unless new effective antimicrobial approaches are found, the global cost of AMR could be up to $100 trillion and it could account for 10 million extra deaths a year.

Initiatives/impacts

- MRC-funded scientists working to **combat antibiotic resistance** through reduction of antibiotic use identified a new pathway affording protective resistance to the antibiotic of last-resort, colistin. By working closely with the Chinese government, in 2016 the team instigated an unprecedented policy change to ban use of colistin in animal feed. This will result in an 8,000 tons/yr. reduction in colistin use **(www.mrc.ac.uk/news/browse/uk-china-collaboration-informs-animal-feed-antibiotic-ban/).**
- In early 2016 the MRC launched a **rapid research response** to understand the risks posed by the **Zika virus**[1]. Twenty-six projects were agreed within three months of the international call for collaboration and went live during 2016/17.
- **Additional international Zika partnerships** with research institutes in Brazil were supported through the **Newton Fund** (in partnership with the Wellcome Trust)[2]. The MRC through the Newton Fund continues to strengthen research and innovation partnerships between the UK and emerging knowledge economies. £42.1m in total has been committed under the Newton Fund umbrella since its launch.
- The MRC joined leading global health bodies including academic journals, NGOs, research funders and institutes, in committing to **sharing data and results relevant to the Zika crisis** and future public health emergencies as rapidly and openly as possible[3].
- At any point in time more than 1.4 million patients around the world experience healthcare-associated infections. In 2016/17, MRC-funded researchers made **significant breakthroughs in understanding the root causes of antibiotic resistance and bacterial spread** in healthcare settings. Researchers from Oxford developed new methods to evaluate the spread of infection and effectiveness of control measures in hospitals which is helping to implement safer protocols[4]. Concurrently, a separate, major UK study also funded by the MRC has shown that it is the inappropriate use of antibiotics by widespread over-prescribing that has allowed the antibiotic-resistant *Clostridium difficile* bugs to thrive in hospitals **(The Lancet 2017)**.

1. https://www.mrc.ac.uk/funding/browse/zika-rapid-response-initiative-parent/zika-rapid-response-initiative/
2. https://www.mrc.ac.uk/news/browse/research-funders-join-forces-to-tackle-zika-virus-with-3-2m/
3. https://www.mrc.ac.uk/news/browse/global-scientific-community-commits-to-sharing-data-on-zika/
4. http://gtr.rcuk.ac.uk/projects?ref=MR%2FK006924%2F1

Prevention research

Achieving substantial improvements in chronic disease prevention through research into behaviour and behaviour change has been, and remains, challenging. The MRC has pursued interdisciplinary research through extensive partnership working aimed at producing large and sustained changes in the 'real world'.

Initiatives/impacts

- The **National Prevention Research Initiative (NPRI)**, managed by the MRC on behalf of 18 funding partners, committed £34m over 10 years in targeted funding for prevention research. Insights gained from the NPRI summary report in 2015[5] have been developed, through 2016/17, into a new initiative, the **UK Prevention Research Partnership**, which will be launched later this year.
- Prevention research in the study of HIV infections, **the PROUD trial** (HIV prophylaxis), has been adopted and expanded by the NHS into a 10,000 person UK-wide implementation study. Each case of HIV infection prevented avoids an estimated £280k to £360k treatment cost to the NHS over the patient's lifetime.

Regenerative medicine

Regenerative medicine promises to transform human health but the field faces many technical and scientific hurdles. These include understanding how to turn stem cells into the type of cell needed, how to manufacture stem cells safely, how to target treatments to the part of the body that needs repairing and how to find ways of stopping the body from rejecting transplants. These are problems that are being addressed by discovery science. The MRC is the largest funder of regenerative medicine research in the UK, and has supported the field since it first emerged.

Initiatives/impacts

- In September 2016, the inaugural **UK Regenerative Medicine Conference** showcased the UK's world-leading research in regenerative medicine. The conference highlighted the new tools, protocols and resources generated by the five interdisciplinary hubs funded by the cross-Council UK Regenerative Medicine Platform (UKRMP, funded by MRC, BBSRC and EPSRC), launched in 2013.
- Research at the **Edinburgh UKRMP Hub** has used liver cells produced from stem cells to model human biology in a dish. This work revealed novel microRNA that reduced drug-induced liver toxicity[6].
- The world-leading joint **Wellcome/MRC Stem Cell Institute in Cambridge** was recognised for its ground breaking stem cell research by being awarded funding for a further five years.

5. https://www.mrc.ac.uk/research/initiatives/national-prevention-research-initiative-npri/npri-report-2015/
6. http://www.crm.ed.ac.uk/research/group/pluripotent-stem-cell-hepatocyte-development

Research to people

Research that tackles complex problems and achieves the quality and visibility needed to attract inward R&D investment and global partners will lead to new products, interventions, and policies that will change lives in the UK and globally. Bringing academics and industry together facilitates translation of research into the clinic.

Initiatives/impacts

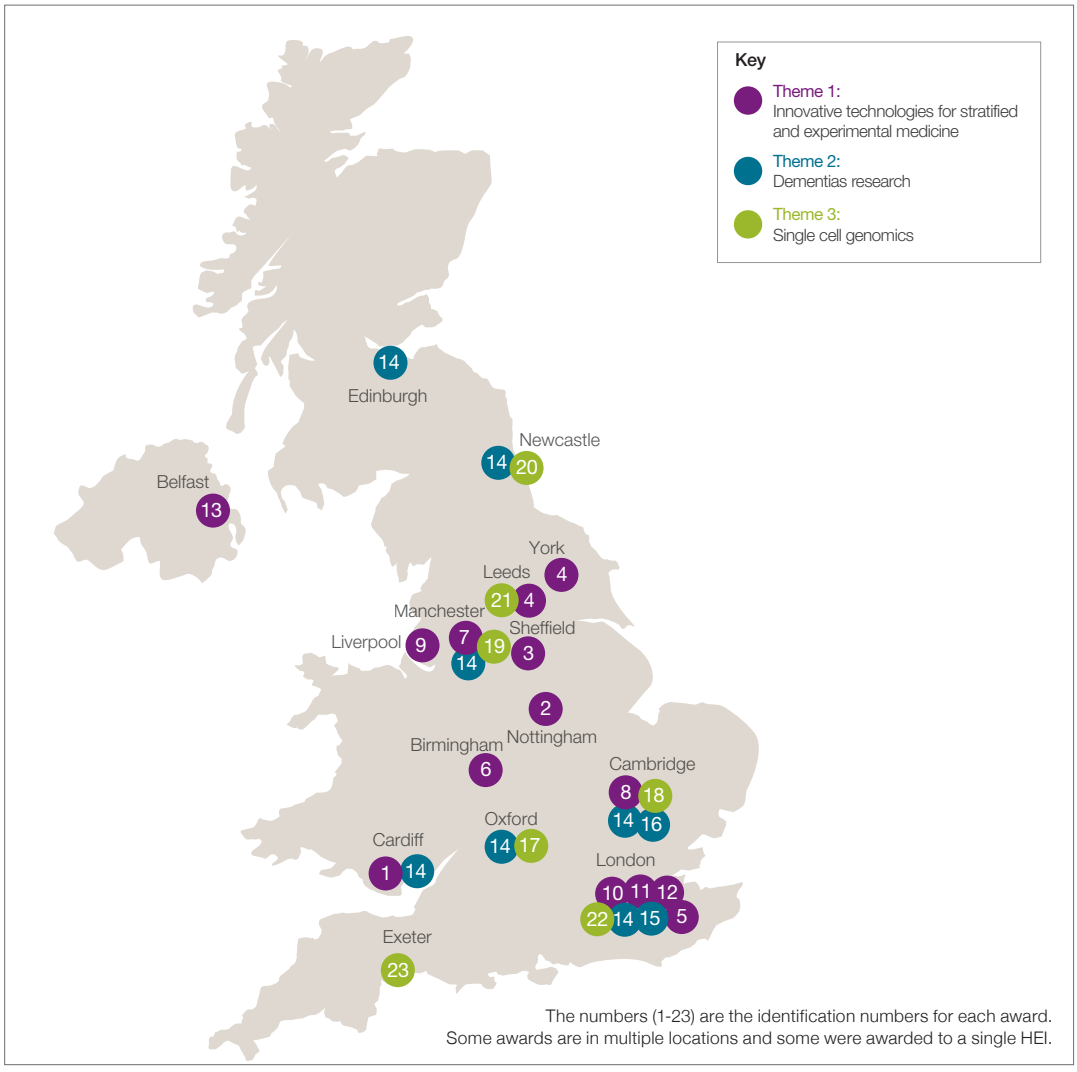
- The MRC, through HEIs, facilitates progress of research discovery through the translational pipeline via **Confidence in Concept (CiC)** and its companion initiative, Proximity to Delivery: Industry Engagement Fund. The CiC scheme aims to accelerate the transition from discovery science to the early stages of therapeutic/biomarker development by providing locally-administered, responsive and flexible funding to support preliminary translational work. CiC funding has contributed to the creation of 26 spin-out companies and established 699 new relationships with industry over the last four years.
- MRC translational initiatives (including the Developmental Pathway Funding Scheme (DPFS), CiC, Stratified Medicine, and others) continued to facilitate **spin-out creation** from MRC research in 2016:
  - The spin-out company Vaccitech was launched with £10m seed funding to develop intellectual outputs of DPFS-funded research into a universal flu vaccine. The vaccine is already showing promise in clinical trials.
  - In November 2016, Orchid Therapeutics, arising from DPFS-funded research, received an additional $20m to fund a large clinical trial of a gene therapy intervention for Severe Combined Immunodeficiency (ADA-SCID) (developed by Professor Gaspar, UCL) and formed a strategic alliance with a world-leading company in gene and cell therapy, Oxford BioMedica PLC.
  - The launch of Oxstem oncology, a spinout company to develop a novel approach to cancer therapy, resulted from a project funded in the CiC initiative.
- Up to £5m was made available in 2016/17, for projects under the unique **MRC-Industry Asset Sharing Initiative** which makes available de-prioritised compounds from six global drug companies to academic researchers.
- The US FDA approved a treatment for the liver disease Primary Biliary Cirrhosis (PBC), Ocaliva that was developed through the **MRC co-ordinated academic/industry consortium, UK-PBC**. FDA validation was followed quickly by EU Marketing Authorisation in January 2017. NICE approved the treatment in March 2017 following UK-PBC evidence given at the review panel. The NHS is expected to make Ocaliva available to patients in the next few months to benefit the 50,000 people in the UK who suffer from PBC.
- Research from the University of Manchester and the Farr Institute launched the first smartphone-based study to investigate the association between arthritic or chronic pain and the weather. The App **'cloudy with a chance of pain'** was developed with digital company uMotif **(www.umotif.com/)**.
- The FDA approved a **treatment for Duchenne Muscular Dystrophy** arising from many years of MRC-funded research carried out by Professor Francesco Muntoni, UCL. This treatment is the first approved genetic therapy using oligonucleotides, opening the door to the application of this new methodology to treat a variety of other genetic conditions.
- **UK Biobank** established a world-leading research resource of genetic information associated with health and other biological and sociological data from half a million people. In 2016, genome-wide association analyses from these data identified potential targets for drugs and compounds in development for treatment of Chronic Obstructive Pulmonary Disease (COPD) and asthma.

Supporting scientists

Research capacity and leadership secures the UK's place at the forefront of medical research. During 2016/17, the MRC was supporting 2,811 researchers' (principal investigators, co-investigators and fellows) activities covering all areas of biological and medical research in 113 HEIs across the length and breadth of the UK. Additional activities were funded in research institutions of 91 different countries.

Initiatives/impacts

- Announced in April 2016, the **Cambridge Pharmaceutical CryoEM Consortium** brings five pharma companies together with researchers at the MRC Laboratory of Molecular Biology (LMB), Cambridge Nanoscience Centre, and a leading developer of CryoEM (Electron Microscopy) machines, FEI. The consortium shares access to the cutting-edge electron microscope in return for expert guidance on the use of cryo-EM technology. This consortium will help create 3D models of viruses and proteins to allow rapid early-stage drug discovery and modelling.
- The **23 clinical research infrastructure installations** funded through the Clinical Research Capabilities and Technologies Initiative were activated in 2016. They are spread across the nation (see map), with a total investment of £230m (£169m capital with £60m leveraged from HEIs and ~£2m from charities) in a range of revolutionary technologies aimed at identifying the causes of disease.



- A novel **Magnetic Resonance Linac machine**, funded through the initiative, was installed at the Royal Marsden Hospital. The pioneering scanner was developed to target tumour irradiation in human cancer patients with greater precision.
- Since introducing a refreshed approach following reviews in 2014 and 2015 to understand skills priorities and career pathways, the MRC has continued to provide flexible support targeted at key transition points in the careers of future research leaders. This includes the **Interactive Career Framework (www.mrc.ac.uk/skills-careers/interactive-career-framework/)** which helps guide career choices and increased flexibility of funding schemes available to post-doctoral researchers.
- In 2016/17, the **MRC supported 1,398 studentships and awarded 80 new fellowships**.
- **Skills Development Fellowships (SDF)** have been restructured to more tightly integrate the fellowship into the host institution. SDF is one of a number of programmes developed over the last five years to ensure the necessary breadth of expertise in the scientist of tomorrow to produce robust innovative research.
- In response to a skills gap identified in methodology, the MRC instigated an expanding studentship programme. To date, the MRC network of **Hubs for Trials Methodology Research** has awarded 16 PhD studentships. Five are still on-going while 11 students have completed their PhD and are providing their expertise to academia (8), industry (2) and policy (1).

The Francis Crick Institute

In 2016, scientists moved into the new Francis Crick Institute which when fully occupied will employ 1,500 staff, including 1,250 scientists, and have an operating budget of approximately £130m a year. The Crick is the largest biomedical research institute under one roof in Europe. Its distinctive vision for excellence includes commitments to collaboration; to developing emerging talent and exporting it to the rest of the UK; to public engagement; and to helping turn discoveries into treatments as quickly as possible to improve lives and strengthen the economy. The MRC supports the Crick to deliver world-leading research in areas including infections and immunity, integrative structural biology of disease, metabolism and developmental neuroscience; there is also specific MRC support for new models of research translation to secure health and wealth gain.

Research Impacts: Research at the Francis Crick Institute became the first to receive permission from the Human Fertilisation and Embryology Authority (HFEA) to use the genome editing technique 'CRISPR-Cas9' in human embryos'.[7]

7. https://www.mrc.ac.uk/news/browse/new-gene-editing-techniques-approved/

Public engagement

The MRC aims to bring the benefits of excellent research to all sections of society by enhancing engagement and communication with our scientists and partners, policymakers and parliamentarians, and the public (including relevant populations in developing countries). The MRC's Communication and Engagement Strategy 2014-2019 **(www.mrc.ac.uk/publications/browse/communication-and-engagement-strategy-2014-19/)** outlines our commitments to effective partnerships such as working with universities to ensure researchers have access to relevant resources and training, supporting researchers to engage public and local audiences, sharing best-practice and pooling resources, and partnering with other research councils to improve evaluation. This will provide audiences with insight into science and its impact on health, show the human story behind scientific endeavour, and build public confidence in research.

MRC Festival of Medical Research

MRC researchers demonstrating a new diagnostic tool for oesophageal cancer, the cytosponge, at the MRC Festival of Medical Research in Cambridge.

A legacy of the MRC Centenary Open Week in 2013, the festival was launched in 2016 with the aims of engaging the MRC community, building trust in medical research, and increasing awareness of the benefits of medical research. The inaugural festival involved 35 MRC units, institutes and centres which delivered over 50 events for the public, staff or other non-scientific audiences. Festival activities covered the spectrum of the MRC's research with more than 6,000 individuals participating.

Science policy and evaluation

Using our expertise as funders of research and facilities, the MRC works with the sector to pioneer policies, incentives and performance measures for robust, efficient and ethical research sharing and utilisation of research assets. This includes leadership in increasing the quality and reliability of health research, working with NIHR through the jointly funded Methodology Research Programme to support the development and uptake of novel methods in health research, as well as promoting reproducibility through approaches such as verification of reagent, data sharing and a more 'open science' approach.

Initiatives/impacts

- Emphasis on reproducibility – to reinforce the MRC's high expectations for rigour in research, the MRC published new guidance for applicants and fellows requesting detailed evidence of rigorous methodology in applications and directing reviewers to scrutinise experimental design and statistical analysis plans in the applications: the *Statement for Expectations for Postgraduate Training* has been revised to include a requirement for training in experimental design, statistics and the importance of robust and reproducible research.
- An MRC-funded methodology study, published in August 2016, looked at how the general public and biomedical researchers value different types of research impact[8]. The results have implications for the development of impact metrics. The authors developed a policy brief summarising the work[9] and an opinion piece for Times Higher Education (THE)[10].

8. http://bmjopen.bmj.com/content/6/8/e010916.full
9. http://www.kcl.ac.uk/sspp/policy-institute/publications/BWS-value-of-research.pdf
10. https://www.timeshighereducation.com/blog/using-san-franciscos-public-transport-work-out-value-research

Facts and figures

In 2016/17 the MRC's gross research expenditure, funded by our BEIS budgetary allocation and contributions from other bodies, was £755.5m, compared to £927.8m in 2015/16. The support for world-class medical research to improve human health and enhance the economic competitiveness of the UK included:

- £358.3m on grants to researchers in universities, medical schools and research institutes.
- £159.1m on programmes within the MRC's own units and institutes including £4.9m on studentships.
- £160.3m on programmes within university units, including transfer of property, plant and equipment with a net book value of £19.1m.
- £60.7m on studentships and fellowships in universities, medical schools and research establishments.
- £17.1m for international subscriptions.

Key issues and risks

A summary of the principle risks facing the MRC and details of how these are being managed can be found in the Governance Statement on page 47.

These risks cover a broad range of concerns and are those which would have the most impact on our ability to deliver our mission. Mitigation strategies are in place and risks are discussed regularly at a senior level. They are also fully shared with MRC Council and its Audit and Risk Assurance Committee.

Going concern

The financial statements have been prepared on a going concern basis. For full disclosure please refer to Note u on page 96 of the accounts.

Budget performance summary

The MRC's key financial metric is performance against budget. The financial statements do not take into account the £581.3m budgetary allocation from BEIS 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 the programme budget, spend was £0.07m less than budget, well within allowable tolerance of £5.8m (one per cent). Our capital and administration budgets were 0.2 per cent underspent and 10.8 per cent underspent respectively also within forecast expectations.

Table 1: 2016/17 and 2015/16 budget performance summaries

2016/17	Programme Near Cash £000	Admin Near Cash £000	Capital £000
Total income	(135,785)	(94)	(559)
Total expenditure	717,035	20,512	50,780
Net income & expenditure	**581,250**	**20,418**	**50,221**
Less income from Dept. of Health	0	0	(8,700)
Adjusted net income & expenditure	**581,250**	**20,418**	**41,521**
DEL Budget	(581,316)	(22,888)	(41,600)
(Underspend)/overspend	(66)	(2,470)	(79)

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)

Financial statements summary

Our statement of financial position, assets less liabilities and total equity reduced by some £154m largely as a result of the reduction in the pension asset of £121m and £21m reduction in assets due to the transfer of business units to universities.

