£20m MRC funding for new e-health institute

Funding has been announced to create the Farr Institute, named after one of the ‘founding fathers’ of medical statistics, the epidemiologist William Farr. The institute will bring together the expertise of medical, population and data scientists to interpret large health informatics datasets.

The £20m investment will support the safe use of patient data for medical research across all diseases, with secure structures to protect patient privacy. Research will drive innovation in the public sector and industry leading to advances in preventative medicine, improvements in NHS care and better development of commercial drugs and diagnostics. Along with health benefits for patients, the institute will help cement the UK’s reputation as a world leader in electronic health data research.

The institute, linking research in 19 UK universities, will have centres in London, Dundee, Manchester and Swansea, and build on four e-health informatics research centres which were recently funded by a consortium of Research Councils, health departments and medical charities.

This investment in the Farr Institute will be complemented by a £50m initiative in medical bioinformatics – building capability, capacity and infrastructure – to build new ways of linking across data and applying computational approaches to medical challenges.

Universities and Science Minister David Willetts said: “Harnessing big data in the NHS will revolutionise healthcare. The Farr Institute will bring together highly skilled medical and computer scientists, to use electronic health records to improve understanding of a range of diseases. It will attract pharmaceutical and IT industry investment. Patient confidentiality will of course be protected.”

Read more about the safe use of patient data in medical research on our blog at: www.insight.mrc.ac.uk

Hope for healing broken hearts

Scientists at the Queen’s Medical Research Institute and MRC Human Genetics Unit (HGU) at the University of Edinburgh have won ‘Reflections of Research’, a UK image and video competition run by the British Heart Foundation.

Dr Gillian Gray, Megan Swim and Harris Morrison’s winning image ‘The Broken Heart’ shows the heart of a mouse in stunning detail. It was produced using a cutting-edge technique, invented and developed at the HGU by MRC scientist Dr James Sharpe, called optical projection tomography.

The team is using this technique to better assess the damage caused by a heart attack, to help them understand how a heart attack leads to heart failure. Dr Gray said: “My colleagues and I are delighted for our work to be chosen as the winner. When you have a heart attack it causes damage to the heart muscle, which, in the long term, can lead to the debilitating condition of heart failure. The pioneering technique we used to create our image helps us to investigate how the heart heals after a heart attack. We hope to learn how to limit the damage from a heart attack and reduce the chance of developing heart failure.”

The team also produced a video about their research. Watch ‘The Healing Heart’ video, highly commended by the judges, at: www.mrc.ac.uk/healing-heart

To find out more about the technique used to produce the image, read our blog at: www.insight.mrc.ac.uk

On the 20 June this year the MRC turned 100, and in what I had the pleasure of visiting all the locations in the UK where the MRC has a unit or institute: Cambridge, Dundee, Edinburgh, Harwell, Leicester, London, Nottingham, Oxford and Southampton. A Glasgow visit has been rescheduled for later in the year.

In each place I delivered a presentation about the history of the MRC and some of the many achievements of our research establishments. But, for me, the most valuable aspect of the visits was speaking to MRC-funded researchers about what they think are the research priorities of the future.

One theme was ‘big data’ and the new methods and safeguards we will need to handle the large volumes of information produced by areas such as genetics and phenomics, as well as electronic patient records. Another theme was prevention research, and how we can apply what we already know about healthy lives to ensuring that people age well.

Points were raised about how we can ensure that publicly-funded research has economic impact, and the need to build and retain a strong pharmaceutical industry within the UK. Another emerging theme was the concept of humans as “the next experimental model”. While the continuing need for animal models was stressed, the potential for research in people was recognised as huge.

The MRC is funding a wealth of research and supporting structures in these areas, from e-health informatics research centres to working with industry partners via schemes such as our compound sharing collaboration with research centres to working with industry partners via schemes such as our compound sharing collaboration with AstraZeneca. It’s clear from these discussions that there are exciting and challenging times ahead.

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New guidance to support ethical decisions

The MRC Regulatory Support Centre, on behalf of the Health Research Authority, has launched two new online tools that will help researchers decide whether their project is classified as research which requires approval by an NHS Research Ethics Committee (REC).

The new tools have been developed to help researchers think through their project, as well as saving them the trouble of unnecessary submissions. They also generate printable results, setting out the choices made so they can decide if an action is required.

