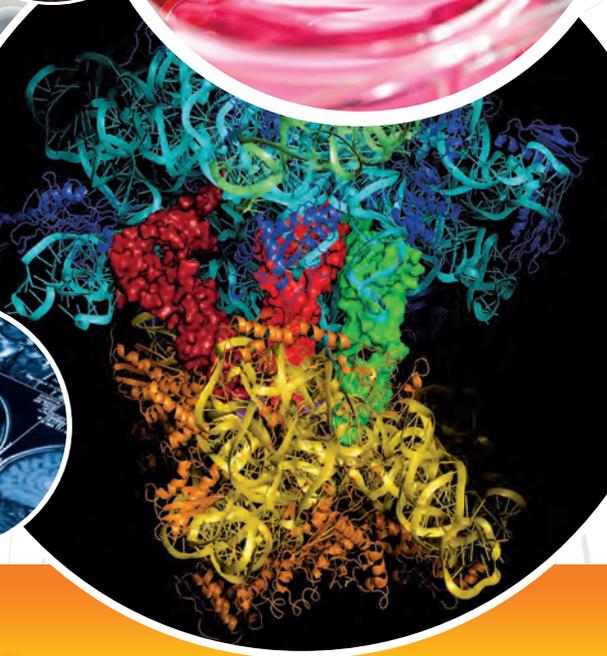


MRC

Medical
Research
Council

UK Research
and Innovation

The MRC in Scotland



Contents

The MRC in Scotland	3
Training and career support	4
Global health	6
Data science	8
Lifelong mental health	9
Regenerative medicine	10
Infections and antimicrobial resistance	12
Population health	14
Precision medicine and experimental medicine	16
About the Medical Research Council	18
About UK Research and Innovation	19

The MRC in Scotland

The strength of Scotland's science base and its rich history of innovation is world renowned. The Medical Research Council (MRC) has been at the forefront of some of Scotland's most important discoveries including the discovery of penicillin by MRC-funded researcher Alexander Fleming.

Scotland's reputation of excellence means that it is very successful in attracting inward investment with many funders investing in health research, working together to build capacity and enhance research excellence.

The MRC funds research in Scotland across the biomedical spectrum, from fundamental lab-based science to clinical trials, and in all major disease areas. In 2017/18 the MRC spent £80.1 million in Scotland, 10% of its total gross expenditure. That's £14.77 per head of the population in Scotland, more than any other part of the UK*. Scotland is home to nine of the MRC's major investments, including four centres, three units and sites for two of our national institutes, UK Dementia Research Institute and Health Data Research UK.

Over the last five years the MRC is the second largest funder of medical research in Scotland, behind only the European Commission, investing similar levels of funding to some other UK Research and Innovation (UKRI) councils**.