Table 2

Summary statement of consolidated net expenditure	2016/17 £000	2015/16 £000
Total income	(136,368)	(205,953)
Total expenditure	837,493	1,072,785
Other income	(3,856)	(1,801)
Net expenditure for the year	**697,269**	**865,031**

Summary statement of financial position	2016/17 £000	2015/16 £000
Non-current assets	796,782	956,493
Current assets	83,773	115,282
Current liabilities	(237,703)	(267,683)
Non-current liabilities	(11,946)	(19,194)
Assets less liabilities and total equity	630,906	784,898

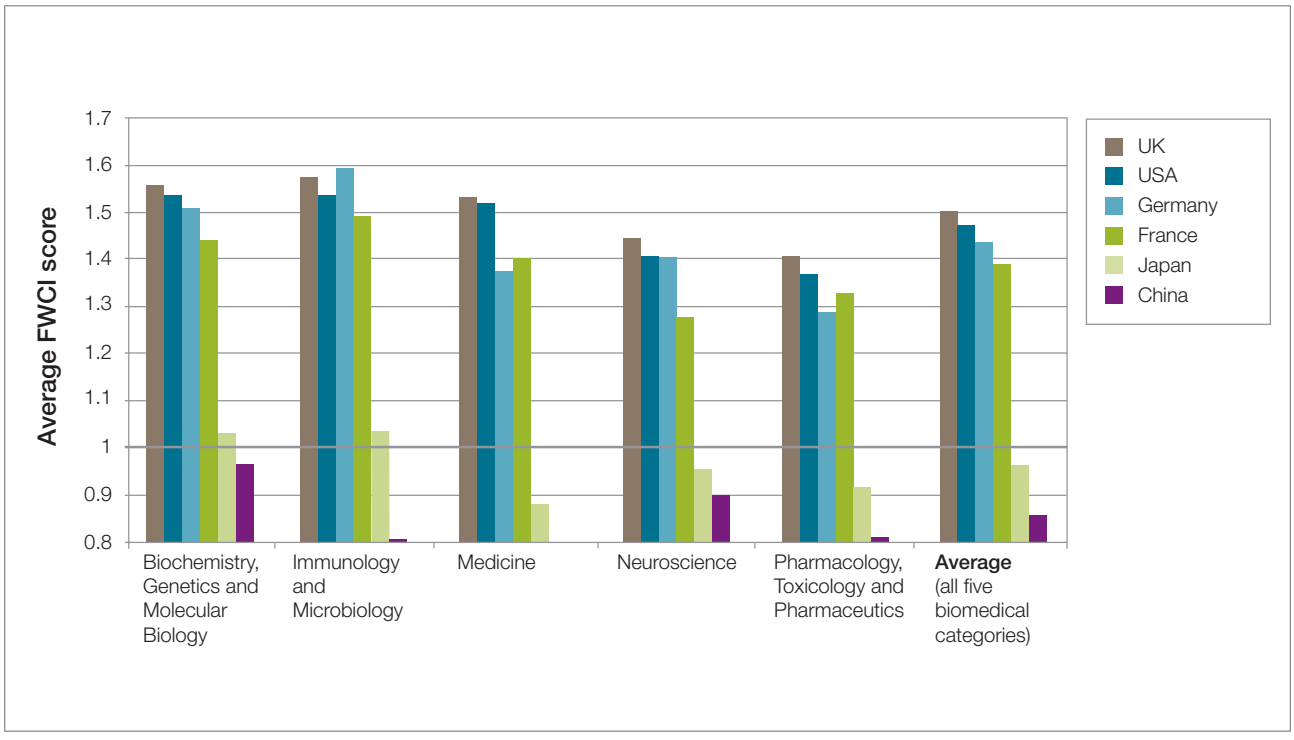
Performance analysis

The MRC continues to develop world-leading evaluation approaches, such as the **Health Research Classification System (HRCS)** and **researchfish®**, to track trends in research subject area and to gather outputs and impact of research funding. Combined with grant funding data, these sources provide a detailed picture of the MRC's activities and outcomes past and present.

Research excellence

Publications arising from MRC-funded research demonstrate global academic excellence, as measured by field-weighted impact factor[11] (FWCI) (Figure 1 and 2). The FWCI provides an indication of publication impact, and is derived from the number of times a publication is cited in the world literature compared to an average for publications in the same subject area. Analysis of the impact of MRC publications over the last decade (56,607 since 2006) reveals an average FWCI of 2.73, almost three times the world average of 1. In the last five years, the rate of publication per award has shown a steady increase. In 2015, MRC researchers published 9,478 unique publications.

Figure 1: International comparison of citation scores in five biomedical subject categories



11. The most recent citation information available to the MRC was provided by Elsevier. FWCI (field weighted citation impact) scores are based on relative number citations received in comparison with all other publications in a given subject area in a given year averaged over all publications in an 11 year period (2006-15). An FWCI score of 1 is considered the world average.

Focusing on publications in the primary academic areas of MRC-funding, UK research publications demonstrated higher or comparable average impact to that of publications from the USA, Germany, France, Japan and China.

The flagship MRC institutes represent a significant long-term MRC investment in discovery science for improving human health. The comparison of MRC institutes' publication impact with that of comparable national and foreign research institutes (Figure 2) indicates that MRC institutes are internationally leading in their fields.

Figure 2: Impact of publications from the MRC and comparator institutes[12]

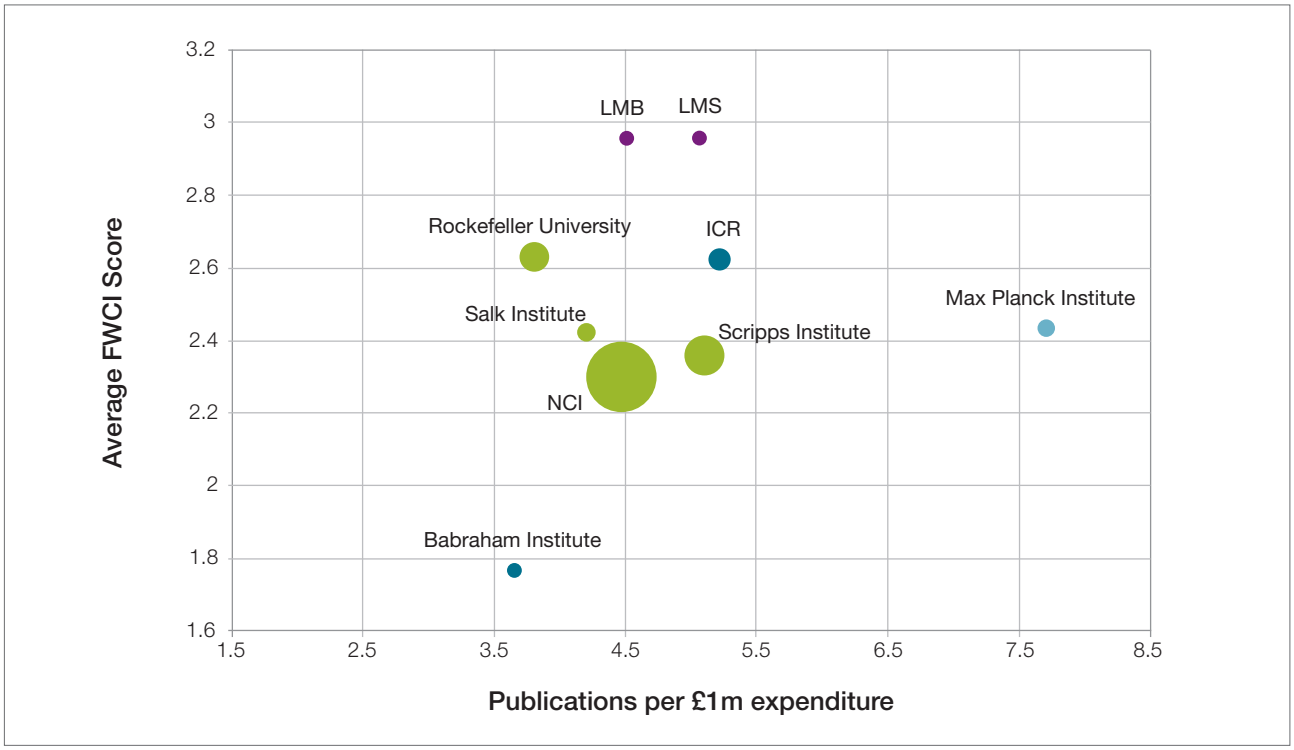
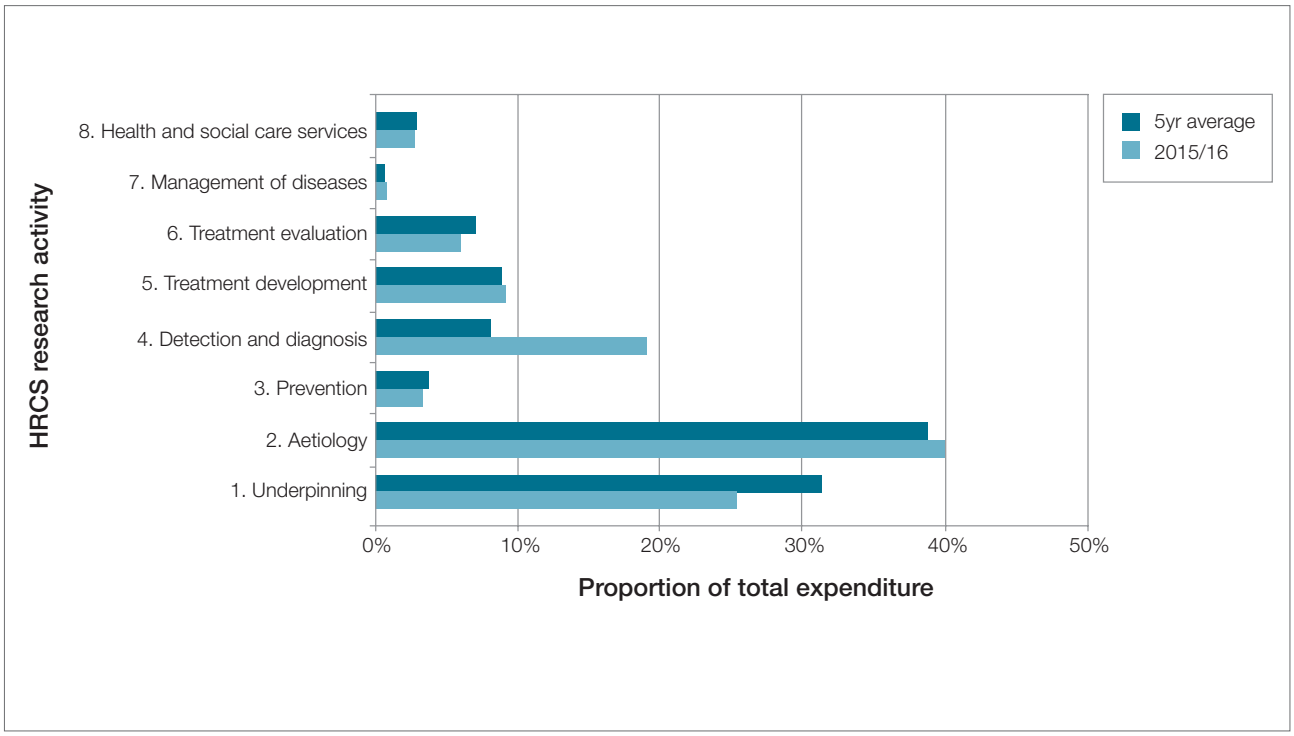


Figure note: Bubble size is relative to total number of publications produced; MRC (purple), UK (blue), Europe (light blue), and US (green).
LMS = London Institute of Medical Sciences; LMB = Laboratory of Molecular Biology; NCI = National Cancer Institute; ICR = Institute of Cancer Research

12. MRC and comparator institute citation scores against publications per £1m expenditure. Expenditure data collected via published annual reports for comparator institutes and from latest QQR reports for MRC institutes.

MRC-funded research builds on its strengths in supporting high quality fundamental discovery science and promoting excellence in research to improve the health and wellbeing of society. This balance is seen in the 2015/16 HRCS classification of the MRC portfolio (Figure 3). Two-thirds (70 per cent) of the MRC's research expenditure contributes to studies on underlying biological processes and on the causal components of disease (coded as *Underpinning and Aetiology* in HRCS). The further third of expenditure focuses on 'translational activities' (detection and diagnosis, treatment evaluation and treatment development). Changes in proportions of expenditure for a research area in a given year reflect the strategic funding shifts in response to research needs. The significant increase in detection and diagnosis research expenditure in 2015/16 marks the focused spend to enhance the equipment, facilities and capabilities for UK clinical research through the Clinical Research Capabilities and Technologies Initiative launched in 2014. Efficient implementation of this investment has brought these complex facilities on line by 2016 to support research into major health challenges (as indicated in the Performance summary page 18). Research in the subject areas of management of disease and health and social care services are a small part of the MRC portfolio as they are heavily supported by NIHR and other patient-care focused funders.

Figure 3: MRC funding by HRCS research activity

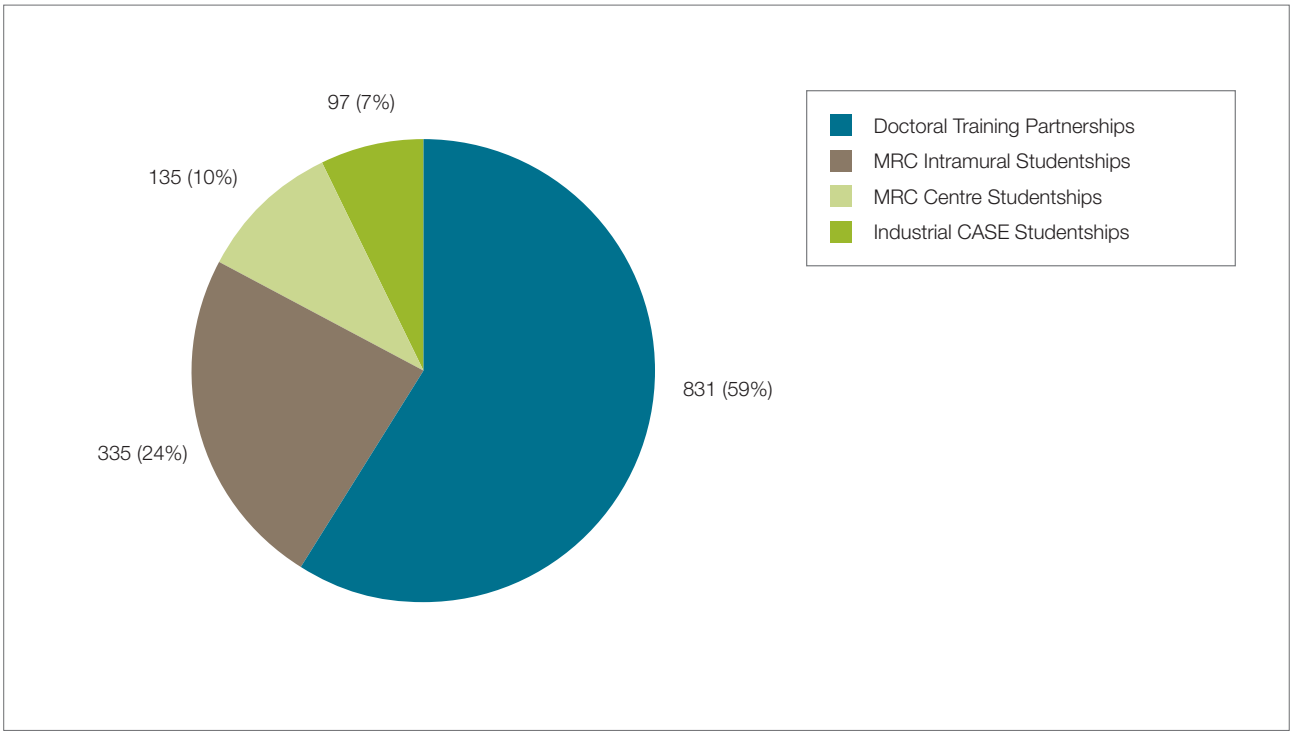


Developing expertise

People

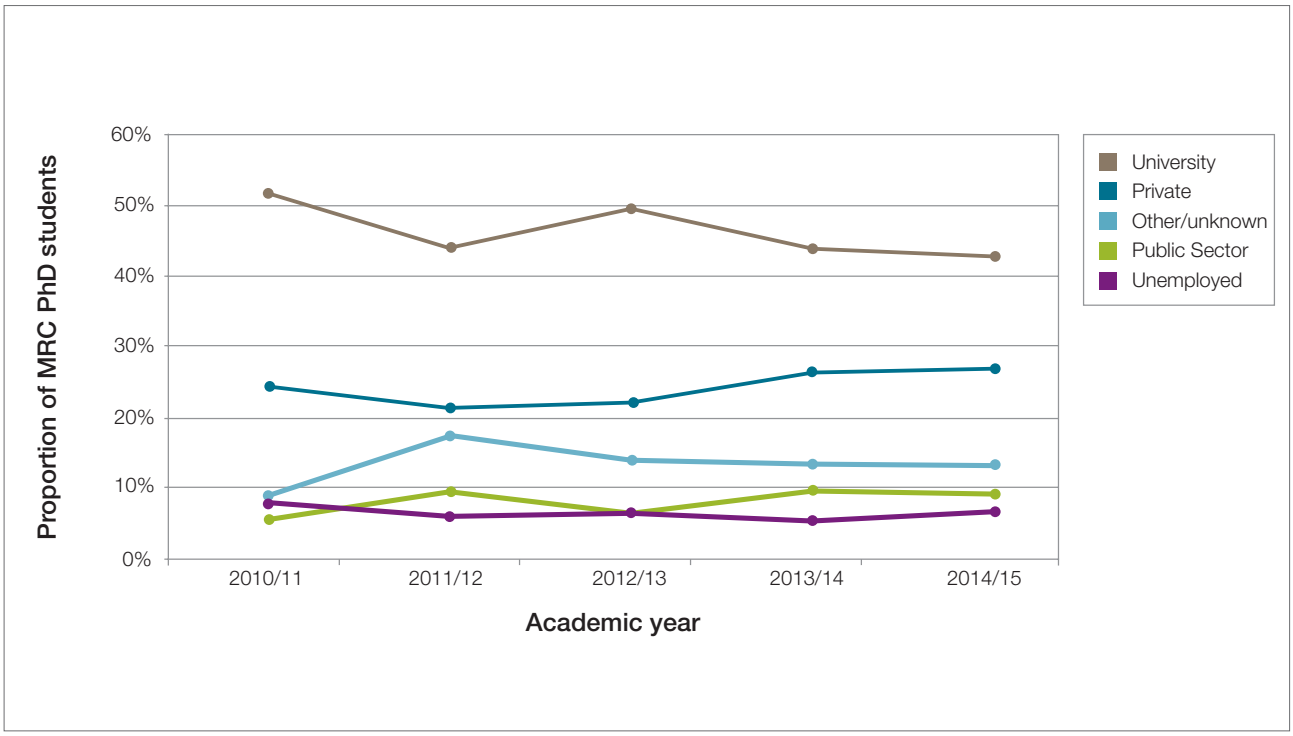
The MRC is about the people we nurture and support to become tomorrow's leaders in biomedical research. The MRC has a variety of studentships and training programmes to support researchers at crucial career transition points. Those at the start or at an early stage in their research careers are supported via the MRC capacity and skills programme. In 2016/17, this programme supported PhD studentships based in HEIs (doctoral training partnerships, 59 per cent), in MRC centres (10 per cent) and in MRC units and institutes (intramural, 24 per cent) (Figure 4). Additionally, CASE studentships (7 per cent) train the researchers of tomorrow in partnership with industry.