The ‘Do I need NHS REC approval?’ tool is available at: www.mrc.ac.uk/REC-approval

New unit and centre join MRC family

The Centre for Molecular Bacteriology and Infection (CMBi) in London was opened by Sir John Savill and has a unique focus on the study of disease-causing bacteria. Funded by the MRC and Imperial College London: www3.imperial.ac.uk/cmbi

A new £23m research unit in Bristol, which opened in June 2013, will exploit the latest advances in genetics to improve understanding of how changes to lifestyle or environment, as well as pharmacological interventions, can reduce the risk of disease. The Integrative Epidemiology Unit is jointly funded by the MRC and the University of Bristol: www.bristol.ac.uk/integrative-epidemiology

Join the great worm watch

Our Centenary ‘citizen science’ project, Worm Watch Lab, is in full swing and you’re invited to take part online. Worm Watch Lab is looking for participants to go online and spot eggs laid by nematode worms (C. elegans), as part of ongoing neuroscience research.

The worms in the films have genetic mutations, some of which cause visible changes to their behaviour. If a worm lays more or fewer eggs than normal, this indicates a fault in the egg-laying neural circuit (the ‘brain’) or muscles which can have implications for human nervous system function. The project is being run by scientists Professor William Schafer (MRC Laboratory of Molecular Biology) and Dr André Brown (MRC Clinical Sciences Centre) in conjunction with Zooniverse and the Medical Research Foundation.

Professor Schafer explains: “Most of the movies are only 30 seconds long, so analysing one will not take very much time. Finding egg-laying events is not difficult for the human eye, which means that the ‘Worm Watch Lab’ is suitable for people of all ages who want to contribute to real scientific research.” He added: “We have had an overwhelming response from participants so far, and would like to thank all of the 3,208 citizen scientists for their hard work in the Worm Watch Lab. On average, each user has ‘interacted’ with our worm videos (i.e. marked an egg) 29 times”.

We would also like to encourage everyone to keep sharing their news and views on the Worm Watch Lab discussion site.

‘I work in clinical research, but miss the days I used to work in the lab. This lets me play without changing jobs!’ Carol

‘I’m 19 years old and from London, UK. I’m hoping to attend university next year. I’ll be on here as much as I can to contribute to your research.’ Kat

To join the great worm watch and learn more about this neuroscience study visit: www.wormwatchlab.org

UKCRC Centres £16m model of success

The fourth annual conference of the UKCRC Public Health Research Centres of Excellence (in July) was a chance for researchers to acknowledge the success and achievements of the centres to date, and celebrate news that the project has been renewed for a second five-year term, at a total value of £16m. The MRC will manage the second phase of the centres on behalf of the funding consortium.

The overall theme of the 2013 conference was ‘public health across the life course’ and was hosted by DECiPher: the Centre for the Development and Evaluation of Complex interventions for Public Health Improvement. It was attended by more than 200 representatives from the five UKCRC Centres and the Scottish Collaboration for Public Health Research and Policy.

The UKCRC Centres are a joint initiative by eight Government and charity funders established in 2008 to build UK academic capacity in public health research and provide a platform for engagement with policy and practice.

The initiative was recently acknowledged as an internationally leading successful model of translating public health research and developing academic careers in this area.

For more information about the centres and the initiative see mrc.ukcrc.org.uk or contact ghada.zoubiane@headoffice.mrc.ac.uk
From cooling babies to healthy children

The University of Oxford has published a captivating film about the success of the well-known TOBY (Total Body Hypothermia for Neonatal Encephalopathy) Study, which was funded by the MRC in collaboration with the University of Oxford and Imperial College London from 2002 to 2008. The film features Brenda Strohm RN, Co-ordinator and Research Nurse of the study, Professor Denis Azzopardi, Chief Investigator of the study, and eight-year-old Thomas and his family, who were involved in the randomised study which helped to pioneer the use of cooling to treat babies born at term with perinatal asphyxia (a lack of oxygen at birth).

The study showed that cooling an affected baby to 33°C for 72 hours after birth lowers their body temperature by 3 or 4°C enough to help reduce brain damage and improve their chances of normal survival. The National Institute for Health and Care Excellence (NICE) published new guidance in May 2010 to support the use of cooling as a recommended treatment option for babies with potential brain injury following a shortage of oxygen.

Thomas is now a fit and healthy boy. Commenting on the NICE recommendations, his mum says: “I think it’s absolutely fantastic, absolutely fabulous... if there’s anything that you can do for a baby that has had some injury when they’re born, then that is just brilliant”.

Watch the video about the landmark TOBY Study at: mrc.io/TOBY-Study

MRC study highlights reduction in dementia estimates

The MRC Cognitive Function and Ageing Study (CFAS) has revealed that the number of people living with dementia in the UK is substantially lower than previously estimated.