FUNDING TO SCOTLAND 2014-2018

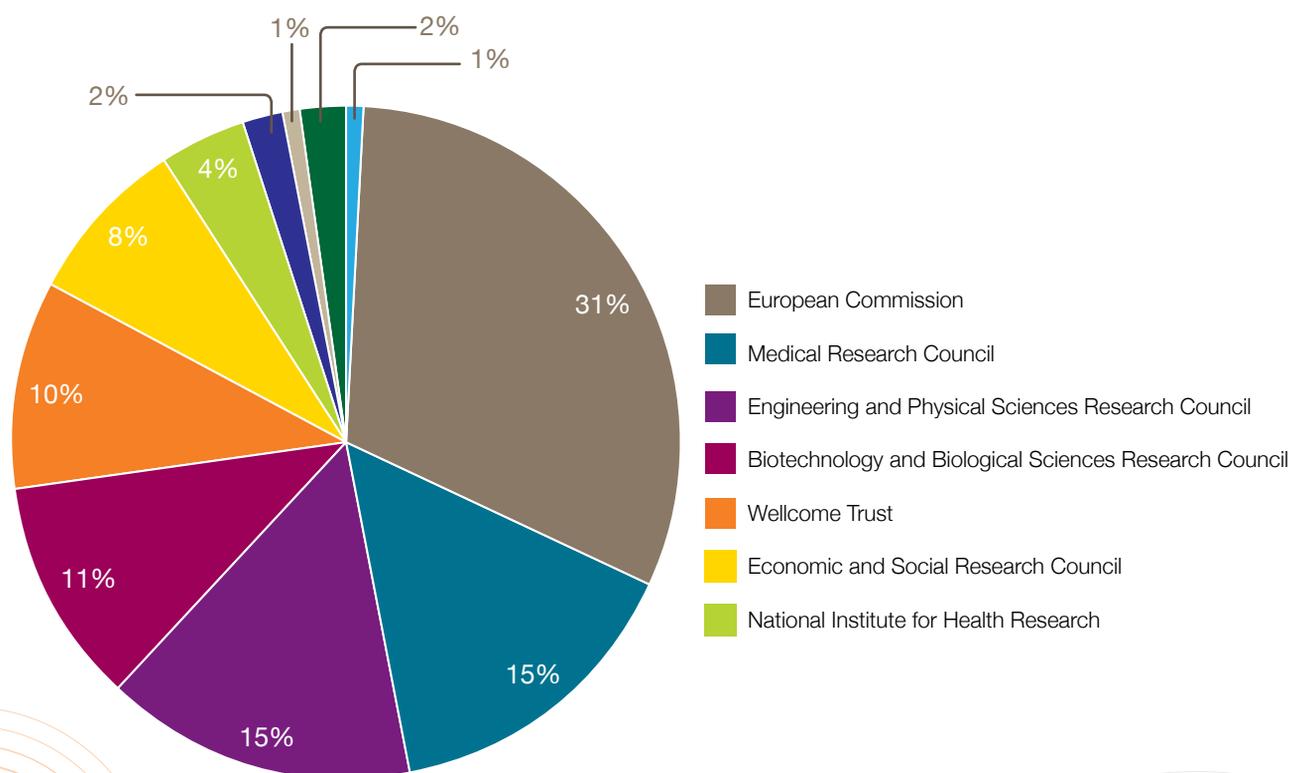


Figure 1: Percentage breakdown of research funding in Scotland by organisation

* MRC funding data: <https://mrc.ukri.org/research/funded-research/recipients-of-funding/Population> data source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2017>

** Dimensions, 2019 (<https://www.dimensions.ai/>)

Training and career support

Scientific advances are critically dependent on diverse perspectives and original creative thinking, driven by curiosity. Training, motivating and developing people in their research careers has long been central to the MRC's mission. A highly skilled research base and mobility between academia, clinical practice and industry are essential to the UK's continued leadership in medical research. The MRC is committed to funding outstanding individuals to perform ground-breaking research, regardless of where they work. This is done through providing post-graduate training and fellowships, offering flexible career options, addressing barriers to research careers and building skills in priority areas.

The MRC currently provides broad and flexible support for research careers via different routes, including our research boards, major investments, fellowships and studentships.

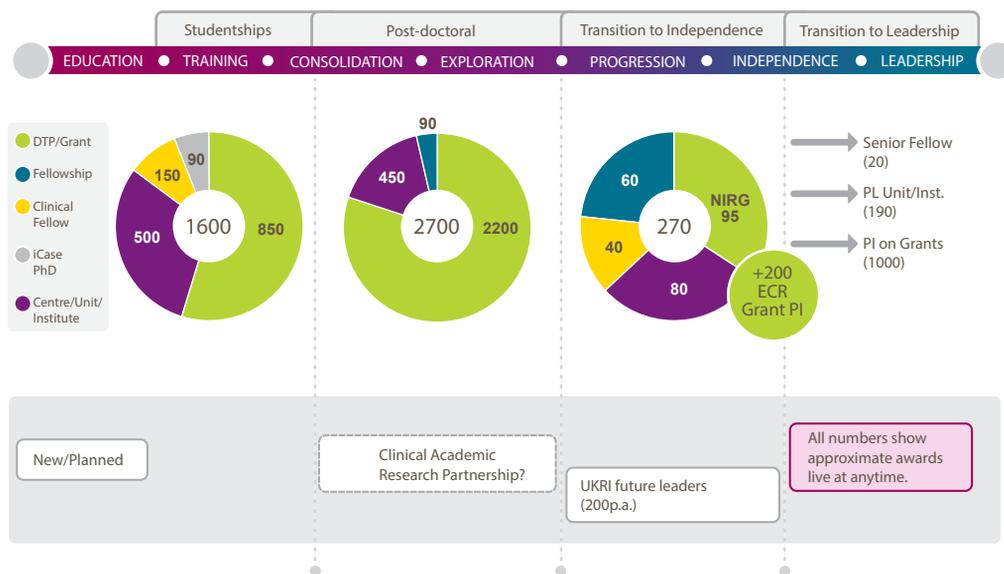


Figure 2: Approximate number of awards live at any time by career stages.