Figure 4: Distribution of studentships in 2016/17



While about half of MRC doctoral students stay in academia after completing their studies, a quarter of students (27 per cent in 2014/15) moved to employment in the private sector. Over the past three years, there has been a slight increase in private employment post-qualification, with a matching decrease in PhD students remaining in academia (Figure 5).

Figure 5: Destination of MRC PhD students by sector of employment[13]

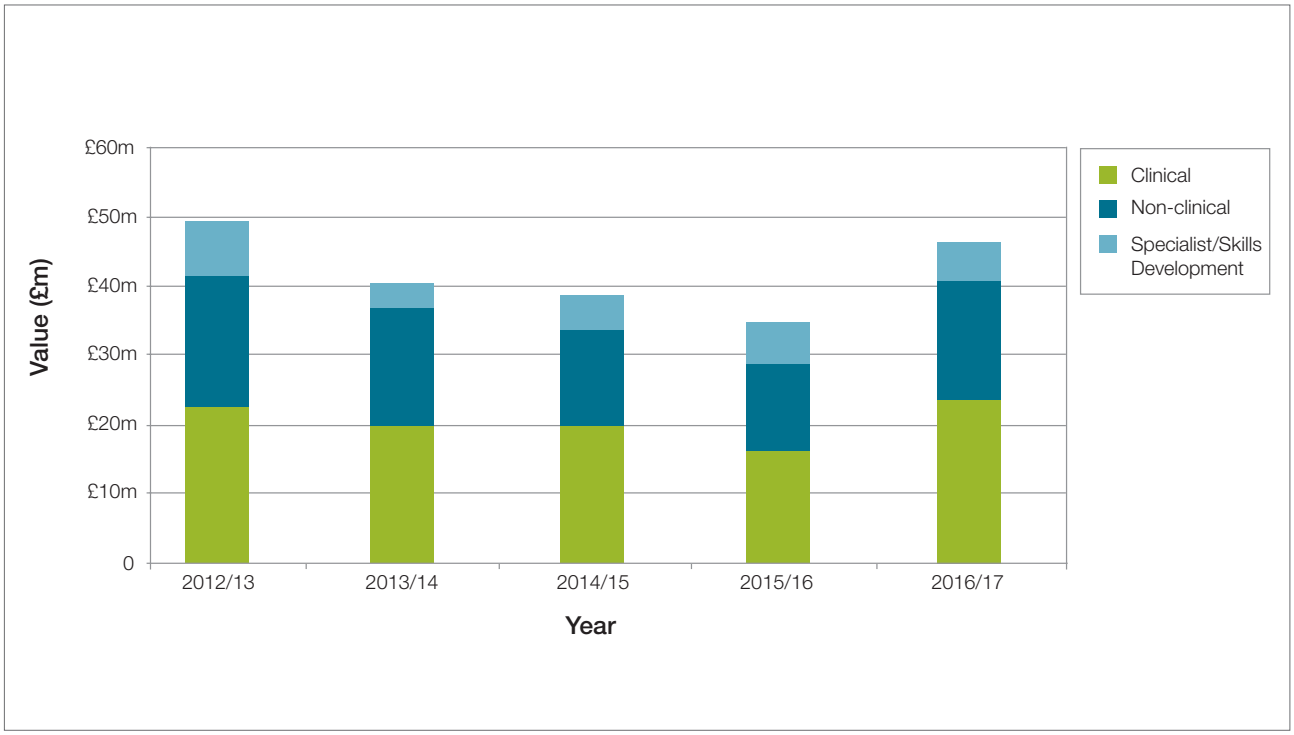


Approximately 98 per cent of MRC PhD students will submit a thesis and attain their PhD, the majority (85 per cent in the last five years) within their expected submission period.

13. These data were collected from survey responses.

Post-doctoral fellowships are awarded for clinically-focused research and laboratory-based research supporting development of both translational and discovery science researchers. After consultation with the research community in 2014/15, the MRC has tailored new career guidance and fellowship opportunities to meet scientific career and community needs. Additionally, 2016/17 investment in fellowships has increased, returning to 2012/13 levels (Figure 6). The MRC awarded 80 (£45.7 in total commitment) new research fellowships in 2016/17: 48 clinical fellowships, 14 non-clinical fellowships and 18 skills development fellowships. The MRC plays an important role in identifying gaps where capacity-building is required to address strategic skills needs in the UK research landscape. In response to a survey identifying vulnerable capabilities and skills within the UK bioscience and biomedical research base, the MRC launched the Skills Development Fellowship programme. Vulnerability of skills may be due to several reasons such as a small or decreasing number of individuals with expertise in a particular area, limited training opportunities, or the lack of career paths to preserve skills. Early career biomedical researchers who wish to develop quantitative and interdisciplinary skills as well as researchers in quantitative fields who wish to apply their expertise to biomedical research are supported through this programme.

Figure 6: MRC fellowship commitment



Integration into the global research environment[14]

Collaborations

Collaborations are central to addressing complex and multi-disciplinary research questions. Collaboration allows the necessary expertise, materials and facilities to be assembled, potentially from participating partners across the world. Studies have indicated that collaboration is important for research productivity, progress and impact[15,16]. The UK has a strong background of international collaboration in research; 2016 Leiden Ranking[17] shows 54 per cent of biomedical and health sciences publications from UK HEIs (higher education institutions) included in the ranking have international co-authors versus 49 per cent of German or 32 per cent of US publications. Researchers report that 42 per cent of the collaborations resulting from MRC funding are with international partners. The most common collaborators are within Europe (16 per cent) or the USA (14 per cent), see Figure 7. The remaining 12 per cent account for a further 1,882 reported new collaborations across 76 countries in the last 10 years. More than half of MRC researchers (55 per cent) report collaborations with new partners occurring within five years of the award. The majority of follow-on collaborations over the last 10 years are with fellow academics (63 per cent) while a further 9 per cent form new collaborations with the private sector.

Figure 7: International follow-on collaborations by country

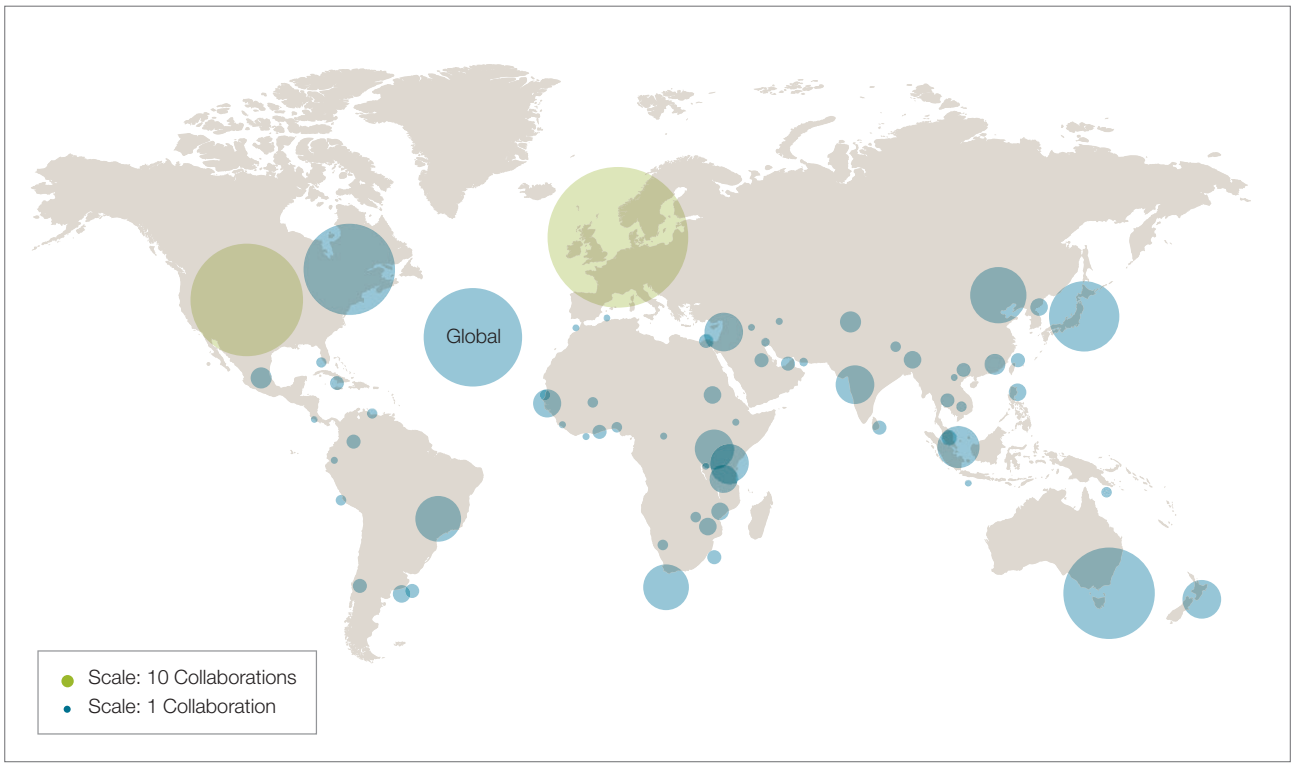


Figure note: Bubbles for Europe and USA are shown in green at 10x scale of the blue bubbles indicating collaborators in other countries. The 'global' bubble indicates collaborations with organisations classified as international, such as the United Nations or the WHO.

14. Data from researchfish®. https://www.mrc.ac.uk/funding/guidance-for-mrc-award-holders/researchfish/
15. Katz and Martin (1997) What is research collaboration? Research Policy 26 (1-18)
16. The Implications of International Research Collaboration for UK Universities (Digital Science report, 2016) https://www.digital-science.com/resources/digital-research-reports/digital-research-report-the-implications-of-international-research-collaboration-for-uk-universities/
17. Data from CWTS Leiden Ranking on collaborations as indicated by co-authorship for the leading world Universities (http://www.leidenranking.com/)

Further support for MRC-funded research outcomes

Research funded by the MRC benefits from support from all sectors. Approximately a quarter of MRC research is funded from the outset in partnership with other funding organisations, including many charitable and private sector organisations. Contingent on excellent progress being made, researchers will subsequently obtain further funding to increase the scale and scope of work undertaken, and to translate it into products, processes and ideas with economic and societal impact. This follow-on funding may be from the MRC or from other sources. Sixty per cent of MRC researchers report details of follow-on funding obtained from non-MRC sources within five years of commencing their MRC award. This follow-on funding totals an estimated £4.3bn (blue bars below) expenditure over the last five years (Figure 8) with a year on year increase. This represents a significant set of independent investment decisions taken across public, charity and private funders internationally, to build on MRC supported research. Other sources of follow-on funding include; income from intellectual property and, (as noted in the Performance summary (page 17)) spin-out companies formed from MRC-funded research continue to attract substantial investment.

Figure 8: Follow-on funding

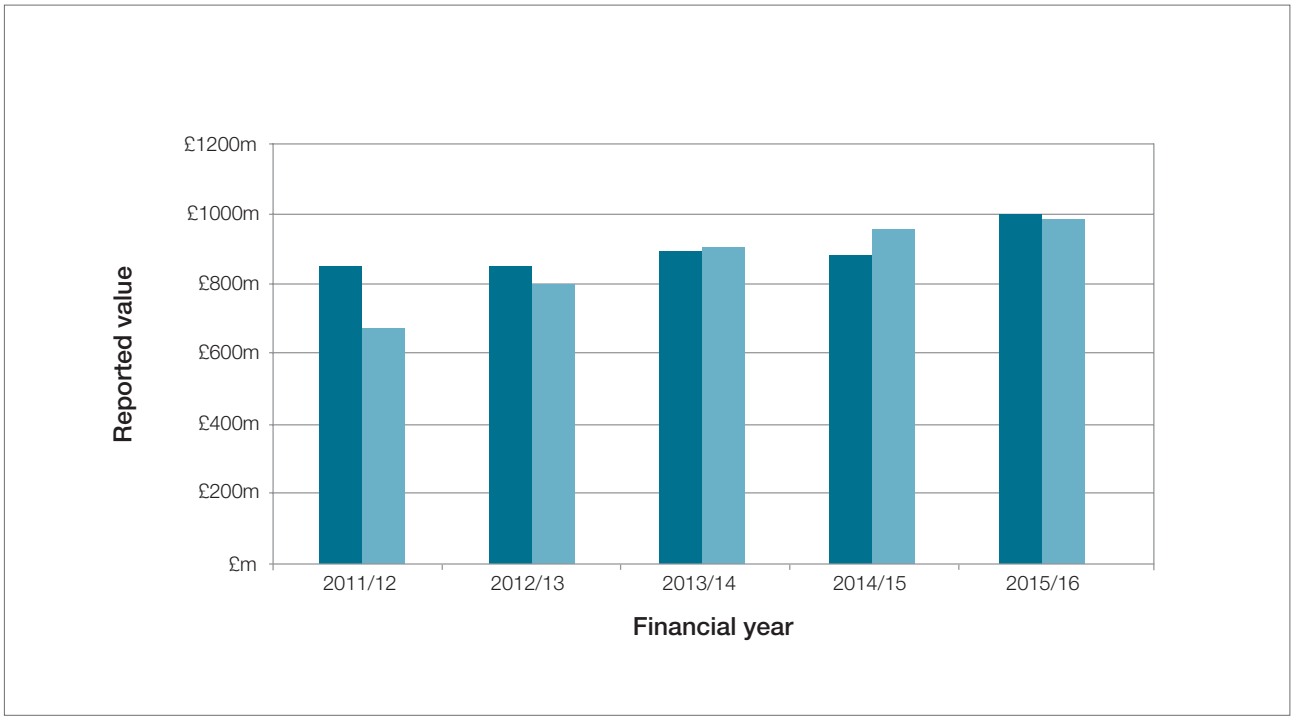


Figure 8 charts the value of follow-on funding (dark blue) against MRC budget allocation and income[18] (light blue) by financial year.

18. Allocation/income data from previous annual reports.

Environmental policy/sustainability

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, the 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 continuously to improve environmental reporting.

Table 3

Greenhouse gas emissions				
Non-financial (000 tonnes CO_2)	**2013/14**	**2014/15**	**2015/16**	**2016/17**
Total gross emissions	35.53	39.86	37.47	31.33
Total net emissions	35.53	39.86	37.47	31.33
Gross emissions – scope 1 (direct)				
Gas & LPG	8.28	7.67	7.42	6.68
Owned transport	0.01	0.01	0.01	0.01
Gross emissions – scopes 2&3 (indirect)				
Electricity (1)	27.26	31.96	29.87	24.45
Business travel	0.12	0.22	0.18	0.19
Related energy (million kWhr)				
Electricity	56.37	59.50	59.7	54.39
Renewable electricity	0	0	0	0
Gas	44.30	40.60	40.2	36.27
LPG	0	0	0	0
Other	0.5	0.6	0.5	0.3
Finance (£m)				
Expenditure on energy	6.32	6.32	6.48	6.68
CRC Costs	0.4	0.5	0.5	0.5
Business travel	2.74	2.47	2.37	2.36

Notes: (1) MRC science facilities account for the majority of the MRC's electricity usage. Animal facilities such as the Mary Lyon Centre (Harwell) and the ARES building (Cambridge) 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.

Performance commentary

MRC greenhouse gas emissions are dominated by the use of electricity. All research activities are energy-hungry and specialised buildings 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 endeavours to conduct research in as economical and sustainable a way as possible.

The MRC's Estates Management Section (EMS) has created a utilities tracker to more closely monitor the monthly costs and usage of MRC utilities. Individual units are written to immediately upon significant changes in their usage of gas and electricity.

A comparison has been carried out for the years 2015 and 2016 to see how the MRC's energy consumption compared for these periods.

From January to December 2016 the MRC used 22,562 MWh compared with 24,074 MWh for the same period in 2015, a reduction of 1,512 MWh. This equates to a reduction in greenhouse gas (GHG) emissions of 679 tCO_2e, a reduction in electricity costs of £123k, and a reduction in Carbon Reduction Commitment scheme costs of £11k[19].

In 2012 the MRC's EMS set up an energy management system in order to record more accurately our units' power consumption, CO_2 emissions, waste disposals and costs. EDF (electricity), Corona (gas), Butler Fuels and Thames and Cambridge water are now providing the usage information for the ARES building, the Laboratory of Molecular Biology, the Elsie Widdowson Laboratory, the Cognition and Brain Sciences Unit, and MRC Harwell.

MRC establishments have introduced a range of activities aimed at reducing their environmental footprint. For example, the engineering and safety teams at the ARES building proceeded with a scheme to reduce air changes from 20 per hour to 15 in the holding rooms. This received Home Office approval and the establishment is now running at this reduced rate. There are plans to reduce this further to 12 air changes per hour and also to installing the Aircuity ductwork sampling system which the MRC installed previously in the Hutchison Building in Cambridge.

19. During this period the size of the MRC estate reduced owing to university unit transfers. This reduction in size is reflected in the reduction in usage as well as the positive actions taken to enhance sustainability.

Waste management

Table 4

MRC waste management data				
Non-financial (000 tonnes CO_2)	**2013/14**	**2014/15**	**2015/16**	**2016/17**
Total waste	922	1044	1209	1400
Hazardous waste (total)	137	177	278	315
Non-hazardous waste				
Landfill	168	257	220	212
Reused/recycled	570	485	507	635
Composted	47	53	56	46
Incinerated with energy recovery	0	72	148	192
Incinerated without energy recovery	0	0	0	0

Finance (£m)	**2013/14**	**2014/15**	**2015/16**	**2016/17**
Total disposal cost	0.55	0.72	0.47	0.45
Total hazardous waste	0.08	0.12	0.11	0.10
Non-hazardous				
Landfill	0.10	0.18	0.09	0.07
Reused/recycled	0.34	0.33	0.20	0.20
Composted	0.03	0.04	0.02	0.02
Incinerated with energy recovery	0.00	0.05	0.05	0.06

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

Performance commentary

The MRC recycles as much material as possible. 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. The reliability of waste measurements across MRC sites is still being improved and we believe that the increases showing in 2015/16 are a sign of improved measurement rather than necessarily indicating an increase in waste generated per se.

Examples of waste initiatives at individual units include a recycling initiative introduced at the MRC Elsie Widdowson Laboratory in February 2014. The initiative has continued to be promoted with the result that the ratio of waste disposed of has been reversed from roughly 4:1 landfill/recycling to 1:3.

Finite resource consumption

Table 5

Water				
Non-financial (000 cubic metres)	**2013/14**	**2014/15**	**2015/16**	**2016/17**
Water consumption (Office Estate)				
Supplied	4	5	10	3
Abstracted	0	0	0	0
Water consumption (Non-Office Est.)				
Supplied	198	197	277	183
Abstracted	0	0	0	0
Finance (£m)				
Water supply costs (Office Estate)	0.01	0.01	0.01	0.01
Water supply costs (Non-Office Est.)	0.36	0.38	0.33	0.33

Performance commentary

Water consumption has been measured by the MRC for several years. While consumption can sometimes be high because of an individual building's purposes – for example animal houses – measurement itself can help to identify previously unknown leaks and similar issues which reduce wastage and expense. The proactive approach taken by the MRC to monitor usage and billing has led to two instances of water leakages being identified, one which resulted in the unit getting a £3,620 refund.