The study provides the first estimate of the change in the number of people living with dementia in three geographical areas of the UK (Newcastle, Nottingham and Cambridge). Estimated overall prevalence has gone down by 1.8 per cent to 6.5 per cent of the population. This corresponds to a reduction of more than 20 per cent in the number of people projected to have dementia today compared with 20 years ago.

Results from the CFAS II follow up study show that there is variation in the proportion of people with dementia across differing areas of deprivation. Health inequalities during life may therefore influence the likelihood of developing dementia.

Professor Hugh Perry, Chair of the Neurosciences and Mental Health Board at the MRC, said: “This robust and comprehensive study gives us crucial information on the prevalence of dementia in the country. Of course we can’t assume that this reduction will be seen in future studies, therefore the need for us to find ways of preventing and treating dementia is as urgent as ever. We should be very much encouraged by the indication that there may be modifiable environmental factors that play a role in a person’s risk of developing dementia.”

Published online at: www.thelancet.com, July 2013

Topping out at the Francis Crick Institute

A topping out ceremony, held at the Francis Crick Institute in June, celebrated the completion of the highest construction point of the institute’s new building.

Research at the Crick will focus on improving our understanding of why disease develops and find new ways to prevent and treat illnesses such as cancer, heart disease and stroke, infections, and neurodegenerative diseases.

In its commitment to being a good neighbour, the Crick has funded a number of successful community projects including ‘Science and Story’.

Read about how the books were produced about the Crick by local children and their families on our blog at: www.insight.mrc.ac.uk

Max Perutz Science Writing Award

Congratulations to Scott Armstrong, winner of the 2013 Max Perutz Science Writing competition! Scott’s winning article entitled ‘Saving the brain from itself’ describes his research at Imperial College London into how brain damage after a traumatic brain injury could possibly be lessened or halted.

The winner was announced at the Max Perutz awards ceremony at the Science Museum on 25 September, which was attended by Universities and Science Minister David Willetts. Scott received the first prize of £1,500 and promotion of his article in Times Higher Education. Prizes were also awarded to a runner-up and three commended writers.

Read the winning article at www.timeshighereducation.co.uk and more about the ceremony and winners at www.mrc.ac.uk/maxperutz
LATEST DISCOVERIES

Genes give insight into autism

The discovery of a chain of genetic events common in people with autism will help researchers better understand the role of genetics in autism.

Autism Spectrum Disorder (ASD) affects around one per cent of the population, causing difficulties in social interaction and communication, and repetitive behaviour. Doctors are able to identify the exact genetic cause in only around one in five cases.

Researchers at the MRC Functional Genomics Unit (fGu) at the University of Oxford looked at 181 autistic people who had either more, or fewer, copies of some genes than people without autism. In around half of these people, the genes whose copy numbers had changed were found to work together in a large biological network, these changes disrupt the transmission of information across synapses in the brain.

Professor Hugh Perry, chair of the MRC’s Neurosciences and Mental Health Board, says: “Tracking down and understanding the functions of genes that regulate how information is passed around the brain is an example of how MRC-funding can use genetic studies to improve our understanding of the brain and its networks.”

Published online at www.plosgenetics.org, June 2013

Stem cells offer hope for blindness

MRC research has shown for the first time that transplanting photoreceptor cells, grown from 3D embryonic stem cell cultures, into the eyes of visually impaired mice can restore their vision.

Professor Robin All and his team at the UCL Institute of Ophthalmology have shown that embryonic stem cells could provide a potentially unlimited supply of healthy photoreceptors for retinal cell transplantations. These could be used to treat a range of common degenerative eye diseases in humans, including age-related macular degeneration and retinitis pigmentosa.

The scientists used a new laboratory technique involving 3D culture and differentiation of mouse embryonic stem cells. When transplanted into night-blind mice the cells appeared to develop normally, integrating into the existing retina and forming the nerve connections needed to transmit visual information to the brain. The treated mice were also able to navigate a water maze in dim light using visual cues.

Professor Ali said: “The new 3D technique more closely mimics normal development, which means we are able to pick out and purify the cells at precisely the right stage to ensure successful transplantation. The next step will be to refine this technique using human cells to enable us to start clinical trials.”

Published online at www.nature.com/nbt, July 2013

Vitamin B reduces shrinkage in Alzheimer-vulnerable brain areas

Research part-funded by the MRC has shown that high doses of three B vitamins may slow the shrinkage of parts of the brain vulnerable to Alzheimer’s disease.

University of Oxford researchers, led by Professor David Smith, gave B vitamins to patients with Mild Cognitive Impairment (MCI) with raised levels of homocysteine, an amino acid found in blood plasma, and a rapid rate of shrinkage (atrophy) in specific brain regions.