Case Study

MRC Doctoral Training Partnerships (DTPs)

The MRC DTPs support approximately 850 MRC students at any one time (over 50%), provide funding for doctoral training across a broad range of subjects and are awarded for multiple intake years of several studentships. This approach provides research organisations with significant flexibility to support postgraduate studentships aligned to their scientific strategy and strengths.

The MRC currently funds two DTPs in Scotland:

- The University of Edinburgh and University of Glasgow DTP receives funding for 13 new studentships a year, supporting training in precision medicine. The programme focuses on training in key quantitative skills including mathematics, statistics, computation and developing digital excellence and applying them to a variety of data sources, allowing PhD students to build on interdisciplinary skills including imaging and stratified medicine.
- The University of Dundee receives an allocation of 5 studentships per year, providing training within four themes: (i) infection and disease (ii) responses to cellular stress, (iii) development, stem cells and neurobiology and (iv) big data and translation.

All DTPs receive additional flexible funding to support unique training opportunities for MRC-funded local PhD students, including those based within our Centres, Units and Institutes and qualified doctors pursuing a PhD. This enables all MRC students to consider complimentary training which supports the development of well-trained PhD-qualified individuals able to pursue a range of opportunities.

MRC Skills Development Fellowships

The Skills Development Fellowships provide training in priority skills areas, in particular bringing together quantitative and biomedical skills and enabling quantitative approaches to be embedded as a fundamental part of modern health related research.

These post-doctoral fellowships are currently provided to universities, who can then recruit and support a fellow, such as someone who has previously only worked in mathematics, to apply their skills to biomedical research. The University of Glasgow currently hosts such fellowships, providing training in quantitative social science.

Similar training programmes are linked to the MRC's large investments, such as the cross-disciplinary fellowships provided in partnership between the MRC Institute of Genetics and Molecular Medicine and the University of Edinburgh's School of Informatics.



Global health

Global health research supported by the MRC aims to address the major burdens of disease in low and middle-income countries (LMICs). Our portfolio ranges from basic to applied research from the cell biology of infectious disease, to epidemiology of non-communicable disease, and the strengthening of LMIC health systems. Improving the health of the most vulnerable is central to the MRC's mission.

The MRC supports impactful global health clinical trials and research into LMIC health systems in collaboration with other major UK funders and runs calls for global health proposals in areas of particular strategic importance. We also support two leading overseas research units in Uganda and The Gambia and contribute to international collaborations for global health.

Case Study

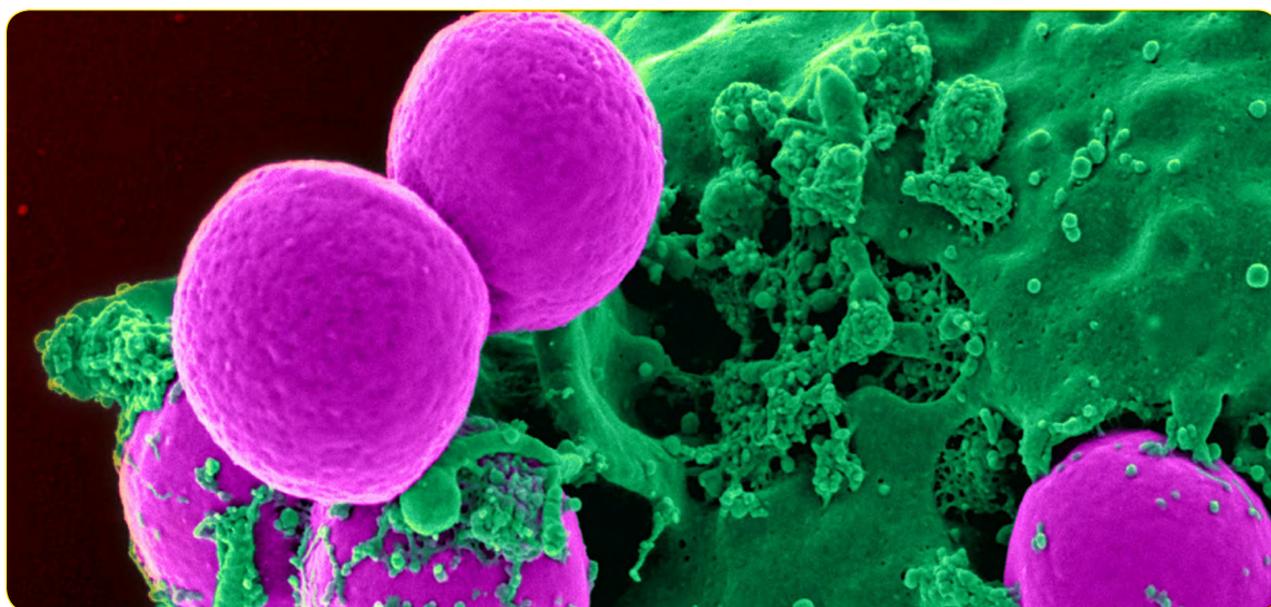
ZIKA Virus, MRC-University of Glasgow Centre for Virus Research