Financial results

Each year we receive a budgetary allocation from BEIS 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:

- Programme – 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. This budget includes a ring-fenced allocation for administration.
- Capital for new investment and renewal.

Within the programme 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 programme budget. Administration budgets are controlled to ensure that as much money as practicable is available for science programmes.

A summary of the MRC's financial results for 2016/17 is shown in table 6 and for the preceding year in table 7. Tables 6 and 7 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 8.

The Programme Near-Cash outturn of £581,250k was £66k lower than budget. Capital expenditure at £41,521k was £79k lower than budget. Administration expenditure was £2,470k less than budget of £22,888k. These results were within the parameters expected by the organisation.

Table 6: Summary of Financial Return for 2016/17

	2016/17							
	Programme			Admin			Capital	Total
	Near Cash £000	Non Cash £000	Total £000	Near Cash £000	Non Cash £000	Total £000	£000	£000
Total Income	**(135,785)**	**0**	**(135,785)**	**(94)**	**0**	**(94)**	**(559)**	**(136,438)**
Pay and Operating Costs (1)	195,000	(1,968)	193,032	20,512	0	20,512	0	213,544
Depreciation and impairment charges	0	28,215	28,215	0	0	0	0	28,215
Provision movement	1,318	0	1,318	0	0	0	0	1,318
Research funding	520,619	0	520,619	0	0	0	65,255	585,874
Other operating expenditure	75	0	75	0	0	0	0	75
Finance expenditure (1)	23	204	227	0	(1)	(1)	0	226
Direct Capital	0	0	0	0	0	0	(14,475)	(14,475)
Total Expenditure	**717,035**	**26,451**	**743,486**	**20,512**	**(1)**	**20,511**	**50,780**	**814,777**
Net Income & Expenditure	**581,250**	**26,451**	**607,701**	**20,418**	**(1)**	**20,417**	**50,221**	**678,339**
Less Income from Dept of Health (2)	**0**	**0**	**0**	**0**	**0**	**0**	**(8,700)**	**(8,700)**
Adjusted Net Income & Expenditure	**581,250**	**26,451**	**607,701**	**20,418**	**(1)**	**20,417**	**41,521**	**669,639**
DEL Budget	(581,316)	(32,249)	(613,565)	(22,888)	0	(22,888)	(41,600)	(678,053)
(Underspend)/overspend	(66)	(5,798)	(5,864)	(2,470)	(1)	(2,471)	(79)	(8,414)

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

Table 7: Summary of Financial Return for 2015/16

	2015/16 Restated							
	Programme			Admin			Capital	Total
	Near Cash £000	Non Cash £000	Total £000	Near Cash £000	Non Cash £000	Total £000	£000	£000
Total Income	**(200,405)**	**0**	**(200,405)**	**(98)**	**0**	**(98)**	**(5,472)**	**(205,975)**
Pay and Operating Costs (1)	236,536	(1,233)	235,303	22,019	0	22,019	0	257,322
Depreciation and impairment charges	0	52,556	52,556	0	0	0	0	52,556
Provision movement	566	0	566	0	0	0	0	566
Research funding	542,923	0	542,923	0	0	0	202,936	745,859
Other operating expenditure	184	0	184	0	0	0	0	184
Finance expenditure (1)	18	(1,117)	(1,099)	1	(0)	1	0	(1,098)
Direct Capital	0	0	0	0	0	0	(13,666)	(13,666)
Total Expenditure	**780,227**	**50,206**	**830,433**	**22,020**	**(0)**	**22,020**	**189,270**	**1,041,723**
Net Income & Expenditure	**579,822**	**50,206**	**630,028**	**21,922**	**(0)**	**21,922**	**183,798**	**835,748**
Less Income from Dept of Health (2)	**0**	**0**	**0**	**0**	**0**	**0**	**(141,300)**	**(141,300)**
Adjusted Net Income & Expenditure	**579,822**	**50,206**	**630,028**	**21,922**	**(0)**	**21,922**	**42,498**	**694,448**
DEL Budget	(580,307)	(52,748)	(633,055)	(24,636)	0	(24,636)	(42,900)	(700,591)
(Underspend)/overspend	(485)	(2,542)	(3,027)	(2,714)	(0)	(2,714)	(402)	(6,143)

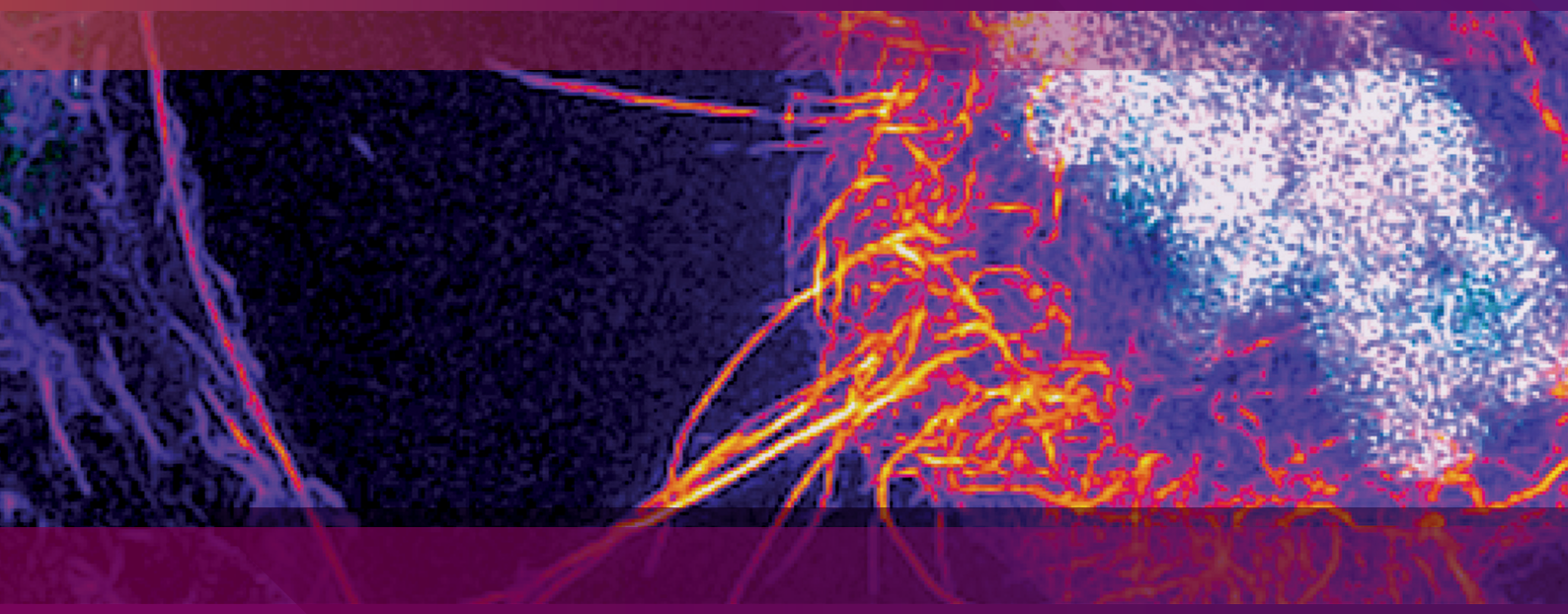
(1) Non cash relates to exchange rate (gains)/losses
(2) Capital contribution re: Clinical Research Infrastructure

Table 8: Reconciliation of finance tables to Annual Accounts

	Account Note	2016/17 Programme £000	2016/17 Admin £000	2016/17 Capital £000	2016/17 Total £000	2015/16 Restated Total £000
Income						
Income from Sale of Goods and Services		(7,480)	(1)	0	(7,481)	(9,507)
Other Operating Income	4	(128,235)	(93)	(559)	(128,887)	(196,446)
Finance Income		(4,241)	(0)	0	(4,241)	(731)
Less: IAS 19 pension income adjustments	10e	4,171	0	0	4,171	709
Income per Finance Table		**(135,785)**	**(94)**	**(559)**	**(136,438)**	**(205,975)**
Pay and Operating Costs						
Staff Costs	5	96,433	12,709	0	109,142	128,014
Less: IAS 19 current service costs		(1,914)	0	0	(1,914)	(9,855)
Purchase of Goods and Services	6.1	98,513	7,803	0	106,316	139,163
Pay and operating costs per Finance Table		**193,032**	**20,512**	**0**	**213,544**	**257,322**
Provision Movement						
Provision expense	6.3	(180)	0	0	(180)	(175)
Amount provided in year (not chargeable to DEL budget)		180	0	0	180	175
Less Amount expended in year (DEL Charge)		1,318	0	0	1,318	565
Provision movement per Finance Table		**1,318**	**0**	**0**	**1,318**	**565**
Other operating expenditure						
Other operating expenditure	6.5	1,899	0	0	1,899	1,506
Share of (profits)/losses of joint venture (not chargeable to DEL budget)		(1,824)	0	0	(1,824)	(1,322)
Other operating expenditure per Finance Table		**75**	**0**	**0**	**75**	**184**
Finance expenditure						
Finance expenditure		386	(1)	0	385	(1,070)
Unwinding of Discount (not chargeable to DEL budget)		(159)	0	0	(159)	(28
Finance expenditure per Finance Table		**227**	**(1)**	**0**	**226**	**(1,098)**
Direct Capital						
Property, plant & equipment additions	7	0	0	6,304	6,304	13,614
Intangible asset addition - software licences	8	0	0	23	23	0
Plus investment in Joint Ventures addition	9.1	0	0	0	0	1,278
Less net book value of disposed property, plant & equipment	7	0	0	(20,802)	(20,802)	(27,147)
Less net book value of disposed software licences	8	0	0	0	0	0
Less disposal of assets held for sale		0	0	0	0	(1,411)
Direct Capital per Finance Table		**0**	**0**	**(14,475)**	**(14,475)**	**(13,666)**
Notional Service Charge not included in DEL budget	1l				6,227	5,862

Sir John Savill
Accounting Officer/Chief Executive Officer
Medical Research Council
Date: 27 June 2017

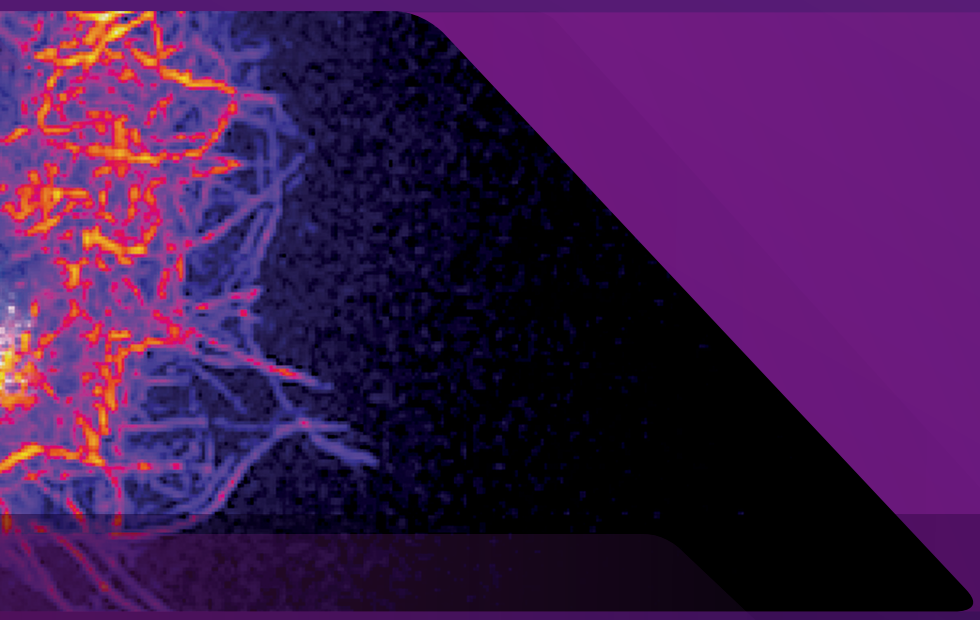
Accountability report



Human HeLa cells

The immortalised HeLa cell line was derived from a cervical cancer in 1951, and is one of the most commonly used human cell lines in research laboratories to study various aspects of cell and molecular biology. Here, the cell's microtubule cytoskeleton is examined in great details, using Structured Illumination Microscopy; in purple/orange are the cell's microtubules and in white is the DNA. Cell shape is determined by the cytoskeleton and better understanding how it is regulated remains an important challenge in molecular cell biology. Studying the properties of the microtubule cytoskeleton in HeLa and how it can be remodeled contributes to our understanding of cell shape regulation during development and although adulthood.

MRC Laboratory for Molecular Cell Biology



Corporate governance report

The Directors' report

Council and Management Board members

The membership of the MRC's Council and its committees is listed on page 50 in the Governance Statement. Council members' remuneration is listed in the Remuneration Report (page 68). 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
Professor David Lomas[20]	Deputy Chief Executive
Mr Bruce Minty	Chief Operating Officer
Dr Declan Mulkeen[21]	Chief of Strategy
Dr Rob Buckle[22]	Chief Science Officer
Dr Tony Peatfield	Director of Corporate Affairs
Mr Hugh Dunlop	Director of Finance and Information Technology
Mr Sandy Bulger	Major Projects Director
Ms Sally-Louise Smith	HR Director
Ms Sharmilla Nebhrajani[23]	Director of External Affairs
Dr Chris Watkins[24]	Director of Innovation
Sir Jim Smith[25]	*Deputy Chief Executive and Chief of Strategy*

Conflicts of interest

During 2016/17 all Management Board member were circularised for details of conflicts of interests. Identified conflicts are included in the Remuneration and Staff Report on page 69.

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. To ensure this happens, the Chairman asks members to state if there are any changes to their declared interests at each Council meeting. Members are also sent a copy of their current form and biography annually and asked to update it or state if there are no changes. Completed forms are published on the MRC website at the following link: **https://www.mrc.ac.uk/about/our-structure/council/members-declarations-of-interest/**

20. Professor Lomas was appointed Deputy Chief Executive with effect from 1 January 2017
21. Dr Mulkeen was appointed Chief of Strategy with effect from December 2016. He was previously Chief Science Officer.
22. Dr Buckle was appointed Chief Science Officer with effect from December 2016
23. Ms Nebhrajani was appointed to Management Board with effect from 1 January 2017
24. Dr Watkins was appointed to Management Board with effect from 1 January 2017
25. Sir Jim Smith stepped down on 1 December 2016

Pension liabilities

The accounting treatment of pension liabilities and details of the MRC's pension scheme are fully disclosed in accounting policy note 1(o) (page 93) and note 10 to the accounts (page 107).

Information assurance and security

Information assurance and security is covered in the Governance Statement on page 52.

Freedom of information

Forty-six FOIA requests were handled during calendar year 2016, all within the statutory time limit[26]. There were no requests submitted under the Environmental Information Regulations. A breakdown of FOIA requests by requestor and type is provided in tables 9 and 10 below.

Table 9: 2016 FOIA requests by requestor

Requestor type	No. (%)
Academic/HEI/RO	4 (8.7%)
Charities and interested parties	3 (6.5%)
Media	2 (4.3%)
Private Sector	10 (21.7%)
Public	26 (56.5%)
Public Sector	1 (2.2%)
Total	**46**

Table 10: 2016 FOIA requests by type

Request type	No. (%)
Contracts and IT	10 (21.7%)
Corporate Strategy, Policy and Governance	13 (28.3%)
Finance/Accounts/HR	9 (19.6%)
Research Strategy and Funding	9 (19.6%)
Other	5 (10.9%)
Total	**46**

26. 20 working days, or 40 working days where exemptions requiring a Public Interest Test are required

The Statement of Accounting Officer's responsibilities

The financial statements presented on page 84 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, Energy and Industrial Strategy, 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, Energy and Industrial Strategy, 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 disclosure and explain any material departures in the financial statements;
- Prepare the financial statements on a going concern basis.

The Department for Business, Energy and Industrial Strategy 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.

The Accounting Officer confirms that this annual report and accounts as a whole is fair, balanced and understandable and that he takes personal responsibility for the annual report and accounts and the judgments required for determining that it is fair, balanced and understandable.

MRC Governance Statement for 2016/17

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, strategic 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, Energy and Industrial Strategy (BEIS). The MRC lines of accountability with BEIS 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 2016/17 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.

Between 1 October and 30 November, the Council was not legally constituted as its membership had fallen below the 12 members stipulated in the Royal Charter. This was the consequence of delays in appointing new Council members. This meant that the meeting on 5 October was not a formal Council meeting, and no decisions could be taken. Steps were taken to ensure business continuity.

Council appointments: Council is led by the Chairman, with the MRC Chief Executive as Deputy Chairman and 12 other members, at least half of whom are appointed on account of their scientific qualifications. Council members are appointed by and are accountable to the Secretary of State for Business, Energy and Industrial Strategy in accordance with the Code of Practice for Ministerial Appointments to Public Bodies. In addition there is a BEIS observer on Council.

Main activities for 2016/17[27]:

- Reviewing delivery of commitments in the MRC strategic plan and other items of strategic importance;
- Reviewing and approving decisions on MRC intramural investments including progress and future plans for the university unit programme;
- Reviewing and approving plans for establishing the UK Dementia Research Institute;
- Reviewing and approving plans for establishing the UK Institute for Health and Biomedical Informatics Research (UKIHBIR), subsequently named "Health Data Research UK";
- Discussing and advising on MRC policies around data access and the principles and guidance for working with industry;
- Monitoring progress with major initiatives including the Francis Crick Institute;
- Reviewing and approving financial plans and performance;
- Reviewing and approving operational activities;
- Receiving reports from subcommittees including the Council Audit and Risk Assurance Committee, the Ethics, Regulation and Public Involvement Committee, the Nominations Committee and the Remuneration Committee.

Review of effectiveness

During 2016/17, 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 subcommittees[28]. 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 2016/17. 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 Government Internal Audit Agency (GIAA).

27. Agendas and redacted minutes are available on the MRC website.
28. The terms of reference and membership of the committees are available on the MRC website http://www.mrc.ac.uk/About/Structure/Council/CouncilCommittees/index.htm

CARAC main activities for 2016/17:

- 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.

Review of effectiveness

CARAC carried out a review of effectiveness in April 2016. No significant issues were identified.

The **Remuneration Committee (RemCom)** reports to Council and met twice during the year. 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 eight 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 three to four additional members. NomCom advises the Chairman on senior key appointments and meets as and when required. NomCom met three times in 2016/17 to advise the Chairman and CEO on Council member recruitment, succession planning and appointments to Management Board.