Using fMRI, the team studied patients’ brains and identified a link between atrophy and cognitive decline: B vitamins (particularly B12) lowered homocysteine levels in patients with previously high levels of the amino acid. This reduction slowed down the speed of atrophy (nearly 90 per cent slower than the placebo group), leading to less cognitive decline in the Alzheimer-vulnerable areas of the brain.

Professor Smith explained: “Our work shows that a key part of the disease process that leads to Alzheimer’s disease, the atrophy of specific brain regions, might be modified by a safe and simple intervention. We hope that the outcome of this trial will encourage many more studies on the identification of modifiable risk factors for Alzheimer’s disease, now that we have established that in principle a crucial element of the disease, loss of specific brain tissue, might largely be prevented.”

Published online www.pnas.org, May 2013

New drug could prevent heart tissue injury

Researchers from the University of Cambridge have developed a drug that could help reduce the tissue damage that occurs following a heart attack, stroke or major surgery.

During a heart attack, the major vessels supplying the heart with blood become blocked, preventing oxygen from reaching heart tissue. Some damage will already have occurred to the oxygen-starved tissue, but most of the damage (reperfusion injury) occurs when blood supply is restored suddenly, using medicines or surgery. Restoring blood flow triggers production of harmful molecules, called free radicals, in the cells’ powerhouse – the mitochondria.

MitoSNO, the compound, was developed at the MRC Mitochondrial Biology Unit by Dr Murphy’s team with Professor Rob Smith of the University of Otago, New Zealand. The scientists did tests in mice to show that MitoSNO significantly reduced the area of damaged heart tissue compared with the control animals.

Professor Stephen Hill, Chair of the MRC’s Molecular and Cellular Medicine Board, which funded the research, said: “We know that mitochondria are central to the damage caused by reperfusion injury, but the mechanics of this process at a molecular level have been unclear. This work indicates that a new class of drug developed by MRC scientists may be worth extending to human trials.”

Published online www.nature.com/hm, May 2013
MRC Centenary celebrations

Our Centenary Open Week in June was a chance for the general public to get up close and personal with MRC science and scientists. Here are some of the highlights from MRC celebratory events across the country.

How often do you get to visit a working laboratory, explore a 12 foot pair of lungs and climb inside a nostril, or chat to a scientist working on a disease or social problem that resonates with you personally? The aim of the Centenary Open Week was to bring people together; to unite our researchers — from PhD students to institute Directors — and public audiences in a celebration of 100 years of life-changing discoveries. From ballet and scientific stand-up to art exhibitions and pop-up festivals, the Open Week had something for everyone.

London

MRC scientists from several of our London units and centres presented Life: A healthy game of chance and choice, at London’s Science Museum. The game enabled visitors to adopt their own little ‘pal’ character and take it on a time-journey through life, encountering a giant nose and health-related discoveries made possible by MRC-funded research along the way.

Against a backdrop of St Paul’s Cathedral, the MRC and Asthma UK Centre in Allergic Mechanisms of Asthma showed off a 12 foot high pair of lungs and installed their very own beach on the banks of the Thames where a sand artist used a novel way to mark the MRC centenary — until the tide came in.

Commuters at Paddington station were surprised to see scientists from the MRC-PhE Centre for Environment and Health on the main concourse talking about careers in environment and health-related research.

A striking exhibition of interactive and digital media was created by the MRC Centre for Transplantation at King’s College London, telling the remarkable history of transplantation science through the words of past Nobel Prize winners and current patients.

Cambridge

Students from schools and sixth form colleges across Cambridge learnt about the evasive nature of cancer cells during an open day at the MRC Cancer Cell Unit, and how an improved understanding of cell division could lead to the development of the anti-cancer drugs of the future.

The stunning new MRC Laboratory of Molecular Biology in Cambridge opened its doors to the public, hosting a day of events based on its research and to celebrate the opening of the new building. Morgan, aged 10, commented “My favourite bits were mass spectrometry and looking at your own cells. I love science!”

The MRC Metabolic Diseases Unit and MRC Epidemiology Unit ran a joint open day giving people the chance to tour state-of-the-art laboratories and learn about the causes and consequences of obesity and diabetes. MRC Human Nutrition Research also opened its doors to the public, offering the chance to learn about unhealthy eating and the consequences of eating different types of food. Commenting on her experience of the Centenary Open Day, Susan Jebb from the MRC Human Nutrition Research said: “The unit was really buzzing with people all afternoon. We had lots of requests for us to do this sort of thing more often.”