Established in 2010, the MRC-University of Glasgow Centre for Virus Research (CVR) represents the UK's largest grouping of human and veterinary virologists looking at chronic and community-acquired viral infections.

The CVR is currently exploring the intricacies of Zika virus (ZIKV) infections under three main themes. The first is to understand how ZIKV causes disease within neuronal cell cultures and to identify the types of cells that are the preferred targets for infection. The research is being carried out in close collaboration with other groups at the University of Glasgow who are together hoping to understand the major cell types of the nervous system that are involved during infection in order to develop measures which may be used to reduce the severity of the disease.

The second area of interest is the development of effective therapeutics, as well as a vaccine against ZIKV infection. The CVR are building on previously established expertise to overcome the extensive challenges faced when generating treatments specifically targeting mothers.

The CVR are working to understand the fundamentals of ZIKV infections with ongoing work to study the interactions between the virus and the immune system. A major programme involves investigating ZIKV interactions within the mosquito, including the role of Wolbachia (a type of bacteria carried by mosquitoes) in blocking the transmission of arboviruses.





Case Study

Endometriosis study at the MRC Centre for Reproductive Health at the University of Edinburgh

Professor Andrew Horne, and his research team at the EXPECT Centre for Pelvic Pain and Endometriosis within the MRC Centre for Reproductive Health (MRC CRM), conducts vital research into how to improve the lives of more than 170 million women globally affected by endometriosis. Around 1.5 million women in the UK are affected, with 125,000 Scottish women suffering from the condition.

Endometriosis is a condition where the cells like those lining the womb stick to other parts of the body forming endometriosis lesions, most commonly to the lining of the pelvis and ovaries. It is often associated with debilitating pain and infertility.

On average, women wait 7.5 years between first seeing a doctor and getting a confirmed diagnosis, and treatment options are limited to pain relief, hormone treatments, and surgical excision of the lesions.

Unfortunately, 40-50% of women who have surgery have a recurrence of symptoms within five years and hormone treatments are contraceptives which can have significant side effects.

Professor Horne's research aims to reduce diagnostic delays by highlighting the symptoms of endometriosis to doctors, such as pelvic pain, painful periods and subfertility. Professor Horne and his team at the MRC Centre for Reproductive Health have secured over £10 million in research funding from a range of sources, and current research could lead to new drug treatments that will prevent the development and progression of this chronic condition.

Data science

Unprecedented volumes of data are being generated through patient records, population studies, clinical trials, and large-scale biological studies such as genomics. The MRC's vision is to harness this information to improve UK health by identifying ways to prevent disease, detect and diagnose it early where it does arise, and provide novel insights into disease to improve treatment and patient care.

Building on £100 million data science investments since 2012, the MRC has spearheaded the 2018 establishment of a new UK institute for health data science – Health Data Research UK (HDRUK), committing £65m over five years in partnership with nine other funders, including the Chief Scientist's Office in Scotland. The UK will use cutting edge data science, with robust governance systems to secure public trust, to transform the use of health data in the UK. HDR UK, working in partnership, will address the most pressing health research challenges facing the public. Building on the valuable resource of a national health service and access to health data at an unprecedented scale. We see the UK becoming the largest and best learning health system in the world, and a society that improves health and narrows health inequalities through new knowledge from data.



Case Study

The Farr Institute

The Farr Institute was a UK-wide research collaboration involving 21 academic institutions and health partners in England, Scotland and Wales. Publicly funded by a consortium of ten organisations, led by the MRC, between 2013 and 2018, the Institute was committed to delivering high-quality, cutting-edge research using 'big data' to advance the health and care of patients and the public.