Strategy Board met eight times in 2016/17. 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 2016 – 31 March 2017

	Attendance				
Name of Member	Council	RemCom	CARAC	ERPIC	NomCom
Dr John Brown[29]	5/5	2/2	3/4		
Mr Donald Brydon[30]	5/5	2/2	2/6		3/3
Prof Doreen Cantrell	4/5				3/3
Prof Dame Sally Davies	4/5				
Prof Chris Day	4/5	2/2			3/3
Prof Dame Janet Finch	5/5		6/6		
Prof Patrick Johnston	3/5	2/2			1/2
Prof John Iredale[31]	1/2				
Prof Dame Sally Macintyre[32]	2/2				1/1
Mr Richard Murley[33]	0/1				
Baroness Onora O'Neill	5/5			2/2	
Dr Menelas Pangalos	4/5	1/2			
Dr Ruth McKerna[34]	2/2				
Prof Michael Schneider[35]	2/2		1/3		
Prof Irene Tracey[36]	2/2				
Dr Pauline Williams[37]	1/1				
Prof Sir John Savill[38]	5/5	2/2	3/6		
Ms Anna Anderson			5/6		
Mr Roger Dunshea			5/6		
Mr Andrew Murphy[39]			1/1		
Ms Charlotte Moar			5/6		
Ms Kathryn Packer			6/6		

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.

29. Dr Brown became a member of CARAC on 30th September 2016
30. Mr Brydon also chairs RemCom and NomCom
31. Professor Iredale was appointed to Council on 1 December 2016
32. Prof Macintyre completed her term on Council on 30th September 2016
33. Mr Richard Murley was appointed to Council on 1 March 2017
34. Dr McKernan completed her term on Council on 30th September 2016
35. Prof Schneider completed his term on Council and CARAC on 30th September 2016
36. Professor Tracey was appointed to Council on 1 December 2016
37. Dr Williams was appointed to Council on 1 March 2017
38. Prof Sir John Savill is the Chief Executive and Deputy Chair of Council
39. Mr Andrew Murphy complete his term on CARAC on 30th May 2017

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)

The new UK Dementia Research Institute (DRI) will also be established through a joint venture agreement.

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 the GIAA on a rolling programme.

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

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 2017 and up to the date of approval of the annual report and accounts, and accords with HM Treasury guidance. The MRC has reviewed its risk management arrangements against the new "Managing of Risk in Government – framework" and is able to confirm that no weaknesses have been identified.

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 assurance statements by directors; (DASIC see 13)
- 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 BEIS Counter Fraud Working Group and the Cabinet Office Counter Fraud network where best practice is shared and current fraud issues discussed.

There were two low value frauds reported during the year. In both cases action was taken and the results of the investigation were reported to CARAC.

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. In 2016, this process looked to assess the MRC's compliance against the Government's security standard called Cyber Essentials. This standard sets the basic requirements for cyber security for any organisation to help protect them against the most commons attacks from the internet. This standard aligns itself with the

mandatory requirements in the Cabinet Office Security Policy Framework. Also in 2016, the GIAA carried out an assessment of cyber security in Head Office, LMS, LMB and the Harwell Institute.

The MRC is committed to work towards gaining the Cyber Essentials Plus certification during 2017, addressing any improvements that are required.

MRC Head Office receives IT Infrastructure services from an external IT supplier and all MRC establishments receive 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 submits an annual security health check return to BEIS. 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.

The MRC has adopted the Cabinet Office policy on Government Security Classifications. The MRC has produced its own guidance to support the policy.

Information security incidents

For the year ending 31 March 2017, the MRC IT Security team logged thirty-four security incidents, none of which required reporting to BEIS or the Information Commissioner. However, a data loss incident was reported to CARAC due to its nature.

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 are 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.

7. 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 this review and the BEIS requirements, the MRC has reviewed its use of analytical modelling in 2016/17 and has not identified any that were considered to be business critical.

8. 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 2016/17 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.

9. Efficiency programme

From 2011 to 2016 the research councils implemented an efficiency programme to drive down the costs and overheads associated with research. The efficiency savings derived from this programme were re-invested in research.

In the spring of 2011 RCUK published *Efficiency 2011-15: Ensuring Excellence with Impact* describing how the research councils would implement the recommendations in Sir William Wakeham's report *Financial Sustainability and Efficiency in Full Economic Costing of Research in UK Higher Education Institutions*. The efficiency savings are being applied to both research grants and fellowships awarded via competitive routes to research organisations and also to research council institutes.

The efficiency programme ended in March 2016 and during its five years achieved savings of £545m, exceeding the planned target. This figure will rise to over £610m over the next few years as the ongoing contributions from the efficiency savings deducted at source from grants awarded during this period are included.

Further details of the efficiency programme can be found at can be found at: **www.rcuk.ac.uk/research/efficiency/efficiency2011/** and **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 will 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.

UK Research and Innovation (UKRI) Transition Programme

On the 27 April 2017, the Higher Education and Research Bill received Royal Assent and became an Act which will result in the creation of UKRI. In February 2017 Sir Mark Walport was appointed as Chief Executive Designate of UKRI.

BEIS have been leading the UKRI Implementation Programme with the research councils working directly on the following work streams:

- People and HR;
- Finance, governance and assurance;
- Legal; and
- Procurement.

Following the BEIS decision in October 2016 to revise their business case on common technology the research councils elected to restart the RCUK Business Digital and Technology Project focusing on the next 18 months' requirements.

In December 2016 BEIS took the decision to put their remaining digital programmes on hold (grants and HR/finance system replacement), and to maintain UK SBS as a shared service provider through to 2019/20. The research councils therefore agreed in February 2017 to start the requirements phase for the HR and finance service and for a grants service working closely with the UKRI Transition Programme and with work to secure and upgrade current UK SBS systems.

Also, 2016/17 saw the moves into Polaris House of Innovate UK and UK SBS as part of the office estates change project led by the cross-council Campus Oversight Board.

A Change Assurance Board was established in April 2016 with membership drawn from the chairs of the audit committees of the research councils. This board has provided challenge and advice throughout the changes described above.

10. Regularity and propriety

I can confirm that for 2016/17 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 2016/17.

11. 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 CARAC. The policy has not been invoked during 2016/17.

12. 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 2015/16[40] has been published on the MRC website in line with responsibilities agreed under the Concordat to support research integrity.

13. 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 by 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 provided 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.

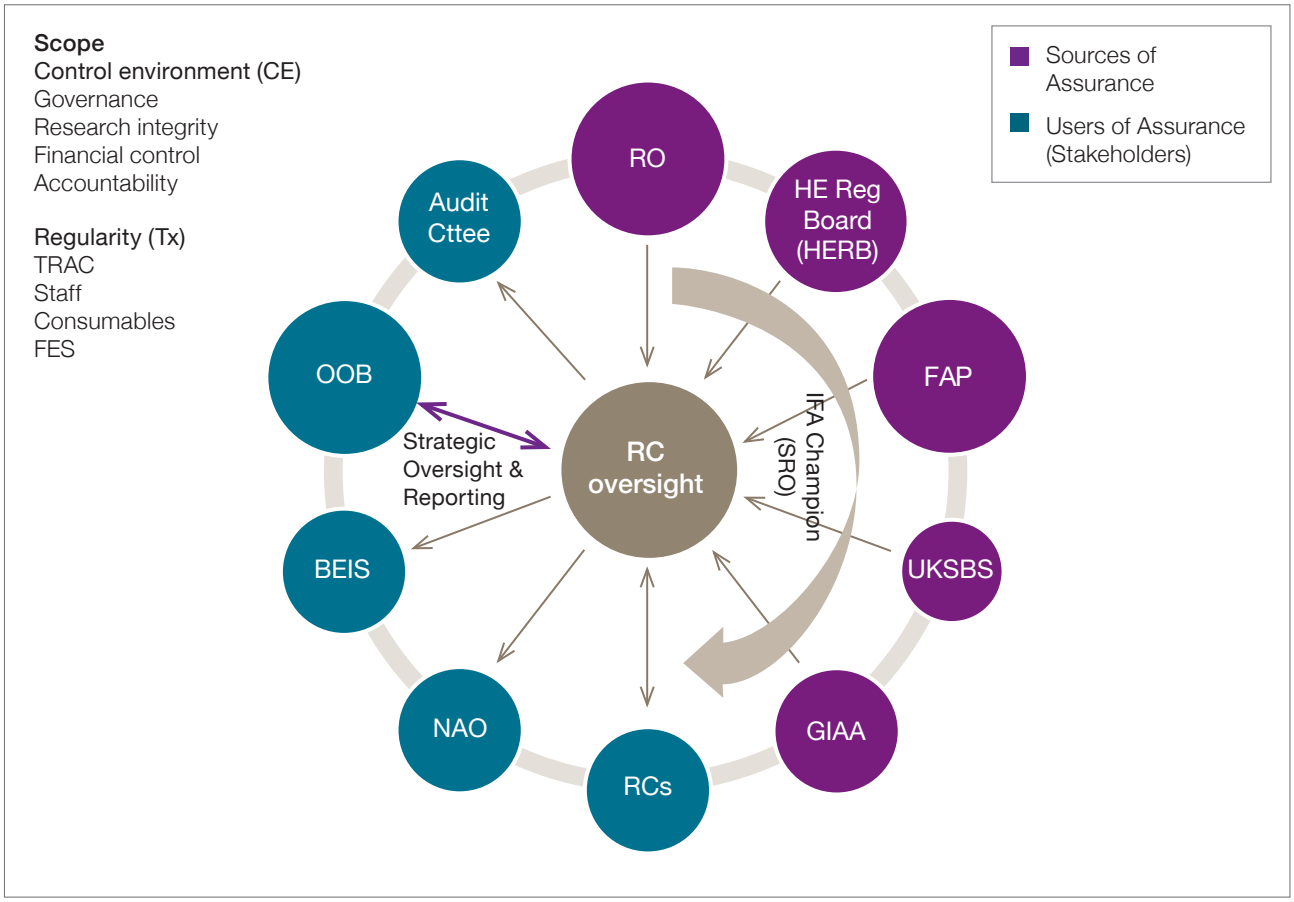
40. https://www.mrc.ac.uk/research/policies-and-guidance-for-researchers/

Funding assurance activities

Across the RCUK community research funding totals £2.9bn of which £596.4m relates to MRC. The funding landscape has two major funding streams: 1. Grants administered through the Siebel system £341.6m and awarded to eligible Research Organisations (ROs); 2. Funding distributed outside the Siebel system £254.7m including Strategic partnerships.

During the year a Funding Assurance Working Group (FAWG) was set up to review the framework and a revised Integrated Funding Assurance (IFA) framework has been implemented that draws assurance from a range of sources (see purple in Figure 9) for key stakeholders (see blue in Figure 9).

Figure 9: IFA Framework



Siebel grants

The assurance provided through this framework indicates a very low level of current and historic errors for all councils. In particular, in his report, the Head of Funding Assurance provided moderate assurance based upon the programme of work undertaken.

Going forward, through ODA, GCRF and Newton Fund grants to overseas organisations will increase and they have the potential to become a significant part of the research council's expenditure. A FAWG sub-group is reviewing all aspects of international funding and sub-contracting.

In addition in December 2016, the Cabinet Office officially launched a set of minimum grant standards to promote effective grant-making, with 2017 being viewed as a pilot year for embedding these. The research councils have mapped the Cabinet Office standards against current policies and procedures and have demonstrated through this assurance framework that we can clearly evidence our compliance.

Non-Siebel awards/funding

Strategic partnerships represent the major part of MRC non-Siebel funding to third parties.
Major components include:

- International subscriptions, £17.1m
- University units, £103.4m
- Joint ventures (e.g. the Crick), £57.8m

Funding for these activities invariably represents MRC or UK contributions to organisational resources for international and other collaborations and may not be tracked to a specific deliverable. I take assurance on these activities primarily through the governance frameworks in place, including:

- memorandum of understandings, concordats etc. setting out the rules and relationships for our engagement;
- representative roles within the key organisations e.g. Board Members, seats on governing bodies Committees etc;
- linked to the above, we take assurance from externally audited accounts and audit reports;
- separate assurance maps and assurance frameworks for large partnerships e.g. the Crick;
- the University Unit Assurance Framework, with results reviewed by Management Board;
- detailed review of financial records and progress reporting for overseas grants.

All the assurance processes have been subject to audit by GIAA in the last few years.

The assurance provided through this framework indicates a number of funding pressures and through the very nature of the activities they are complex and novel. Nevertheless, I am reassured through the mechanisms described here that they are being managed in an appropriate manner and that there are no major issues that warrant reference here.

14. Current significant risks

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

Dementia Research Institute (DRI)
There is a risk that the government support for an MRC-led Dementia Research Institute does not translate into a step change in impactful discovery research in the UK.

Mitigation: the MRC working in partnership to develop the institute, a director for the DRI has been appointed. The DRI project board meets monthly to monitor progress.

Informatics
MRC ambition to create a new transformative strategy in biomedical and health informatics is not realised.

Mitigation: the MRC is working in partnership to develop the institute. The project board meets monthly to monitor progress.

ODA/GCRF programmes
There is a risk that the arrangements around ODA for globally relevant medical research does not foster effective research or reach spend targets. Risk that actions by RCUK undermine actions of individual research councils. Risk that funding identified as ODA does not meet required criteria.

Mitigation: the MRC is working closely with the other research councils. In addition the MRC has a separate risk register overseen by the ODA project board.

BREXIT
The result of the EU Referendum has created long term uncertainty around the future availability of EU Funding and the wider research and HEI ecosystem plus risk relating to the recruitment and retention of international staff because of the uncertainty surrounding immigration arrangements.

Mitigation: This risk is currently being managed at a cross-council level through the creation of the RCUK Brexit Co-ordination Network. The MRC has representation on this group which enables the MRC position to be voiced and the collective position to be considered by the MRC senior management team.

Creation of UKRI
There is a risk that the MRC fails to assimilate optimally its research and training functions into UKRI.
In addition there is a risk of temporary disruption to the operational activates and loss of corporate knowledge during the transition.

Mitigation: the MRC CEO sits on the shadow UKRI Executive Board which meets monthly.

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 vibration and electromagnetic interference that will impact on the sensitive equipment installed in the basement, and have an adverse effect on research programmes and benefits realisation.

Mitigation – the MRC and the Crick are working closely with Transport for London (TfL). A detailed digital model and technical report is being developed to refine understanding of potential impacts and identify possible engineering solutions for incorporation into the design of the railway. The report is due to be available in April 2017 and will also identify any consequences from a planned British Library development. TfL's latest designs have moved platforms away from the Crick and have increased the depth of the tunnels, which will improve the situation. BEIS is supporting the MRC and the Crick in liaising with the Department for Transport (DFT) and monitoring the development of transport policy in London.

Assurance

Government Internal Audit Agency (GIAA)

In 2016/17 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 2016/17 the audit programme (including cross-council) included 27 audits, 7 (29 per cent gave substantial assurance, 16 (59.3 per cent) moderate, there were 4 (14.7 per cent) limited assurance audits in the cross council programme, giving the MRC a realised assurance of 85.2 per cent which is an increase from 80.8 per cent in 2015/16. 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.

Weaknesses were identified with the reporting and assurance arrangements that had been operating in relation to the block grants awarded to HEIs to enable them to comply with the RCUK Open Access policy; these have been reviewed and appropriate changes made.

15. UK Shared Business Services Ltd (UK SBS) Assurance

UK SBS Ltd (UK SBS) provides processing services in human resources, procurement, payroll, finance and IT to all seven research councils. UK SBS did provide processing services in grants up until 31 December 2016 at which point it was transferred back to the research councils.

2016/17 performance

The Executive Director of UK SBS has written to me stating that the Head of Internal Audit (Government Internal Audit Agency) has provided an opinion of moderate assurance for both the internal operations within UK SBS and for its customer facing operations.

To provide additional assurance MRC has been operating a number of supplementary controls. GIAA has examined the additional controls, the outcomes of which were:

- Payroll – Moderate Assurance
- GPC and iExpenses – Moderate Assurance
- Order and payment processing – Moderate Assurance
- Procurement – Limited Assurance

The accepted audit recommendations in these areas will be taken forward in 2017/18. The recommendations in respect of the procurement audit are being taken forward at a cross-council level and will form part of the Change Programme to ensure that an appropriate level of procurement capacity exists within UKRI.

Future operations

The BEIS strategy for shared services, including the provision of services for UKRI, is still evolving. It has been agreed that the planned transfer of services from UK SBS to other bodies by April 2018 is now not achievable or necessarily desirable and that UK SBS is likely to be delivering a number of services in some form until 2019/20.

The Security and Resilience programme for Oracle 12.0.6 saw the successful update and transfer of databases and applications to a new environment at the end of 2016, notable benefits are to the security and resilience with the security assessment undertaken after the transfer indicating that the systems were well within the best practise threshold. Planning for the proposed Oracle upgrade from 12.0.6 to 12.1.3 is underway. Once completed, this will mean that both the platform and full application stack will be back into full support until 2021, opening the door for further improvements and upgrades if required and providing significant contingency for ongoing service provision for the research councils and UKRI pending a decision on future direction.

UK SBS highlights its key risks as continued resilience and capacity and capability. UK SBS' 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.

16. 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 GIAA 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 2016/17 was:

- Mr Donald Brydon, Chairman
- Dr John Brown, Edinburgh
- Professor Chris Day, Newcastle University
- Professor Patrick Johnston, Queen's University Belfast
- Dr Mene Pangalos, AstraZeneca

The MRC Chief Executive, Sir John Savill, also attends Remuneration Committee meetings. Bruce Minty (MRC Chief Operating Officer, Sally-Louise Smith (MRC Human Resources Director), Paul Tait (Deputy HR Director), Rebecca Leigh (Head of Reward and Recognition) and Louise McFarlane (Corporate Pay and Reward Manager) 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.

2016/17 marked the eighth year of pay restraint for the MRC. When not in a pay freeze, the Remuneration Committee makes reference to the changes made for all other staff in the MRC when agreeing pay rises for the senior employees; the individual's appraisal against annual or three to five year objectives; the scientific (or other) performance of a unit or group; the breadth of responsibilities as reflected in staffing, budgetary and other resource management issues; contributions to the delivery of wider corporate objectives (for example, in areas of ethics, corporate governance, public communication, 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 Compensation 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 11. The levels of honoraria for MRC Council members are also shown in table 14.

Chief Executive

The performance management and remuneration arrangements for the Chief Executive are established and managed by the Department for Business, Energy and Industrial Strategy 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 11: Senior staff remuneration (audited information)

	2016/17				2015/16			
	Remuneration	Bonus	Pension benefit	Total	Remuneration	Bonus	Pension benefit	Total
	£000	£000	£000	£000	£000	£000	£000	£000
John Savill								
Chief Executive	140-145	10-15	-	150-155	135-140	5-10	-	140-145
Jim Smith								
Deputy Chief Executive and Chief of Strategy	75-80	5-10	29	115-120	85-90	10-15	40	140-145
David Lomas								
Deputy Chief Executive	10-15	-	-	10-15	-	-	-	-
Bruce Minty								
Chief Operating Officer	145-150	10-15	35	190-195	150-155	10-15	34	195-200
Declan Mulkeen								
Chief of Strategy	110-115	10-15	34	155-160	115-120	-	34	150-155
Sally-Louise Smith								
Director of Human Resources	110-115	5-10	40	155-160	100-105	0-5	36	145-150
Hugh Dunlop								
Director of Finance and Information Technology	125-130	10-15	93	225-230	125-130	5-10	37	170-175
Robin Buckle								
Chief Science Officer	25-30	-	51	80-85	-	-	-	-
Chris Watkins								
Director of Innovation	30-35	-	84	115-120	-	-	-	-
Sharmilla Nebhrajani								
Director of External Affairs	25-30	-	-	25-30	-	-	-	-
Sandy Bulger								
Director of Major Projects	135-140	10-15	33	180-185	140-145	10-15	42	195-200
Tony Peatfield								
Director of Corporate Affairs	105-110	-	33	140-145	110-115	-	33	145-150

Remuneration includes any allowances but not benefits in kind or employers pension contribution. There were no benefits in kind paid in the year.
John Savill works part-time and his full year equivalent salary is £170k-£175k. He is not a member of the MRC pension scheme.
Jim Smith worked part-time and his full year equivalent salary was £185k-£190k. He left MRC on 31 December 2016.
Sharmilla Nebhrajani works part-time and her full year equivalent salary is £125k-130k.
David Lomas works part-time and his full year equivalent salary is £95k-£100k. He started with MRC on 1 January 2017.
Sharmilla Nebhrajani joined Management Board on 13/12/2016.
Rob Buckle and Chris Watkins joined Management Board on 19/12/2016.
Rob Buckle's full time equivalent salary is £100k-£105k and Chris Watkins' full time equivalent salary is £110k-115k.