Around 250 people from youngsters to 80 year olds, school pupils and older students and unit study participants took part in experiments, visited labs and attended presentations at the MRC Cognition and Brain Sciences Unit.
MRC Centenary celebrations

Edinburgh
How many MRC scientists does it take to…? might not have been an opening line on the night but the Bright Club stand-up comedy night in Edinburgh included amusing performances by researchers working at the MRC Centre for Reproductive Health and the Centre for Inflammation Research both at the University of Edinburgh.

At the Centre for Cognitive Ageing and Cognitive Epidemiology the public were given the chance to experience how scientists investigate the ageing of the human brain. An interactive Brain Maze, included 10 rooms representing 10 decades of life, allowed participants to follow one person’s journey and look at how the brain changes throughout their lifetime.

At the MRC Institute of Genetics and Molecular Medicine in Edinburgh, Professor Nick Hastie delivered a sell-out talk on ‘Genetics – the new fortune telling’.

Glasgow
The MRC/University of Glasgow Centre for Virus Research produced a virology timeline: ‘Viruses, a century of discovery’. The timeline covers each decade of the last century, highlighting important virology discoveries and virological events along the way. www.virusesacenturyofdiscovery.org.uk. Budding young scientists also had the chance to build their own weird and wonderful air dough viruses.

Newcastle
Energetic visitors to the Centre for Brain Ageing and Vitality worked up a sweat on exercise equipment in the MoveLab. MoveLab acted as a mobile gym laboratory to demonstrate how exercise research data is used to measure body muscle versus body fat.

Liverpool
Lawrence McGinty, Health and Science Editor at iTv News, hosted a talk on ‘The future of health and science’ at the University of Liverpool. His talk followed a series of demonstrations and short lectures from the University’s Faculty of Health and Life Sciences’ researchers, focusing on pregnancy and maternal health, infectious diseases, drug safety and ageing.

Nottingham
The Institute of Hearing Research took its science out to one of Nottingham’s major indoor shopping malls – the Broadmarsh shopping centre – where shoppers and visitors used two interactive touch screen workstations, each supporting a wide range of demonstrations of hearing, hearing-loss, the role of the brain in hearing and even a hearing game for the public to test their listening skills. There was also a real-time cochlear implant simulation.

Oxford
A pop-up science festival in Oxford city centre celebrated the work of some of the city’s MRC scientists. Researchers from the MRC Functional Genomics Unit, Gray Institute, MRC Molecular Haematology Unit and the MRC Human Immunology Unit at the University of Oxford were joined by partners from charities such as Cancer Research UK and the Muscular Dystrophy Campaign. Over 2,000 shoppers and tourists enjoyed a range of hands-on activities themed around cancer, blood and the immune system and genetics.

The MRC Anatomical Neuropharmacology Unit ran a tour ‘around the brain’ when it opened its doors to GCSE and A-level students from across the country.

Meanwhile at MRC Harwell, the sun shone as the Mammalian Genetics Unit enjoyed a ‘night of life’ complete with band, face paints and lots of hands-on science.

Cardiff
As well as a fantastic public event that gave guests the opportunity to hear talks from scientists, carers and patients taking part in research, the MRC Centre for Neuropsychiatric Genetics and Genomics at Cardiff University also supported a unique art exhibition in Cardiff Bay. ‘How the light gets in’ at the city’s Bay Art Gallery explored the past, present and future perspectives on the mind, mental illness and psychiatric genetics.

It featured the work of five artists who focus their creativity on issues surrounding mental health.

Southampton
Budding Dimblebys were in full attendance for a special Question Time evening held at the MRC Lifecourse Epidemiology Unit at the University of Southampton. Many hot medical topics were debated by a panel of MRC scientists including the most important medical discoveries of the past 100 years and areas of future importance: the panel argued for better care of the elderly, nutrition, a cure for Alzheimer’s, a prevention for cancer and a cure for HIV.

Leicester
The MRC Toxicology Unit opened their event with a choir of school children in costume singing a song written for the unit: What would you do to change the world? This was followed by a performance by The Northern Ballet School, whose specially commissioned piece filled the hall to capacity.

Bristol
One of the MRC’s newest units – the Integrative Epidemiology Unit at the University of Bristol – held a joint open day with the city’s research cohort, ALSPAC, and former MRC Centre for Synaptic Plasticity to celebrate research past, present and future. Events included interactive exhibits of DNA extraction and films of the unit’s laboratories in action.

The University of Bristol together with Life Media UK also produced a nice video showcasing MRC Centenary outreach events. Watch the video on our YouTube channel: mrcio/centenaryoutreach

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The vital work of laboratory technicians is often missing from accounts of modern medical research. Medical historian Professor Tilli Tansey studied practices at the MRC’s National Institute of Medical Research to explore changing attitudes to lab technicians over the past century.