Funding for Farr Institute in Scotland enabled innovations such as:

- Pioneering use of data and smart apps to improve safety and reduce harm associated with high risk medicines by helping GPs better manage prescribing. With additional funding from the Scottish Government, this work led to a 40% reduction in the use of these medicines and significantly reduced serious adverse reactions. This programme is now influencing healthcare delivery across NHS Scotland.
- Understanding how the causes and prevalence of adverse childhood experiences (such as abuse) in Scotland. Working with data from "Growing Up in Scotland", researchers tracked the lives of 3500 children born in 2004/5 and their families. This revealed far higher rates of adverse events, for example living in care, than previously reported and that poverty was a key driver. Lifting children out of poverty would reduce the proportion of children experiencing these events by more than a fifth. The researchers have been invited to speak to policy makers in Scottish Government to understand their findings and seek ways to address the issues raised by this work.

*The Farr Institute's five years of funding comes to a close in October 2018 with the newly established Health Data Research UK stepping into position as the country's national health data science institute.

Health Data Research UK (HDR UK)

HDR UK has six major sites at its core, including HDR UK Scotland led by Professor Cathie Sudlow from the University of Edinburgh, together with the Universities of Dundee, Glasgow, St Andrews, Strathclyde and Aberdeen. Work in HDR UK, which builds on Scottish expertise and resources, includes:

- Developing a national e-cohort for 21st century public health research: a world-class resource for studying the determinants and outcomes of health across the entire life course for studying public health interventions, disease surveillance by linking healthcare, administrative and environmental data across the entire Scottish population.
- Improving the discoverability of Scotland's rich health data and related tissue resources.
- Examining how modern machine learning methods can be harnessed to understand mechanisms of disease and improve diagnosis using medical imaging and other health data.



Lifelong mental health

The MRC delivers world-class mental health research. In 2016/17 we spent over £24 million on research across a spectrum of mental health conditions from depression to schizophrenia, bipolar to eating disorders, making the MRC one of the top three funders of mental health research in the UK. As part of our commitment to lifelong mental health, the MRC established the UK Dementia Research Institute (UKDRI) in 2016. Made up of six centres across the UK, including a centre in Edinburgh, the UKDRI undertakes a rich and intergrated programme of research to investigate the complex mechanisms of dementias. Our global network of leading scientists is making huge strides in our understanding of mental health, progressing new treatments and ultimately uncovering paths to prevention.

What happens in childhood has a huge influence on our lifelong mental health, which is why we are spearheading studies into early life and adolescence, tackling mental illness where it often begins. One size does not fit all when it comes to mental health treatments, so we are looking at ways to better tailor interventions to individual needs.

The MRC is leading major investments in global mental health, to further understand the interactions between mental health and biology, environment, culture and adversity. We are harnessing vital information from NHS data and world-class population studies to understand the causes and drivers of mental ill-health.

Case Study

Mental Health Data Pathfinder at the University of Edinburgh

The MRC Mental Health Data Pathfinder awards are two-year awards aimed at UK universities already engaged in mental health-related research. Professor Andrew McIntosh at the University of Edinburgh is leading a Pathfinder Award looking at leveraging routinely collected data to study the causes and consequences of common mental disorders.

This data includes the Scottish Mental Health Survey 1947 which tested the mental ability of a whole population of people (71,000 people) who were born in the same year (1947). Scotland is the only country in the world to have undertaken this research.

The project will combine research records with routinely-collected health and administrative records to create a large, anonymised, nationally-representative, cross-generational dataset with detailed measures and predictors. These data will offer an unusually valuable resource that will link life-course information to important human and societal outcomes such as health and social support, and care.

Case Study

UKRI Mental Health Network – TRIUMPH

Hosted at the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, the Transdisciplinary Research for the Improvement of Youth Mental Public Health (TRIUMPH) Network will bring together young people with academics, health practitioners, and policy-makers to find new ways to improve youth mental health and wellbeing, especially among those where need is greatest.

The network aims to find new ways to improve mental health and wellbeing and is one of eight Mental Health Networks funded by UK Research and Innovation (UKRI). The Networks are designed to progress mental health research in themes such as the profound health inequalities for people with severe mental ill health, social isolation, youth and student mental health, domestic and sexual violence, and the value of community assets.

Regenerative medicine

Regenerative medicine is an interdisciplinary research field that seeks to develop the science and tools to help repair or replace damaged or diseased human tissue. As a form of 'advanced therapy' regenerative medicine has the potential to address a number of currently incurable conditions and is poised to revolutionise medical treatment in the 21st century.

Regenerative medicine has a track-record of cross-discipline collaborations between biologists, bioengineers, material scientists and clinicians. This is a critical time for the field, with early clinical trial successes and UK industry increasingly prepared and equipped to move into the area.