Table 12: Senior staff pension (audited information)

	Accrued pension at Retirement Age as at 31.3.17 and (Lump sum) £000	Real increase/ (decrease) in pension and related lump sum at retirement age £000	CETV at 31.3.17 or date left £000	CETV at 31.3.16 £000	Real increase/ (decrease) in CETV £000
Professor John Savill					
Chief Executive	-	-	-	-	-
Dr J Smith					
Deputy Chief Executive and Chief of Strategy	15-20 plus 45-50 lump sum	0-2.5 plus 2.5-5 lump sum	315	238	77
Dr D Lomas					
Deputy Chief Executive	-	-	-	-	-
Mr B Minty					
Chief Operating Officer	10-15 plus 35-40 lump sum	0-2.5 plus 5-7.5 lump sum	252	179	73
Dr D Mulkeen					
Chief of Strategy	40-45 plus 120-125 lump sum	0-2.5 plus 5-7.5 lump sum	749	602	147
Mrs S-L Smith					
Director of Human Resources	5-10 plus 20-25 lump sum	0-2.5 plus 5-7.5 lump sum	95	60	35
Mr H Dunlop					
Director of Finance and Information Technology	45-50 plus 135-140 lump sum	2.5-5 plus 12.5-15 lump sum	899	684	215
Dr R Buckle					
Chief Science Officer	15-20 plus 55-60 lump sum	-	301	286	15
Dr C Watkins					
Director of Innovation	25-30 plus 80-85 lump sum	-	376	365	11
Ms S Nebhrajani					
Director of External Affairs	-	-	-	-	-
Mr A Bulger					
Director of Major Projects	10-15 plus 35-40 lump sum	0-2.5 plus 5-7.5 lump sum	266	193	73
Dr A C Peatfield					
Director of Corporate Affairs	40-45 plus 125-130 lump sum	0-2.5 plus 5-7.5 lump sum	941	757	184

Pensions and lump sums are those calculated as at retirement age or date of leaving. Details of the MRC Pension Scheme appear in note 10 of the annual accounts.

Fair pay disclosures

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 £11,587 to £203,892 (2015/16 £15,170 to £217,040). MRC Median pay is £32,975 (2015/16 - £32,648). The mid-point of the banded remuneration of the highest paid director is £187,500 (2015/16 - £177,500). The Chief Executive's full time equivalent pay based upon working four days a week as a multiple of median pay is 5.7 (2015/16 - 5.4). The highest paid director is the Director for African Research Development. The mid-point of his remuneration is £202,500 (2015/16 - £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 13: 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 D Lomas Deputy Chief Executive	1 Jan 2017	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	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
Dr R Buckle Chief Science Officer	Permanent contract	–	3 months
Dr C Watkins Director of Innovation	Permanent contract	–	3 months
Ms S Nebhrajani Director of External Affairs	Permanent contract	–	3 months

Council members

(unaudited information)

MRC Council members are appointed by the Minister of State for Business, Energy and Industrial Strategy 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 BEIS; 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 14 below.

Dr Pauline Williams chose not to draw her honorarium. 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 honoraria.

Table 14: Council honoraria 2016/17 (audited information)

Member	Position/Affiliation	Annual Honoraria	
		2016/17 £000	2015/16 £000
Mr Donald Brydon	Chairman	15-20	15-20
Professor Sir John Savill (1)	Deputy Chair	-	-
Dr John Brown	Cell Therapy Catapult/Life Science Advisory Board	5-10	5-10
Professor Doreen Cantrell	University of Dundee	5-10	5-10
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	5-10
Professor John Iredale (2)	University of Bristol	0-5	-
Professor Patrick Johnston	Queen's University Belfast	5-10	5-10
Professor Dame Sally Macintyre (3)	University of Glasgow	0-5	5-10
Dr Ruth McKernan (3)	Pfizer, Cambridge	-	-
Mr Richard Murley (2)	UCLH/Rothschild	0-5	-
Baroness Onora O'Neill	House of Lords	5-10	5-10
Dr Menelas Pangalos	Astra Zeneca, Cheshire	5-10	5-10
Professor Michael Schneider (3)	Imperial College London	0-5	5-10
Professor Irene Tracey (2)	University of Oxford	0-5	-
Dr Pauline Williams (2)	GlaxoSmithKline	-	-

(1) Professor Sir John Savill is also the CEO so does not receive an honorarium. His remuneration is covered in table 11
(2) Professors John Iredale and Irene Tracey's terms started on 1 December 2016. Dr Pauline Williams and Mr Richard Murley's terms started on 1 March 2017.
(3) Dame Sally Macintyre, Dr McKernan and Professor Schneider's terms came to an end on 30 September 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. Details of the CEO, Deputy CEO and Director of External Affairs conflicts of interest can be found on the MRC website at **www.mrc.ac.uk/about/our-structure/chief-executive-management-board/**. In addition, Dr Chris Watkins, Director of Innovation, is a non-executive Director of ISRCTN Registry for Clinical Trials. He also acted as Head of Knowledge Exchange on a 50 per cent FTE basis for the Francis Crick Institute.

Staff report

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
	2016/17(2015/16)	2016/17(2015/16)	2016/17(2015/16)
<£10k	23(7)	25(22)	48(29)
£10k-£25k	22(8)	30(32)	52(40)
£25k-£50k	5(3)	13(16)	18(19)
£50k-£100k	2(1)	15(9)	17(10)
£100k-£150k	0(0)	0(1)	0(1)
£150k-£200k	0(0)	0(0)	0(0)
>£200k	0(0)	0(0)	0(0)
Total number of exit packages	**52(19)**	**83(80)**	**135(99)**
Total resource cost (£000)	**£843(£341)**	**£1,998(£1,933)**	**£2,841(£2,274)**

Staff costs and related numbers

a. Staff costs

	2016/17 £000	2015/16 £000
Salaries and wages – permanent	83,658	90,881
Salaries and wages – non-permanent	2,114	2,305
Social security costs	2,995	7,981
Other pension costs (Note 10e)	20,375	26,847
Gross staff costs	**109,142**	**128,014**

The amount paid in consultancy in the year was £18k.

b. Staff numbers

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

	2016/17	2015/16
Science	701	910
Research project support	408	494
Infrastructure and administration	282	298
Technical services	328	433
Locally employed staff (overseas)	1,486	1,462
Total	**3,205**	**3,597**

MRC Employees

Gender	MB directors (incl. CEO)	Other band one staff	All employees
Female	2	16	863
Male	9	50	806
Total	**11**	**66**	**1669**

Ethnic group	No. of employees	Percentage
Black and minority ethnic (BME)	179	10.7
Non-BME	1160	69.5
Not disclosed	317	19
Other ethnic group	13	0.8
Total	**1669**	**100%**

Disability	No. of employees	Percentage
Yes	22	1.3
No	777	46.6
Not disclosed	870	52.1
Total	**1669**	**100%**

Sickness absence	2016/17
Total number of employees (as at 31 March 2017)	1669
Total days lost to sickness	6906
Average working days lost per employee	**4.1**

For all off-payroll engagements as of 31 March 2017, for more than £220 per day and that last for longer than six months

No. of existing engagements as of 31 March 2017	5
Of which...	
No. that have existed for less than one year at time of reporting.	2
No. that have existed for between one and two years at time of reporting.	3

For all new off-payroll engagements, or those that reached six months in duration, between 1 April 2016 and 31 March 2017, 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 2016 and 31 March 2017	2
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	2
No. for whom assurance has been requested	2
Of which...	
No. for whom assurance has been received	2

For any off-payroll engagements of board members, and/or, senior officials with significant financial responsibility, between 1 April 2016 and 31 March 2017

No. of off-payroll engagements of board members, and/or, senior officials with significant financial responsibility, during the financial year.(1)	1 – Deputy CEO, only person with capability to fill in for current CEO. Currently an employee of UCL. UCL have confirmed they are on their payroll paying tax and NI. This post is expected to last until 31/03/18.
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)	17 All MRC employees

The 17 Board members includes 11 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 Visions that sets out the MRC commitment to fulfil obligations as a public body under the Equality Act 2010, Disability. It is MRC policy that there should be no discrimination, harassment or less favourable treatment or victimization 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. These reviews are undertaken by the policy owner.

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

The MRC is a 'Disability confident employer' which means MRC aims to help employ and retain disabled people and those with health conditions for their skills and talent. By working to remove the barriers and provide opportunities to disabled people and those with long term health conditions to fulfil their potential. The MRC has developed a reasonable adjustment guide so that managers are aware of their responsibilities for employees with disabilities or who become disabled. The MRC has also developed a network of employees who are 'equality champions'. These employees wiork 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.

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 2016/17 the MRC has continued to focus on improving opportunities for Women in Science. The MRC conducted an equal pay audit in 2016/17 the outcome was there was no evidence attributed to a gender pay gap. MRC units have been successful in achieving and maintaining their Athena Swan accreditation. In addition, working with other research councils, the MRC has been leading the way in publishing equality data. 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.

Consultation and engagement is managed through a number of channels, and examples are 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 (five-yearly) scientific review process, a formal and rigorous consultation process is put in place, including the provision for staff to make representations to the MRC Council as the decision-making body.
- Regular staff bulletins are cascaded to all staff, updating them 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 and available on the staff intranet for future reference.
- All-staff emails from corporate directors (usually the CEO or HR Director) communicate strategic matters and important messages to staff.
- MRC Life is a magazine newsletter which has accessible articles of interest from around the MRC and also information on HR and development activities.
- The SpeakUp staff surveys (ran in 2012, 2013, 2015) provide an effective means of obtaining feedback from our staff on a number of areas including their role (My Work), Learning and Development, local management (My Manager), Pay and Benefits, Resources and Workload, Engagement and Leadership and Managing Change.
- Senior Leadership Visits – Management Board members visit each MRC site to present to all staff on the current issues facing the MRC. Staff have the opportunity to ask questions and engage at these meetings.
- HR Roadshows – when any major HR change is planned eg pay restructuring, roadshow presentations are made at all units to which all staff are invited. These roadshows are led by the HR Director.

Parliamentary accountability and audit report

Accountability 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 2016/17.

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 2016/17 was £390,059. No remuneration was paid to the internal auditors in respect of non-audit work during 2016/17.

Thefts, losses and special payments

During the year the MRC incurred losses of £4,754.

- Thefts of computer equipment, mobile devices and peripherals (six cases) estimated at £4,250 in total.
- Two frauds totalling £504 were committed during 2016/17. Full restitution took place and no loss was incurred.

In addition there was one case of a special payment made in relation to a personal injury claim for damages of £9,678.

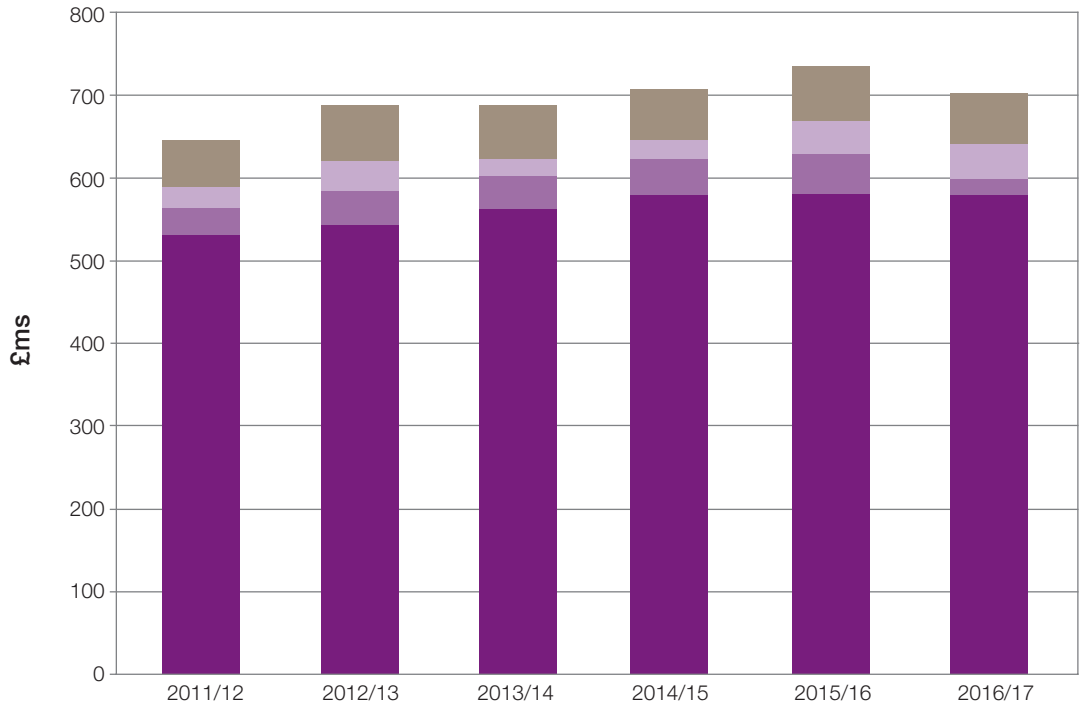
Long-term expenditure trends

The MRC's annual expenditure is largely determined by the budgetary allocation (DEL) from BEIS 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 latest spending review (SR15) covers the years 2016/17 to 2019/20. The figures below show expenditure for the first year of the spending year (2016/17) and for the previous spending review period (SR10) 2011/12 to 2015/16 by the following categories:

1. Programme near cash
2. Administration near cash
3. Capital

Figure 10: Programme near cash expenditure by source of funding

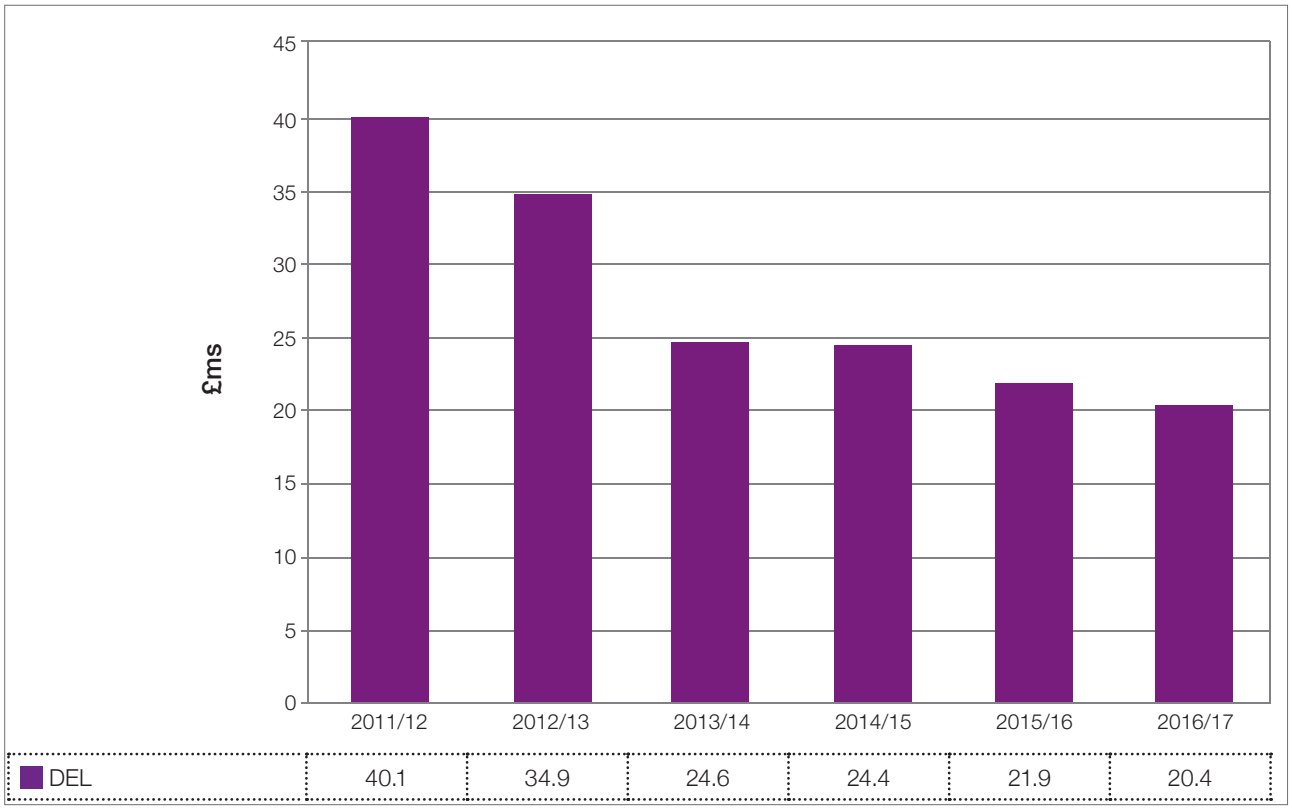


	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Other	56.5	65.9	63.8	60.0	64.5	61.7
Other Government Departments	25.0	36.6	20.2	23.6	39.9	43.6
Net IP Income	34.1	41.8	43.7	43.6	49.9	19.6
DEL	529.8	542.9	559.7	579.9	579.8	581.3

Annual programme expenditure increased by more than £88m over the period 2011/12 to 2015/16. The SR10 settlement protected the MRC's programme expenditure in real terms and this was underpinned by intellectual property (IP) income. The decrease in expenditure in 2016/17 is a result of a reduction in IP income due to patent expiry.