The birth of the NiMR laboratory assistant

The National Institute for Medical Research (NIMR) was established in Hampstead in 1919. Initially, four departments were formed: Applied Physiology, Bacteriology, Biochemistry & Pharmacology, and Statistics. Each departmental head employed a lab assistant, and negotiated directly with the MRC about their technicians’ salary and conditions. However by 1920, with nine scientists and approximately 15 assistants (including technical, animal house and maintenance staff) this system became unworkable.

Consequently, formal pay and pension scales for all staff were created and a limited number of higher ‘A’ technical grades.

Restricted career progression

Many who later became senior technical staff at the NiMR started as ‘lab-boys’. In 1928, at the age of 14, Len Ward, who worked at the NiMR until 1976, began work in the animal house. In an interview in 1994 he described how he looked after rabbits and chickens, prepared their feed and cleaned out the cages. Being so small he had to stand on an upturned orange box to reach the animals. He helped to make apparatus that was required. He did almost everything for them. All the services and things that were there. And then in my spare time, I used to dust the lab, every morning, the lab had to be dusted every morning. And once a week all the shelves had to be cleaned and replaced all of the bottles once a week.

The limited number of ‘A’ positions caused increasing resentment. Staff could be stuck at the same point on the salary scale for many years effectively waiting for dead man’s shoes for promotion into the restricted technical ‘A’ grade.

From the Royal Navy to HMS MRC

The contingencies of the Second World War (WW2) wrought many changes. Technicians called up to serve in specialist technical capacities at home and overseas recognised that they had valued skills and experience. Those who remained at the NiMR also realised their value. Den Busby recalls how his boss at the NiMR wanted him back in London while he was serving in the Royal Navy in 1944. ‘Sir Christopher Andrews applied to the Navy for me to be released, you see, which they wouldn’t do. So they seconded me to the MRC. So I received a draft chit to HMS MRC, with Andrews as my Commanding Officer.’

Women began to enter the labs in larger numbers to replace the missing men and communal duties, such as fire-watching and sandbagging the institute, helped break down social distinctions between technicians and scientific staff. Resentment about the ‘A’ posts was temporarily resolved in 1944 with the help of the Association of Scientific Workers (AScW) which proposed an intermediate AA grade. But there was still discontent about working conditions.包括 hours of work and the necessity to sign in by 9am every morning, irrespective of how late work had been finished the night before.

Equality develops

The coming of the NHS brought some major changes. Medically-qualified NHM research staff were given automatic parity with the better-paid NHS clinical staff. The AScW successfully campaigned to achieve comparability with NHS staff for non-medically qualified and technical staff, in late 1950.

The expansion of the NiMR into a new building at Mill hill, and the increase in numbers of technicians, prompted other contentious issues to be addressed. In the past, technical staff had been made to wear brown lab coats while scientific staff donned white coats. Now all staff were permitted to wear white lab coats, and technicians were allowed to have their names as authors on scientific papers.

Time off was approved for technicians to attend career-developing training courses and the signing-in book was abolished. These changes all contributed to the growing professionalisation of laboratory technicians – and the concept of the ‘lab-boy’ was dispelled for good.
£93.2m Biomedical Catalyst support for UK’s health industries

An investment package totalling £93.2m will benefit innovative business and academic projects from across the UK’s health sector, under the MRC and Technology Strategy Board’s (TSB) jointly managed Biomedical Catalyst programme.

The investment includes £25.9m awarded to five universities and 29 companies from Round 3 of the Biomedical Catalyst. A further £29.3m of investment in healthcare innovation through three Technology Strategy Board-led funding competitions will support businesses in areas such as stratified medicine and regenerative medicine.

Universities and Science Minister David Willetts announced the package of funding. He said: “By investing in new technologies now we are maintaining the UK’s position as a world leader for innovation. The biomedical industry is a fast moving, high growth sector and the Catalyst has proven to be extremely successful in supporting new business ideas. This investment further drives forward our life sciences strategy.”

Following the Government’s Spending Review in June, there is additional support available for Round 4 of the Biomedical Catalyst. Academic researchers and businesses can apply for funding at: www.mrc.ac.uk/biomed-catalyst

Read more about Biomedical Catalyst projects here: www.mrc.ac.uk/biomed-catalyst-projects

Countdown to Horizon 2020 launch

2014 will see the launch of Horizon 2020, the EU’s Framework Programme for Research and Innovation. Horizon 2020 will succeed the Seventh Framework Programme (FP7) and, with a budget of over €70bn, will present even greater funding opportunities for UK scientists.