The MRC has been the major funder of UK regenerative medicine research and has encouraged increased cross-sector funding in the area, setting up critical resources, such as the first stem cell bank in the world and strong core investment which has leveraged significant further funding through other sources. For example, the MRC Centre for Regenerative Medicine at the University of Edinburgh total award income increased steadily from £6.1 million in 2011/12 to £11.1 million in 2015/16.

The MRC also supports the UK Regenerative Medicine Platform (UKRMP), a £42m national programme jointly supported by BBSRC, EPSRC and MRC since 2013. The UKRMP was established to address the translational challenges in the field, where more development is needed to underpin the delivery of new therapeutic approaches. One of the UKRMP Hubs is led by Professor Stuart Forbes, Director of the MRC Centre for Regenerative Medicine (MRC CRM) at the University of Edinburgh, and focuses on understanding how the body's environment influences stem cell behaviour.

Case Study

MRC Centre for Regenerative Medicine at the University of Edinburgh

The MRC Centre for Regenerative Medicine (MRC CRM) at the University of Edinburgh are exploring potential opportunities for regenerative medicine. Scientists and clinicians study stem cells, disease and tissue repair to advance human health.

In a regenerative medicine first, Professor Stuart Forbes at the MRC CRM launched a human study of a new therapy for liver cirrhosis in 2015. Deaths from cirrhosis have doubled in the last ten years in the UK increasing the demand for liver transplants.

The opportunity for regenerative medicine to provide a route to heal damaged livers was opened by MRC-funded discovery science which showed that boosting the production of specific cells in the liver was the essential step needed to repair damaged liver tissue.

Case Study

UK Regenerative Medicine Platform (UKRMP)

In a study funded by the UKRMP and the Chief Scientist Office of Scotland, a team of researchers in Edinburgh led by Professor David Hay found that liver tissue implants supported liver function in mice with a type of liver disease. Liver disease is the fifth biggest killer in the UK and currently, a liver transplant is the only treatment for people with liver failure, but these findings offer early-stage progress towards developing liver tissue implants.

The implants were produced by turning stem cells into cells with characteristics of liver cells in the lab. The cells grew into tiny balls in a dish for up to a year but did not adopt the 3D structure of liver tissue.

Infections and Antimicrobial Resistance

Tackling antimicrobial resistance (AMR) is a priority area of research for the MRC. Without effective antibiotics, most medical practices, including routine surgery, emergency operations, transplants, and chemotherapy will be less safe, and in a 'post-antibiotic' era even minor infections could prove fatal.

The MRC is at the heart of finding solutions to this global health challenge, providing the strategic direction and financial support to enable researchers to undertake cutting-edge research. Researchers are able to use unique approaches to prevent infections, preserve existing antibiotics and promote the development of new therapies and interventions.

Collaborative working is crucial if we are to successfully solve the challenge of AMR and so developing more effective ways of working together, across science disciplines and across international borders, is also central to the MRC's strategy. We launched the AMR Cross-Council Initiative in 2014. Under UK Research and Innovation (UKRI) we continue to foster collaboration within the UK and facilitate information-sharing between diverse stakeholders.

But AMR is a global problem and to beat it our research efforts must extend beyond the UK. The MRC proactively helps align international research strategies with overseas partners through a range of programmes, such as the Newton Fund and the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR).

Case Study

MRC Centre for Medical Mycology at the University of Aberdeen

The MRC Centre for Medical Mycology at the University of Aberdeen aims to facilitate innovative and world leading multidisciplinary research that will substantially advance our understanding of fungal infections. Fungal infections kill more people every year than malaria, current therapies are poorly tolerated and toxic and, significantly, resistance to these agents is increasing leading to an urgent need for new treatments.

In 2018 Dr Fiona Rudkin was awarded Scottish Enterprise funding to lead the creation of mycoBiologics from the University of Aberdeen. MycoBiologics will be a new company focused on treating life-threatening fungal infections by developing antibody-based therapeutics. Monoclonal antibodies are highly specific proteins produced naturally by the immune systems to fight infections and as a drug class, have a proven track record in successfully treating many cancers and autoimmune diseases.

The pioneering research underpinning mycoBiologics came from Dr Rudkin's PhD work carried out at the MRC Centre for Medical Mycology, subsequently developed with critical support from a Royal Society of Edinburgh Enterprise Fellowship awarded to Dr Rudkin.

Case Study

Tackling AMR through the SHIELD consortium

The SHIELD consortium is an MRC/AMR cross-council funded consortium focused on new strategies to combat AMR by enhancing the most effective natural defence systems of the human body. It brings together over 20 researchers from four UK universities, and is led by Professor David Dockrell at the University of Edinburgh.