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

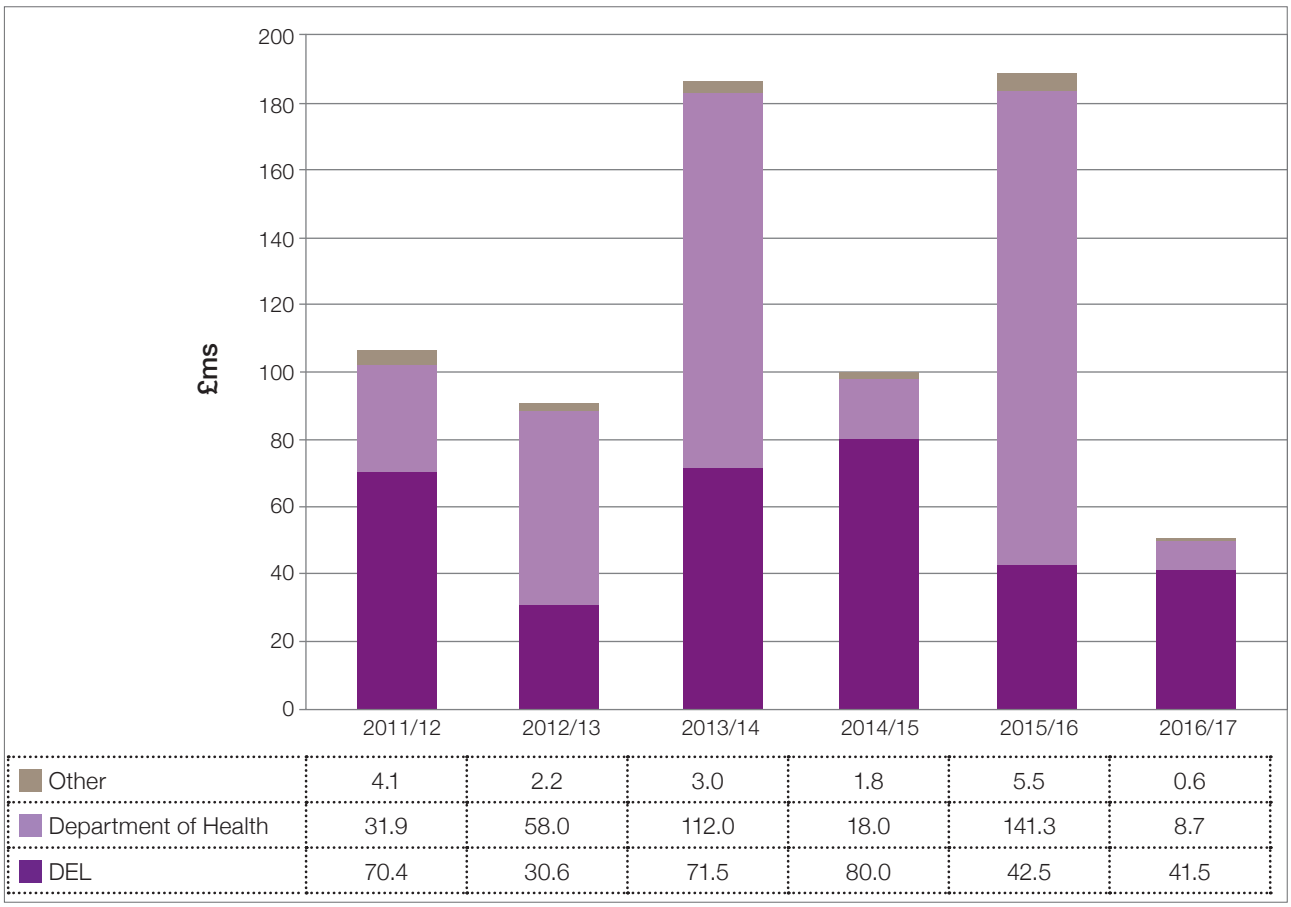
Figure 11: Administration near cash resource expenditure



	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
DEL	40.1	34.9	24.6	24.4	21.9	20.4

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

Figure 12: Capital by source of funding



	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Other	4.1	2.2	3.0	1.8	5.5	0.6
Department of Health	31.9	58.0	112.0	18.0	141.3	8.7
DEL	70.4	30.6	71.5	80.0	42.5	41.5

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 Clinical Research Infrastructure investment in 2015/16 and 2016/17.

Sir John Savill,
Accounting Officer/Chief Executive Officer
Medical Research Council
Date: 27 June 2017

The Certificate and Report 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 2017 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 Performance Report and Accountability 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 and report.

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 the Medical Research Council's affairs as at 31 March 2017 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

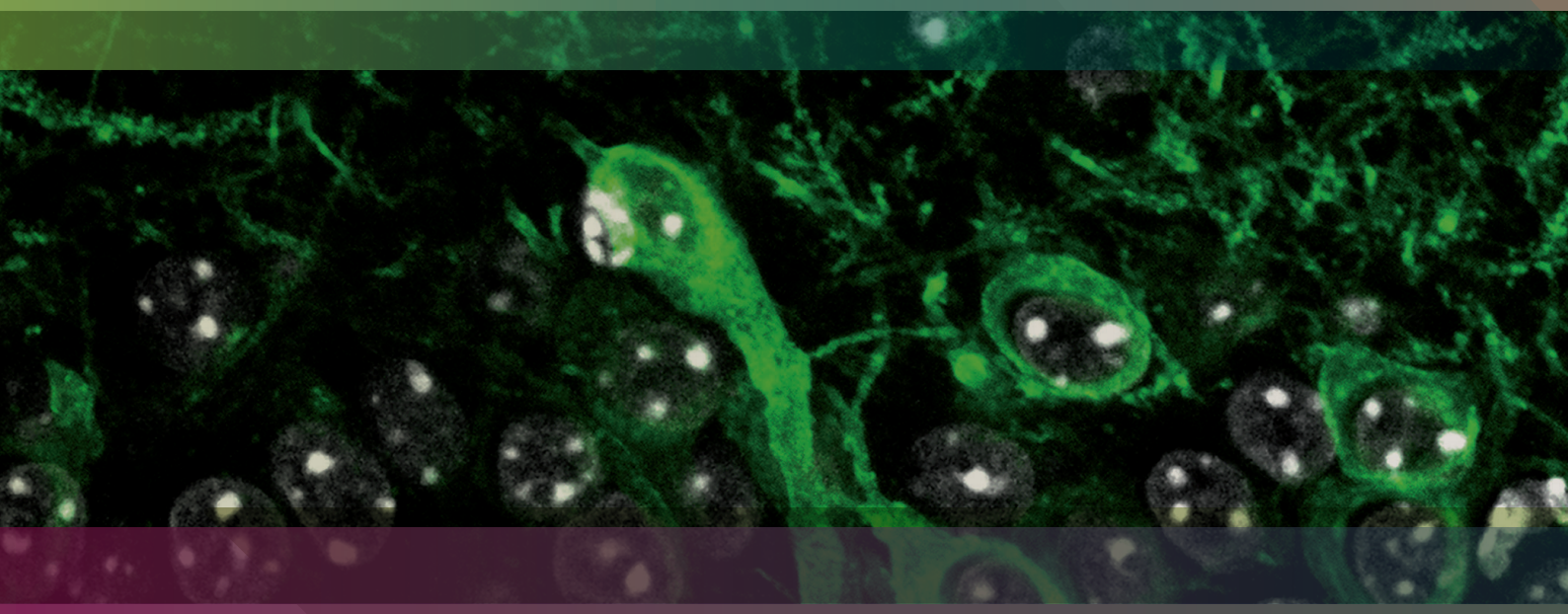
I have no further observations to make on these financial statements

Sir Amyas C E Morse
Comptroller and Auditor General

Date: 5 July 2017

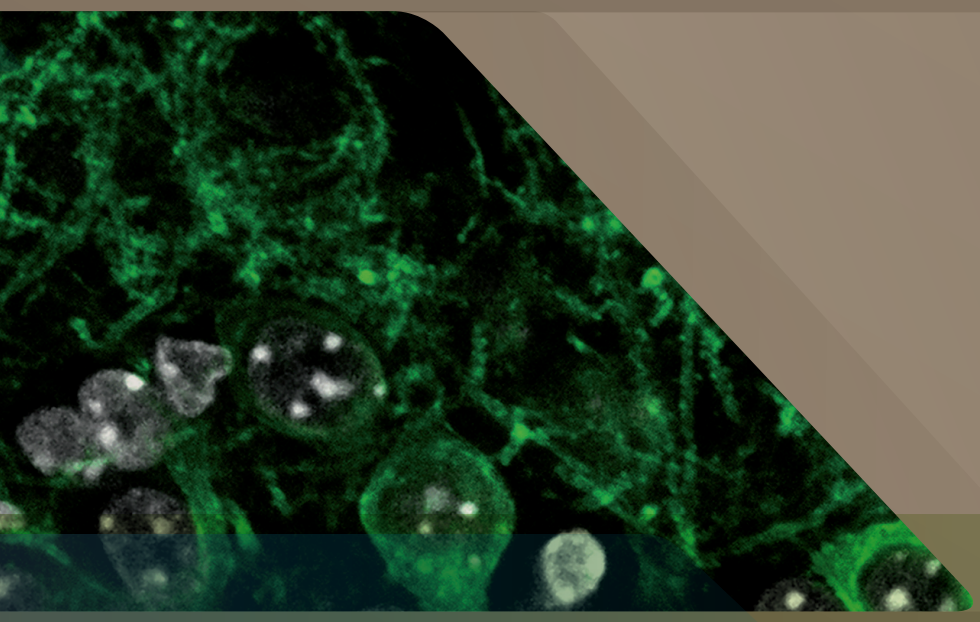
National Audit Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP

Financial statements



Tagged Neurons

Stephanie Trouche and David Dupret at the MRC BNDU, University of Oxford, have managed to control by light the activity of memory-bearing nerve cells. By applying this technology in the mouse brain, the team has been able to alleviate an undesirable cocaine-place memory. Related article: Recoding a cocaine-place memory engram to a neutral engram in the hippocampus. Trouche S et al. Nat Neurosci. 2016 Apr;19(4):564-7



Statement of Comprehensive Net Expenditure

for the year ended 31 March 2017

	Note	2016/17 £000	2015/16 £000 Restated
Income			
Income from sale of goods and services		(7,481)	(9,507)
Other operating income	4	(128,887)	(196,446)
Total operating income		**(136,368)**	**(205,953)**
Expenditure			
Staff Costs	5	109,142	128,014
Purchase of goods and services	6.1	106,316	139,163
Depreciation and impairment charges	6.2	28,215	52,556
Provision expense	6.3	(180)	(175)
Research funding	6.4	585,874	745,859
Other operating expenditure	6.5	1,899	1,506
Notional service charge	1l	6,227	5,862
Total operating expenditure		**837,493**	**1,072,785**
Net Operating Expenditure		**701,125**	**866,832**
Finance income		(4,241)	(731)
Finance expenditure		385	(1,070)
Net expenditure for the year		**697,269**	**865,031**
Other net comprehensive expenditure			
Net (gain) on revaluation of property, plant and equipment		(3,493)	(6,242)
Net loss/(gain) on revaluation of intangible assets		2,318	(20,962)
Net (gain) on revaluation of investments		(3,133)	(741)
Actuarial loss/(gain) on defined benefit pension plan		128,921	(103,747)
Total comprehensive net expenditure for the year ended 31 March 2017		**821,882**	**733,339**

The notes on pages 88 to 114 form part of these accounts.

Statement of Financial Position

as at 31 March 2017

	Note	2017 £000	2016 £000
Non-current Assets			
Property, plant and equipment	7	479,727	511,891
Intangible assets	8	40,616	48,572
Financial assets	9	273,441	272,132
Pension asset	10	2,998	123,898
Total non-current assets		**796,782**	**956,493**
Current assets			
Trade and other receivables	11	68,799	53,487
Cash and cash equivalents	12	14,974	61,795
Total current assets		**83,773**	**115,282**
Total assets		**880,555**	**1,071,775**
Current liabilities			
Trade and other payables	13	(235,118)	(264,145)
Provisions falling due within one year		(2,585)	(3,538)
Total current liabilities		**(237,703)**	**(267,683)**
Total assets less current liabilities		**642,852**	**804,092**
Non-current liabilities			
Trade and other payables	13	(9,606)	(16,469)
Provisions for liabilities and charges		(2,340)	(2,725)
Total non-current liabilities		**(11,946)**	**(19,194)**
Total assets less total liabilities		**630,906**	**784,898**
Taxpayers' equity and other reserves			
General fund		500,837	527,075
Revaluation reserve		86,476	85,363
Intellectual property reserve		40,595	48,562
Pension Reserve		2,998	123,898
Total equity		**630,906**	**784,898**

The notes on pages 88 to 114 form part of these accounts.

Sir John Savill,
Accounting Officer/Chief Executive Officer
Medical Research Council
Date: 27 June 2017

Statement of Cash Flows

for the year ended 31 March 2017

	Note	2016/17 £000	2015/16 £000 Restated
Cash flow from operating activities			
Net expenditure for the year	SoCNE	(697,269)	(865,031)
Adjustments for non-cash transactions	14	48,481	90,211
(Increase)/decrease in trade and other receivables	11	(15,312)	21,648
(Decrease)/increase in trade and other payables	13	(35,890)	19,633
(Decrease) in provisions		(1,338)	(712)
Net cash outflow from operating activities		**(701,328)**	**(734,251)**
Cash flow from investing activities			
Purchase of property, plant and equipment	7	(6,304)	(13,614)
Purchase of intangible assets	8	(23)	(0)
Purchase of investments	9	(0)	(1,278)
Proceeds of disposal of Non-current assets held for sale		0	1,371
Proceeds of disposal of property, plant and equipment		103	0
Net cash outflow from investing activities		**(6,224)**	**(13,521)**
Net cash outflow before financing		**(707,552)**	**(747,772)**
Cash flows from financing activities			
Grant from sponsoring department	3	654,504	797,843
Notional service charge		6,227	5,862
Net cash inflow from financing activities		**660,731**	**803,705**
Net (decrease)/increase in cash and cash equivalents	12	**(46,821)**	**55,933**
Cash and cash equivalents at the beginning of the year	12	61,795	5,862
Cash and cash equivalents at the end of the year	12	14,974	61,795

The notes on pages 88 to 114 form part of these accounts.

Statement of Changes in Taxpayers' Equity

for the year ended 31 March 2017

	Revaluation reserve	Intellectual Property reserve	Pension reserve	General reserve	Total Government funds
	£000	£000	£000	£000	£000
Balance at 1 April 2015	83,357	59,401	22,894	542,477	708,129
Grants from sponsoring department (note 3)				797,843	797,843
Net gain on revaluation of intangible assets (note 8)		20,962			20,962
Net gain on revaluation of property, plant and equipment (note 7)	6,242				6,242
Net gain on revaluation of investments	741				741
Actuarial gain in the pension scheme (note 10b)			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**
Balance at 1 April 2016	85,363	48,562	123,898	527,075	784,898
Grants from sponsoring department (note 3)				654,504	654,504
Addition of intangible assets		1,395			1,395
Net gain on revaluation of intangible assets (note 8)		(2,318)			(2,318)
Net gain on revaluation of property, plant and equipment (note 7)	3,493				3,493
Net gain on revaluation of investments	3,133				3,133
Actuarial gain(loss) in the pension scheme (note 10b)			(128,921)		(128,921)
Transfers between reserves	(5,513)	(7,044)	2,257	10,300	0
Contributions from other employers within the pension scheme			5,764		5,764
Notional service costs				6,227	6,227
Net expenditure for the year				(697,269)	(697,269)
At 31 March 2017	**86,476**	**40,595**	**2,998**	**500,837**	**630,906**

The notes on pages 88 to 114 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, Energy and Industrial Strategy in pursuance of Section 2(2) of the Science and Technology Act 1965.

These financial statements have been prepared in accordance with the 2016/17 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 2016/17
All International Financial Reporting Standards, Interpretations and Amendments to published standards, effective at 31 March 2017, have been adopted in these financial statements, taking account the specific interpretations and adaptations included in the FReM.

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.

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.

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, impairment, hedge accounting together with the elimination of two categories.

The standard contains requirements in the following areas:

- **Classification and measurement.** Financial assets are classified by reference to the business model within which they are held and their contractual cash flow characteristics. The 2014 version of IFRS 9 introduces a 'fair value through other comprehensive income' category for certain debt instruments. Financial liabilities are classified in a similar manner to under IAS 39, however there are differences in the requirements applying to the measurement of an entity's own credit risk.
- **Impairment.** The 2014 version of IFRS 9 introduces an 'expected credit loss' model for the measurement of the impairment of financial assets, so it is no longer necessary for a credit event to have occurred before a credit loss is recognised
- **Hedge accounting.** Introduces a new hedge accounting model that is designed to be more closely aligned with how entities undertake risk management activities when hedging financial and non-financial risk exposures
- **Derecognition.** The requirements for the derecognition of financial assets and liabilities are carried forward from IAS 39.

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 land finance leases will be retained. The impact of this will be assessed in the coming years.

IFRIC 22 Foreign Currency Transactions and Advance Consideration – (effective for periods beginning on or after 1 January 2018) – The interpretation addresses foreign currency transactions or parts of transactions where:

- there is consideration that is denominated or priced in a foreign currency;
- the entity recognises a prepayment asset or a deferred income liability in respect of that consideration, in advance of the recognition of the related asset, expense or income; and
- the prepayment asset or deferred income liability is non-monetary.

It is expected that this will have little impact due to the nature of MRC's business.

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 2016/17 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 2016/17 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 date 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 s 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, Energy and Industrial Strategy. 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 2016/17 this charge was £6,227k (2015/16 £5,862k).

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 10. 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

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

Trade receivables are recognised and carried at original invoice amount less an allowance for any uncollective amounts. Provision is made when there is objective evidence that the MRC will not be able to collect certain debts.

Bad debts are written off when identified. The amount of provision is the difference between the carrying amount and the recoverable amount and is recognised in the Statement of Comprehensive Net Expenditure.

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

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. Where the profile indicates an unclaimed and/or unpaid amount exists at the Statement of Financial Position date, such sums are accrued in the Financial Statements.

r. Operating segments

An operating segment is a component of an entity that:

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

s. 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 10 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-lifed and accounted for accordingly.

t. 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 7.

u. Going concern

During March 2016, as part of the spending review (SR) the Department for Business, Energy and Industrial Strategy 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 UK Research and Innovation 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.

The 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 BEIS, MRC has no reason to believe that future funding will not be forthcoming. Therefore the accounts are produced on a going concern basis.

The Higher Education & Research Bill received its first reading in May 2016 setting out the government's intention regarding the research council's future, with the creation of a single executive non-department 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 assets, liabilities and functions of the seven Research Councils, Innovate UK, and HEFCE's research funding . The names and brands of the Research Councils and Innovate UK will be retained amongst a number of other protections. The bill received royal assent on the 27th April 2017. On the strength of this information, the accounts have been prepared on a going concern basis.

v. Comparative figures

In line with the Simplifying and streamlining statutory annual report and accounts report produced by HM Treasury and the creation of UK Research and Innovation, the comparator amounts for the Statement of Comprehensive Net Expenditure and the Statement of Cash Flows and associated notes have been restated.

2. Segmental information

Analysis of MRC Net Expenditure by Business Segments

	Intramural	Extramural	Corporate	Commercial Activities	Total
	2016/17	2016/17	2016/17	2016/17	2016/17
	£000	£000	£000	£000	£000
Income					
Income from sale of goods and services	(3,209)	(14)	(4,258)	(0)	(7,481)
Other operating income	(32,000)	(66,373)	(85)	(30,429)	(128,887)
Total operating income	**(35,209)**	**(66,387)**	**(4,343)**	**(30,429)**	**(136,368)**
Expenditure					
Staff Costs	82,630	6,595	16,497	3,420	109,142
Purchase of goods and services	64,716	21,110	13,051	7,439	106,316
Depreciation and impairment charges	21,171	0	0	7,044	28,215
Provision expense	0	0	(180)	0	(180)
Research and development funding	5,382	579,692	800	0	585,874
Other operating expenditure	65	0	1,834	0	1,899
Notional service charge	0	0	6,227	0	6,227
Total operating expenditure	**173,964**	**607,397**	**38,229**	**17,903**	**837,493**
Net Operating Expenditure	**138,755**	**541,010**	**33,886**	**(12,526)**	**701,125**

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.