Researchers from the UK were extremely successful at securing funding under FP7. In the field of health research, our scientists received 16.8 per cent (over £607m) of the available funding – more than any other member state. The UK was also the top beneficiary of Marie Curie and European Research Council awards.*

Under Horizon 2020, popular funding schemes will be expanded with even larger budgets, including the European Research Council which will have almost twice as much funding compared to FP7. The new programme will also offer a host of new funding opportunities: almost 40 per cent of the overall Horizon 2020 budget will be allocated to the Societal Challenges pillar. This pillar will offer researchers the opportunity to collaborate with Europe’s top researchers in order to tackle grand societal challenges such as ‘improving the lifelong health and wellbeing of all’.

Aside from the increase in budget and new funding opportunities, Horizon 2020 will also provide major simplifications to EU research funding, making it far simpler to participate in. The MRC will continue its role of influencing and promoting European health research throughout the course of Horizon 2020.

For further information on Horizon 2020, please contact Alex Harris (alex.harris@headoffice.mrc.ac.uk) or visit mrc.io/horizon-2020

*Based on grant agreements signed prior to 21 June 2013

New director and boost for UK brain banks

The MRC’s Neuroscience and Mental Health Board has recently agreed to provide core funding of around £4.8m to the four MRC brain banks (Edinburgh, Kings College, Newcastle and Oxford) until 2018.

The MRC established the UK Brain Banks Network in 2009 to give researchers guidance and support for access, protocols and procedures relating to the donation of brain tissue; it links 10 brain banks in total.

Professor James Ironside of the University of Edinburgh, who has directed the Network over the last four years, will hand over to Professor Sith Ludue from the University of Bristol in November 2013.

The MRC will provide further funding for service support costs, to facilitate clinical support from the NHS for brain banking over the next four years, for all 10 UK banks. This is a new commitment of around £1.5m in addition to the £1.5m already committed and will be used to enable collection and transport of tissue to the banks and provide a primary diagnosis for hospital clinicians, researchers, GPs and families.

The MRC intends these new investments to be the foundation for a step change in UK molecular pathology.

Researchers are now able to access samples from over 9,000 donated human brains through an online database, to help study major brain diseases. Previously, researchers had to apply to each brain bank separately to find their required samples and find the control samples (donated brains free from disease) for comparison. Registration for this database can be reached at: www.mrc.ac.uk/brainbanksnetwork

New scheme for developing public health interventions

The MRC is launching a new scheme to fund the early phases of developing public health interventions. The new MRC Public Health Intervention Development scheme (PHIND) aims to improve the initial evidence on which the design and testing of public health interventions is based.

It is essential that the development of public health interventions is supported by robust evidence at each stage in the process. The effectiveness of interventions can be jeopardised by insufficient early developmental and feasibility work. The scheme will support studies up to but not including pilot testing and will complement funding available for later stages of intervention development and evaluation from the National Institute for Health Research and MRC Global Health.

The scheme, which will operate three times a year, opens in September with the first funding decisions in November 2013.

For more information see www.mrc.ac.uk/phind or contact publichealth@headoffice.mrc.ac.uk
30 years of tackling health inequalities: farewell to Dame Sally Macintyre

After 30 years, inspirational scientist Professor Dame Sally Macintyre will retire from her role as director of the MRC/Chief Scientist Office Social and Public Health Sciences Unit, University of Glasgow, this autumn. Under Sally’s leadership the unit has tackled diverse public health issues, of which many lead back to a common denominator: health inequalities.

Professor Sally Macintyre’s first challenge as an MRC director was to move an entire unit across Scotland. The Medical Sociology Unit, which she took over in 1983, was based in Aberdeen but the city’s isolated population was proving too uniform to effectively explore the health differences historically experienced in the UK and elsewhere. So Sally moved it to Glasgow.

Choosing Glasgow was also not without challenges – studying the health inequalities prevalent in the city was not in tune with contemporary Thatcherite rhetoric about society. Sally explains: “Right from the beginning the unit researched health inequalities and the MRC supported us. It’s an example of the Haldane principle, of not being too much under the sway of the government and being able to get on with research. In 1987 we set up the 20 year, twenty-D7 study at a time when any suggestion that social factors like mass unemployment, poor housing or economic circumstances had an impact on individual’s health was very unpopular.”

Since then, our understanding of the role of society in shaping health has grown enormously, but Sally concedes that there’s no ‘magic bullet’ solution. “The way we organise our society influences people’s health and life chances in the broadest sense. Early life education and so life chances right from birth influence your health later”, she says.