Not everyone exposed to harmful bacteria develops an illness because they have an effective natural response to infection, with immune cells (the body's defence cells) 'consuming' and killing harmful bacteria.

The Consortium are developing new methods to identify and understand the key features of normally effective, natural host responses, to explore how they might be enhanced in relevant patient groups at risk of infection.

Treatments designed to boost, or block aspects of our natural defence system are potentially a viable approach to combatting AMR, and the Consortium are working with industry partners to help identify new drugs that can enhance the natural immune response to targeted resistant infections.

Ultimately, the aim is to develop a host response-based strategy, which targets an individual's underlying susceptibility to infection, as an approach to limit exclusive reliance on antibiotic therapy.



Population health

Population health research examines the burden of ill-health, looks to improve health through change and promotes good health in different groups of people, allowing a much broader and deeper understanding of the population's health and health inequalities in society. It takes account of wide determinants of health such as physiological, mental and genetic factors, education, work, and environmental factors, as well as health-related behaviours such as physical activity and consumption of food and drinks.

The MRC has a strong portfolio of population health research, for example through its long support for population cohorts, which have provided fundamental insights into human health and which has informed many of the advances in human health we see today.

Large-scale population cohorts provide an unparalleled resource for such multifaceted and interdisciplinary research. One of the most influential MRC funded studies is the 1950s study led by Richard Doll of a cohort of GPs, which first identified the harmful effects of smoking.

Since then, the MRC has funded several cohort studies to understand the factors shaping human health. For example, the UK Biobank was established with funding from the MRC alongside other partners including the Scottish Government. UK Biobank has recruited 500,000 people to take part in the project which aims to improve the prevention, diagnosis and treatment of a wide range of serious and life-threatening illnesses.

Today, cohort studies are in a prime position to take advantage of high throughput technologies and data linkage to enhance our understanding of risk factors underpinning health, wellbeing and disease.

Case Study

Football Fans in Training at the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow

Led by Professor Kate Hunt at the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, Football Fans in Training (FFIT) is a gender-sensitised weight management and healthy lifestyle programme for men delivered in top flight football clubs by club community coaches. It was developed to include the latest scientific approaches to weight loss, physical activity and diet.

During the randomised control trial of the programme, participants lost an average of 5.6kg and nearly 40% lost 5% of their baseline weight.

Today FFIT is delivered to groups of men aged 35-65 who are obese, or at high risk of becoming obese.

Understanding Cognitive Ageing through the Lothian Birth Cohorts

The Lothian Birth Cohorts are a unique group of people, now in their 80s and 90s, who sat intelligence tests as 11-year olds, as part of a study commissioned by the Scottish Council for Research in Education to develop education policy.

Recognising a unique study cohort, Professor Ian Deary, and the team at the Centre for Cognitive Ageing and Cognitive Epidemiology (CCACE) at the University of Edinburgh, contacted and enrolled respondents of the original tests held in 1937 and 1946, to investigate cognitive ageing. Since 1999, they have undertaken thinking tests, brain scans, and health and lifestyle assessments, which has transformed our understanding of how early life influences healthy ageing.

Research from this project has resulted in over 100 publications, been presented to the Scottish Government, Edinburgh City Council and NHS Scotland, and was cited by the UK Government's 2008 report 'Mental Capacity and Wellbeing'. This report, and a supportive review co-written by Deary, has been used by health organisations, schools and community projects across the world.



Image courtesy of the Centre for Cognitive Ageing and Cognitive Epidemiology

Precision medicine and experimental medicine

Precision medicine

Precision medicine is based on identifying patients, or subgroups of patients, with distinct mechanisms of disease, or particular responses to treatments. This allows us to identify and develop treatments that are effective for particular groups of patients. Ultimately precision medicine will ensure that the right patient gets the right treatment at the right time.

The MRC aims to accelerate the pace and scale of precision medicine discovery research and innovation, through organising clinical research in new ways, including Precision Medicine Consortium awards. Each Consortium is a scientific discovery engine, underpinned by a research cohort of patients, that provides new understanding of disease process and human trials of treatments and diagnostics. Real patient benefits are achieved through true partnerships between industry, academic, clinical, and patient groups, with charity support.

Diagnostics are needed to support the realisation of the benefits of precision medicine research and innovation. MRC and EPSRC jointly fund a Molecular Pathology Network, including nodes at Glasgow and St. Andrews-Edinburgh. The Network brings the research base together with pathology services and industry, enhances UK skills, and is establishing a clear development path for diagnostics.