Commercial activities are activities devoted to the exploitation of the group's intellectual property. 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 receipt agreements as a result of licencing council inventions and know-how.

	Intramural	Extramural	Corporate	Commercial Activities	Total
	2015/16	2015/16	2015/16	2015/16	2015/16
	£000 Restated	£000 Restated	£000 Restated	£000 Restated	£000 Restated
Income					
Income from sale of goods and services	(3,275)	(14)	(6,218)	(0)	(9,507)
Other operating income	(30,316)	(69,987)	(150)	(95,993)	(196,446)
Total operating income	**(33,591)**	**(70,001)**	**(6,368)**	**(95,993)**	**(205,953)**
Expenditure					
Staff Costs	84,625	6,043	30,479	6,867	128,014
Purchase of goods and services	67,712	20,337	11,886	39,228	139,163
Depreciation and impairment charges	20,755	0	0	31,801	52,556
Provision expense	0	0	(175)	0	(175)
Research and development funding	5,779	739,314	766	0	745,859
Other operating expenditure	148	0	1,358	0	1,506
Notional service charge	0	0	5,862	0	5,862
Total operating expenditure	**179,019**	**765,694**	**50,176**	**77,896**	**1,072,785**
Net Operating Expenditure	**145,428**	**695,693**	**43,808**	**(18,097)**	**866,832**

3. Grant from sponsoring department

The grant from sponsoring department is provided by BEIS for the financial year 2016/17. The grant received is treated as financing and credited directly to reserves.

	2016/17	2015/16
	£000	£000
Grant received and credited to general fund	654,504	797,843

4. Other operating income

	2016/17	2015/16
	£000	£000 Restated
Contributions from other government departments	43,631	44,195
Contributions and grants from other bodies	54,827	56,258
Commercial activities	30,429	95,993
Total	**128,887**	**196,446**

5. Staff costs

	2016/17 £000	2015/16 £000 Restated
Salaries and wages – permanent	83,658	90,881
Salaries and wages – non-permanent	2,114	2,305
Social security costs	2,995	7,981
Other pension costs (Note 10e)	20,375	26,847
Gross staff costs	**109,142**	**128,014**

6. Operating expenditure

6.1 Purchase of goods and services

	2016/17 £000	2015/16 £000 Restated
Rentals under operating leases	3,321	3,715
Accommodation	23,978	24,183
Professional services	3,024	2,960
IT costs	6,852	8,095
Training and other staff costs	2,721	2,632
Travel and subsistence	3,907	3,966
Telecommunications costs	969	843
Advertising and publicity	318	342
Commercial activities	7,439	39,228
Audit fees	140	130
Other audit costs	302	258
International subscriptions	17,099	16,377
Postage and freight	1,304	1,157
Research consumables	23,842	22,762
Catering services	1,039	997
Miscellaneous other costs	10,051	11,278
Losses and compensation	10	240
	106,316	**139,163**

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.

6.2 Depreciation and impairment charges

	2016/17 £000	2015/16 £000 Restated
Depreciation (Note 7)	21,159	19,989
Amortisation of intangible assets (Note 8)	7,056	31,835
Impairment of PPE (Note 7)	0	732
	28,215	**52,556**

6.3 Provision expense

	2016/17 £000	2015/16 £000 Restated
Decommissioning provision movement	(48)	1
Early retirement provision movement	(132)	(176)
	(180)	**(175)**

6.4 Research funding

	2016/17 £000	2015/16 £000 Restated
Research grants	302,567	445,066
Research students/advanced course studentships	26,592	28,882
Post-doctoral fellowships	39,063	42,091
University units	103,444	82,044
The Francis Crick Institute	56,858	83,964
Other research funding	57,350	63,812
	585,874	**745,859**

6.5 Other operating expenditure

	2016/17 £000	2015/16 £000 Restated
Loss on disposal – asset held for sale	0	40
Loss on disposal – PPE	75	144
Loss on Joint ventures	1,824	1,322
	1,899	**1,506**

7. Property plant & equipment

MRC	Land and Buildings £000	Assets under Construction £000	Equipment and Vehicles £000	Total £000
Cost or valuation				
At 1 April 2016	**651,778**	**5,136**	**165,768**	**822,682**
Additions	97	653	5,554	6,304
Disposals	(41,328)	(1,000)	(26,608)	(68,936)
Transfers	0	(4,540)	4,540	0
Revaluation	3,485	0	1,278	4,763
At 31 March 2017	**614,032**	**249**	**150,532**	**764,813**
Depreciation				
At 1 April 2016	**(203,414)**	**(0)**	**(107,377)**	**(310,791)**
Provided during the year	(9,222)	(0)	(11,937)	(21,159)
Disposals	26,431	0	21,703	48,134
Revaluation	(598)	(0)	(672)	(1,270)
At 31 March 2017	**(186,803)**	**(0)**	**(98,283)**	**(285,086)**
Net book value				
At 31 March 2017	**427,229**	**249**	**52,249**	**479,727**
At 1 April 2016	448,364	5,136	58,391	511,891

The net book value of land and buildings comprises:

	2017 £000	2016 £000
Freehold	116,163	120,117
Long leasehold	305,634	321,336
Short leasehold	5,432	6,911

Property, plant and equipment include £104,315,654 (2016 – £103,926,207) in respect of freehold land which is not depreciated.

The last professional revaluation was performed in 2013/14 by Powis Hughes and Associates, Chartered Surveyors, an independent valuer. Land and buildings were valued in accordance with the Royal Institute of Chartered Surveyors Valuation Standards (8th Edition), the “Red Book” and are prepared either on a Market Evidence or a Depreciated Replacement Cost basis.

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

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

8. Intangible assets

MRC	Patents & Licences	Software Licences	Total
	£000	£000	£000
Cost or valuation			
At 1 April 2016	268,385	1,353	269,738
Additions	1,395	23	1,418
Disposals	0	(397)	(397)
Revaluation	(2,318)	0	(2,318)
At 31 March 2017	**267,462**	**979**	**268,441**
Amortisation			
At 1 April 2016	(219,824)	(1,342)	(221,166)
Charge for the year	(7,044)	(12)	(7,056)
Disposals	0	397	397
At 31 March 2017	**(226,868)**	**(957)**	**(227,825)**
Net Book Value			
At 31 March 2017	**40,594**	**22**	**40,616**
At 1 April 2016	48,561	11	48,572

MRC	Patents & Licences	Software Licences	Total
	£000	£000	£000
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

9. Financial assets

	Notes	2016/17 £000	2015/16 £000
Investments in joint ventures	9.1	266,418	268,242
Other investments	9.2	7,023	3,890
Total		**273,441**	**272,132**

9.1 Investments in Joint Ventures

	Joint venture Francis Crick Institute Ltd £000	Joint venture Imanova Ltd £000	Total of Joint ventures £000
As at 1 April 2016	267,666	576	268,242
Additions	0	0	0
Share of (losses)/gains during the year	(1,855)	31	(1,824)
Revaluation	0	0	0
At 31 March 2017	**265,811**	**607**	**266,418**
As at 1 April 2015	267,841	445	268,286
Additions	1,278	0	1,278
Share of (losses)/gains during the year	(1,453)	131	(1,322)
Revaluation	0	0	0
At 31 March 2016	**267,666**	**576**	**268,242**

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, King's 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.

The Institute became operational on 1 April 2015. The investment is therefore valued 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 place of business is Midland Road, London.

The proportion of share capital of the Crick that the MRC holds is 41.90%

The results of the Crick are summarised below:

Summarised financial details	2016/17 £000	2015/16 £000
Current assets	54,670	71,286
Non-current assets	606,073	593,128
Current liabilities	(26,342)	(24,069)
Non-current liabilities	-	-
Revenue	151,454	148,356
Profit/(loss) from continuing activities	(7,348)	20,172

Other financial information	2016/17 £000	2015/16 £000
Cash and cash equivalents	39,740	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	(26,690)	(7,560)
Amortisation of intangible assets	-	-
Interest income	231	280
Interest expense	-	-

Other information	2016/17 £000	2015/16 £000
Capital commitments	3,541	20,981
Grant commitments	-	-

In addition at the year end the Francis Crick Institute owed the Council £242,405 (2015/16 £1,259,041) and the Council owed the Francis Crick Institute £877,513 (2015/16 £262,113).

A lease was made between the original founders and the Francis Crick Institute Ltd on 7th June 2012 granting lease of land at Midland Road, 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 £52,315,654 and reflected in the financial statements accordingly, (2015/16 – £51,926,207).

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, King's 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 2016/17 record a deficit of £0.391m (2015/16 £0.085m) before tax and net assets of £2.43m (2015/16 £2.30m). MRC's share of the net assets of Imanova is therefore £607k and it has accounted for the losses incurred by Imanova on this basis.

During the year MRC had transactions totalling £0.952m (2015/16 £1.099m) with Imanova. There were no outstanding balances owed from Imanova Limited to MRC and MRC to Imanova Limited at the end of the year.

9.2 Other investments

	2016/17 £000	2015/16 £000
As at 1 April 2016	3,890	3,149
Revaluation	3,133	741
At 31 March 2017	**7,023**	**3,890**

10. 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 (2015/16 – £5m) 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 per cent (2010 valuation 110 per cent). The actuarial value of the assets was sufficient to cover 118 per cent of the benefits that had accrued to members after allowing for expected future increases in earnings. Triennial valuations are conducted under the Pensions Act 2004 on a scheme specific funding basis. The present MRCPS employer's contribution rate remained at 14% in 2016/17 (2015/16 – 14%).

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 work of this actuarial valuation is ongoing and the results will be available in the next annual report.

The following payments are due in 2017/18:

MRC Section

By the members:	6.5% of pensionable pay
By MRC:	14.0% of pensionable pay
By other employers:	14.9% of pensionable pay

The total contribution expected to be paid into the MRC section in 2017/18 is £15m.

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 2017/18 is £10m.

As at 31 December 2016 the average maturity of the scheme as a whole was around 21 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 2017. The mortality assumptions included within the figures are that male (female) members who retire at typical ages will live to approximately age 89 (91).

a. Financial assumptions used to calculate scheme liabilities

	2016/17 %	2015/16 %
Rate of increase on pensionable salaries	3.25	2.85
Rate of increase on pension payments	2.25	1.85
Discount rate	2.50	3.40
Inflation rate	2.25	1.85
Expected return on equities	2.50	3.40
Expected return on bonds	2.50	3.40
Expected return on overall fund	2.50	3.40

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 2017 of changes to the main actuarial assumptions.

Change in assumption		Approximate effect on total liability	
Discount rate	-1/2% a year	+11.0%	+£161m
Rate of increase in earnings	-1/2% a year	-1.5%	-£22m
Rate of increase in pensions	-1/2% a year	-8.0%	-£117m
Removing age rate for pensioner mortatilty		+3.0%	+£44m

b. Analysis of Actuarial (loss)/gain

	2016/17 £000	2015/16 £000
Actual return less expected return on pension scheme assets	189,905	248
Experience gains arising on the scheme liabilities	1,791	4,854
Changes in demographic assumptions	0	17,751
Changes in financial assumptions	(320,617)	80,894
Actuarial (loss) /gain	**(128,921)**	**103,747**

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

	2016/17 %	2015/16 %	2014/15 %	2013/14 %	2012/13 %
Actual return less expected return on pension scheme assets	12.94	0.02	7.60	3.51	6.06
Experience gain/(loss) arising on the scheme liabilities	0.12	0.43	0.12	(1.29)	1.65
Actuarial (loss)/gain	(8.80)	9.21	(6.17)	9.81	(5.94)

d. The assets and liabilities in the scheme

	2016/17 £000	2015/16 £000	2014/15 £000	2013/14 £000	2012/13 £000
Assets					
Equities and property	1,205,411	1,033,492	985,883	925,159	877,449
Bonds and cash	262,226	217,276	241,872	158,261	128,944
	1,467,637	**1,250,768**	**1,227,755**	**1,083,420**	**1,006,393**
Actuarial value of liability	(1,464,639)	(1,126,870)	(1,204,861)	(1,009,683)	(1,040,420)
Surplus/(Deficit) in scheme	**2,998**	**123,898**	**22,894**	**73,737**	**(34,027)**

e. The movements in the scheme surplus

	2016/17 £000	2015/16 £000
Surplus at the start of the year	**123,898**	**22,894**
Current service costs net of employee contributions	(20,375)	(26,847)
Employer contributions	24,225	23,395
Other finance income (note 10f)	4,171	709
Actuarial (loss)/gain (note 10b)	(128,921)	103,747
(Loss)/Surplus at end of year	**2,998**	**123,898**

f. Other finance income

	2016/17 £000	2015/16 £000
Expected return on pension scheme assets	42,266	38,060
Interest on pension scheme liabilities	(38,095)	(37,351)
Net return – other finance income (note 10e)	**4,171**	**709**

11. Trade and other receivables

	2017 £000	2016 £000
Trade receivables	18,358	15,295
Less provisions for bad debts	(16)	(16)
	18,342	15,279
Other receivables	5,684	2,060
Accrued income	29,309	21,930
Prepayments	15,464	14,218
Total	**68,799**	**53,487**

12. Cash and cash equivalents

	2017 £000	2016 £000
Balance at 1 April	61,795	5,862
Net change in cash and cash equivalent balances	(46,821)	55,933
Balance at 31 March	**14,974**	**61,795**
The following balances were held at commercial banks and cash in hand	9,175	8,260
The following balances were held with the Government Banking Service	5,799	53,535
Balance at 31 March	**14,974**	**61,795**

13. Trade and other payables

	2017 £000	2016 £000
Due within 1 year		
Trade payables	(92,036)	(110,124)
Accruals	(123,396)	(138,526)
Taxation and social security	(1,641)	61
Deferred income	(14,567)	(14,574)
Other payables	(3,478)	(982)
Total	**(235,118)**	**(264,145)**
Due after more than 1 year		
Accruals	**(9,606)**	**(16,469)**

14. Adjustments for Non-cash transactions

	2017 £000	2016 £000
Depreciation and impairment charges	30,039	53,878
Capital grant of assets	20,624	27,003
Profits or losses on disposal of assets	75	184
IAS19 pension costs	(2,257)	9,146
Total	**48,481**	**90,211**

15. Commitments

Capital

The council had no future commitments to capital expenditure (2015/16 – £0).

Research awards

Forward commitments on research awards:	**£000**	**£000**
Not later than one year	487,109	460,481
Later than one year but not later than five years	744,170	720,850
Later than five years	5,057	9,157

16. Related party transactions

The MRC is a non-departmental public body sponsored by BEIS. For the purposes of International Accounting Standard 24, BEIS is regarded as a related party. During the year, the council has had various material transactions with BEIS and other bodies for which BEIS 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 9.

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 2016/17 were £0 (2015/16 = £394,985). Additional investments were made during the year totalling £0.0m (2015/16 £9.4m). 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 £2,100,000 (2015/16 - £3,195,516). At the year end, £2,588,909 (2016 - £1,000,000) was due from the MRC to MRCT and £432,595 (2016 - £471,578) 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.

Table 1

During the year, MRC made grants and awards to and purchased goods and services from institutions or other bodies where Council members and Management Board members hold senior positions. The aggregate values are disclosed in the following table:

Name	Organisation	Number of Awards	Amount Awarded (£)	Amount of goods and services (£)
Donald Brydon	Sage Publications Ltd			8,279
Professor Chris Day	Newcastle University	11	£25,112,316	
Professor Sir John Savill	University Of Edinburgh	21	£13,782,667	
Dr John Brown	Electrical Geodescics Inc			26,614
Professor David Lomas	University College London	38	£23,801,884	
Professor David Lomas	Francis Crick Institute	4	£7,874,854	
Professor Doreen Cantrell	University of Dundee	2	£2,205,236	
Professor John Iredale	University of Bristol	16	£8,679,066	
Professor Patrick Johnston	Queen's University Belfast	5	£1,405,656	
Dame Sally McIntyre	Human Tissue Authority			6,000
Dr Ruth McKernan	Innovate UK	2	£1,587,656	
Professor Michael Schneider	Imperial College London	30	£20,675,362	
Professor Irene Tracey	University of Oxford	37	£35,505,379	
Sharmila Nebhrajana	Human Tissue Authority			6,000

17. 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 17% is greater than 30 days old (2015/16: 8%).

18. Events after the reporting period

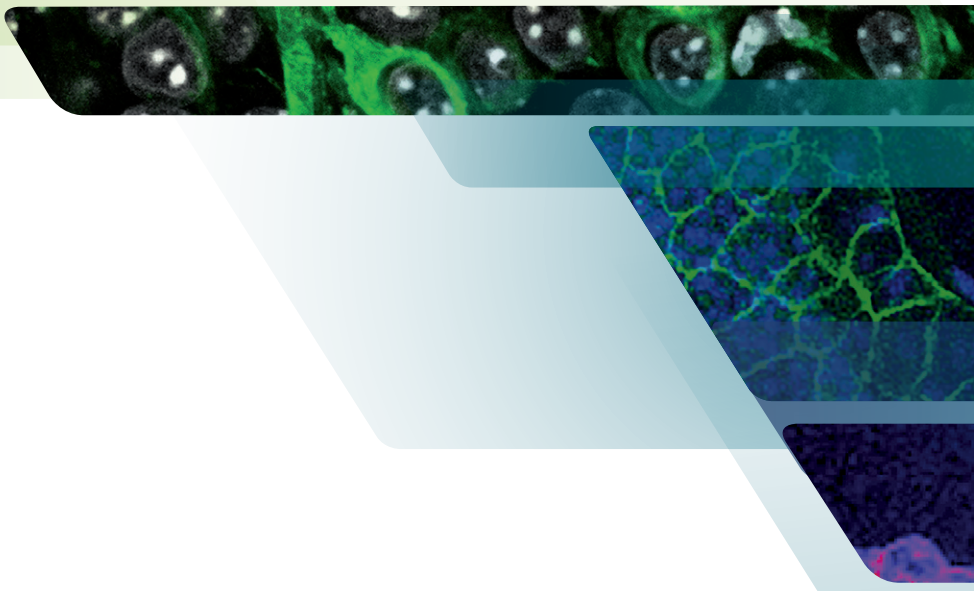
In accordance with the requirements of IAS 10 Events after the Reporting Period, post Statement of Financial Position events are considered up to the date on which the Accounts are authorised for issue. This is interpreted as the same date as the date of the Certificate and Report of the Comptroller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

There were three post Statement of Financial Position events between the balance sheet date and this date.

On the 27th April 2017 the Higher Education Research Bill received royal assent. This forms the basis of the formation of UKRI.

The MRC Prion Unit with 68 employees transferred to the University College London on 1 June 2017; assets with a net book value of £2,459,239 transferred at the same time.

The MRC Cognition and Brain Sciences Unit with 94 employees transferred to the University of Cambridge on 1 July 2017; assets with a net book value of £3,976,420 transferred at the same time.



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