“In relation to obesity, we need to design our cities so that people can get exercise as part of their everyday lives. We need to make sure there is better nutrition and nutrition education in schools. We need to make sure your work is rigorous but also comprehensible. And most importantly for young women, if you see an opportunity, don’t rule yourself out.”

Over the years Sally has most enjoyed the work she felt had an immediate impact. “When HIV and AIDS emerged, while basic scientists sought the virus, we looked at how people behave. We spoke to street prostitutes, to intravenous drug users, to men who have sex with men. Rather than saying ‘do this, or don’t do that’ we focused on risk reduction strategies like condom use and gathered the data we needed to build a picture of how the virus was spreading. More recently, with HPV vaccination, there are also social issues about acceptability. The MRC must continue to address the social aspects of illness alongside the biological explanations.”

Reflecting on her time as an MRC unit director, Sally says: “It has been a terrific privilege. The five years of dedicated funding MRC awards it’s units after review is special. An MRC unit enables a long-term perspective but also the freedom to respond to immediate policy or scientific opportunities. At SPHSU we were agile in our response to the AIDS crisis and to HPV vaccination. The model also allowed one to nurture talented researchers. I’m grateful to have had the opportunity to direct an MRC unit.”

Alongside an OBE, CBE, DBE, three honorary degrees, a place on MRC Council and a Suffrage Science award, Sally has also found time for some extraordinary hobbies. She has danced a role in Romeo and Juliet at the Her Majesty’s Theatre in Aberdeen with the Scottish Ballet, slid Japanese volcanoes, completed first ascents of mountains in Pakistan and run marathons.

“You need to design our cities so that people can get exercise as part of their everyday lives.”

Sally’s advice for public health researchers building a research career today is this: “Believe that what you are doing is important because it could change public health. Make sure your work is rigorous but also comprehensible. And most importantly for young women, if you see an opportunity, don’t rule yourself out.”

30 years of tackling health inequalities: farewell to Dame Sally Macintyre

The future

Professor Laurence Moore has been appointed as the new Director of the MRC/CSO SPHSU. He is currently Professor of Public Health Improvement at Cardiff University and founding Director of BRESSPHER, a UKCRC Public Health Research Centre of Excellence, which is a strategic partnership between Cardiff, Bristol and Swansea Universities. He is a social scientist and statistician with a particular interest in the development and evaluation of interventions to improve public health.

Commenting on his new appointment, Professor Moore said: “The need to understand the social and environmental determinants of health has never been greater. My intention is that the unit will continue to generate robust and timely evidence to inform policies, interventions and programmes that aim to improve population health and reduce inequalities in health.”

Calling new MRC Board and Panel members

The MRC is inviting applications from scientists with relevant experience and expertise to become members of MRC Boards and Panels from April 2014. The deadline for applications is 4pm, 7 October 2013. For further information, including how to apply, visit: www.mrc.ac.uk/Boardsandpanels

2013 African Research Leaders announced

Three new ‘rising stars’ of biomedical research in Africa have been selected in the third round of the MRC/DfiD jointly funded African Research Leader scheme. The scheme aims to strengthen research leadership across sub-Saharan Africa by supporting talented individuals to lead high quality programmes of research on key global health issues.

Dr Iruka Okeke of the University of Ibadan aims to determine the contributions of specific E. coli and Salmonella lineages to childhood diarrhoea in Western Nigeria.

Dr Faith Osier of the Kenya Medical Research Institute aims to use immuno-epidemiological analyses of African cohorts, combined with bioinformatics and proteomic approaches, to identify and prioritise the best immune targets on the merozoite stage of malaria-causing Plasmodium falciparum.

Dr Eugene Kinyanda of the MRC/UVRI Uganda Research Unit on AIDS plans to investigate the prevalence, incidence and risk factors of psychiatric disorder among HIV infected children and adolescents in Kampala, Uganda.

For information on earlier rounds of the scheme visit: www.mrc.ac.uk/ARL2013
Network is for anyone who has an interest in the work of the MRC, including scientists, doctors and health professionals involved in medical research, government departments and parliamentarians, and university staff and students. The aim is to provide a quick, easy-to-read summary of activities across the MRC, from research news through to funding, grant schemes and policy issues, with pointers to more in-depth information on websites and in other publications.

We are very keen to receive feedback on Network and suggestions for new features from our readers. So if you have any comments, please let us know. Just email: newsletter@headoffice.mrc.ac.uk

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Medical Research Council (Swindon office)
2nd Floor David Phillips Building
Polaris House
North Star Avenue
Swindon
SN2 1FL

Medical Research Council (London office)
14th Floor
One Kemble Street
London
WC2B 4AN

Phone (+44) (0)1793 416200

www.mrc.ac.uk