The MRC also supports Doctoral Training Programmes in Precision Medicine at the Universities of Edinburgh and Glasgow.

Experimental medicine

Experimental medicine is a broad term and refers to early clinical or discovery science in humans, for example new imaging technologies that give us non-invasive access to the human body at detailed resolutions, allowing not only visualisation of structure, but also function.

Experimental medicine is a core element of the MRC's overarching translational research strategy; as studies of disease mechanism in humans play a critical role in realising the potential of a number of research disciplines/ approaches of strategic importance to the MRC and to UK medical research.

Advances in non-invasive techniques allow us to approach the human as the ultimate experimental animal for improving human health. Doing so has the potential to dramatically increase the speed and efficiency by which medical discoveries are translated into healthcare.

The MRC has a strong record of supporting discovery science, including experimental medicine, through its boards and initiatives. The MRC expanded this research base through the launch of the Experimental Medicine Challenge Grants (EMCG) in 2012 and the Experimental Medicine Initiative to Explore New Therapies (EMINENT) in 2014.

EMINENT connects researchers at GlaxoSmithKlein (GSK) to a network of researchers across five universities, including the University of Glasgow, to study the fundamental biological mechanisms of inflammatory diseases. Ultimately, EMINENT aims to combine the understanding of the mechanisms of disease with drug development expertise in the hope of accelerating the development of innovative treatments for patients.

Case Study

Immune Mediated Inflammatory Disease Biobanks in the UK (IMID-Bio-UK tissue bank) at the University of Edinburgh

IMID-Bio-UK is led by the University of Edinburgh and links researchers in immune-mediated inflammatory disease (IMIDs) from across the UK. It has been funded by the MRC to bring together eight immune-mediated inflammatory disease cohorts/tissue biobanks into one single searchable and analysable dataset available to all researchers whether they are from academia or industrial institutions.

Initially focusing on five disease areas, resources will be made available to researchers to study IMID biology and predict drug response, using molecular markers to define common and unique mechanisms of disease progression and drug action. This will enable wider, safer use of biologics and new medicines across the IMID spectrum.

By bringing together IMID samples and comparing data and clinical practice, we will optimise clinical pathways for common IMIDs, and provide much needed insight into biologic use in rarer or poorly characterised IMIDs, ultimately delivering patient benefit and health care savings.



Case Study

Tackling melanoma at the MRC Human Genetics Unit at the University of Edinburgh

The MRC Human Genetics Unit (HGU) at the University of Edinburgh combines the latest computational and experimental technologies to investigate how genomes work to better understand how molecules, cells and tissues function in people and human populations.

To tackle melanoma, a type of skin cancer that kills over 20,000 Europeans each year, it is critical to identify new therapies that can act alone, or be combined with available treatments in order to increase their efficacy and/or to overcome drug resistance. Professor Liz Patton's research group at the MRC HGU is developing small-molecule screens in zebrafish with the aim of identifying drug-leads that target melanoma. The group has identified a series of compounds that effectively kill melanoma cells with minimal toxicity at the whole-animal level. Pre-clinical studies are currently underway in expectation of progressing this potential treatment into the clinical arena.

About the Medical Research Council

The Medical Research Council (MRC) is at the forefront of scientific discovery to improve human health. Founded in 1913 to tackle tuberculosis, the MRC now invests taxpayers' money in some of the best medical research in the world across every area of health, with an aim of addressing the global health challenges we find ourselves facing today.

Thirty-three MRC-funded researchers have won Nobel prizes across a wide range of disciplines, and MRC scientists have been pioneers in their respective fields. Contributing to the discovery of penicillin, the structure of DNA, and the link between smoking and cancer, in addition to the development of new technologies and scientific techniques, such as the use of randomised controlled trials, and the invention of Magnetic Resonance Imaging (MRI).

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About UK Research and Innovation

In April 2018, the MRC became part of UK Research and Innovation, UKRI, a new body which works in partnership with universities, research organisations, businesses, charities and government to create the best possible environment for research and innovation to flourish. Operating across the whole of the UK, and with a combined budget of £6 billion, UK Research and Innovation brings together the MRC with the six other Research Councils, Innovate UK and Research England.

As part of UK Research and Innovation, the MRC continues to build on its success, strengthening its partnerships across the UK, and supporting excellence to create an environment for research and innovation to thrive.

UK Research and Innovation