

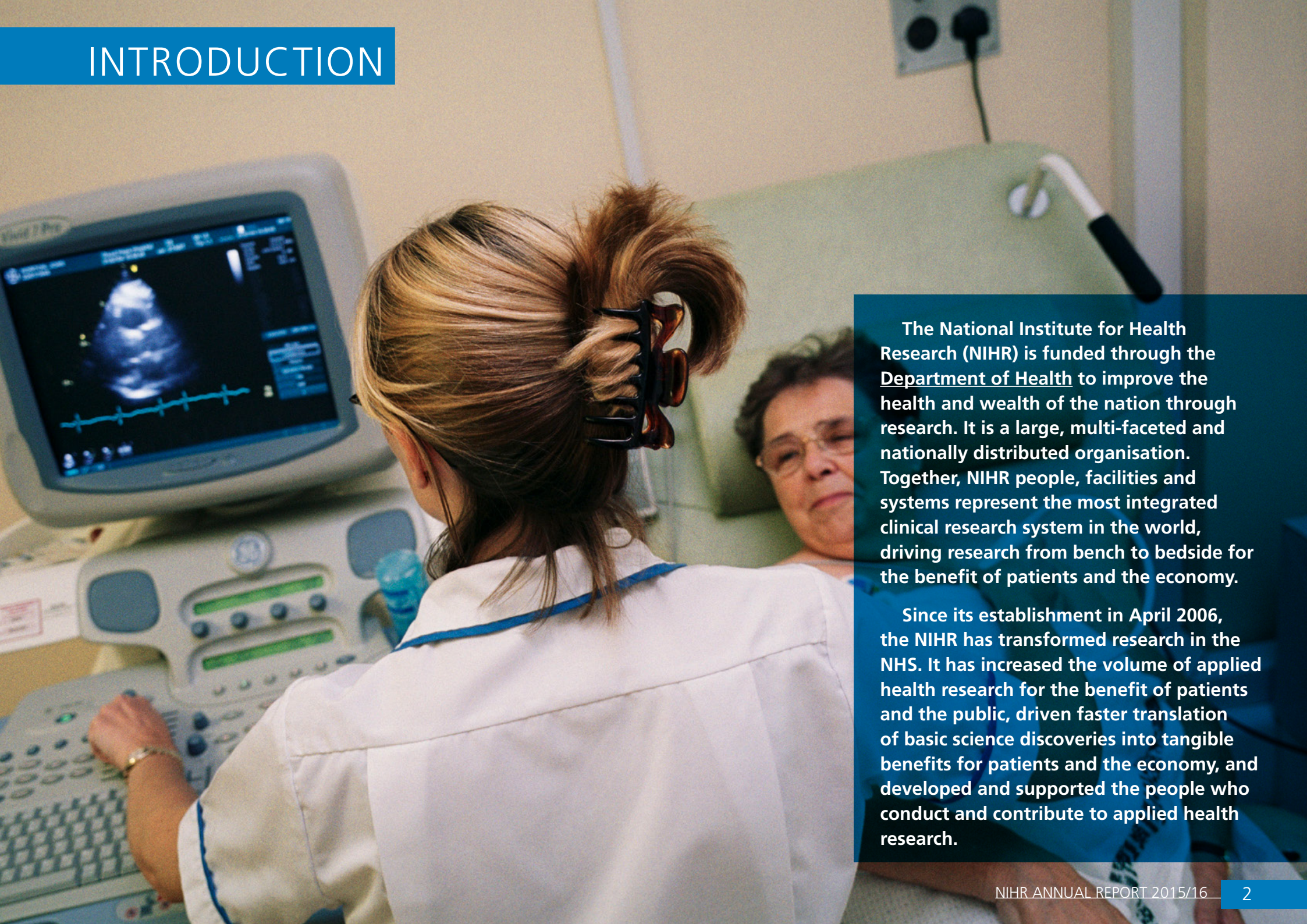


*National Institute for
Health Research*

NIHR
ANNUAL
REPORT
2015/16



INTRODUCTION



The National Institute for Health Research (NIHR) is funded through the Department of Health to improve the health and wealth of the nation through research. It is a large, multi-faceted and nationally distributed organisation. Together, NIHR people, facilities and systems represent the most integrated clinical research system in the world, driving research from bench to bedside for the benefit of patients and the economy.

Since its establishment in April 2006, the NIHR has transformed research in the NHS. It has increased the volume of applied health research for the benefit of patients and the public, driven faster translation of basic science discoveries into tangible benefits for patients and the economy, and developed and supported the people who conduct and contribute to applied health research.

VISION

To improve the health and wealth of the nation through research.

MISSION

To provide a health research system in which the NHS supports outstanding individuals working in world-class facilities, conducting leading-edge research focused on the needs of patients and the public.

AIMS

- Establish the NHS as an internationally recognised centre of research excellence
- Attract, develop and retain the best research professionals to conduct people-based research
- Commission research focused on improving health and social care
- Strengthen and streamline systems for research management and governance
- Increase the opportunities for patients and the public to participate in, and benefit from, research
- Promote and protect the interests of patients and the public in health research
- Drive faster translation of scientific discoveries into tangible benefits for patients
- Maximise the research potential of the NHS to contribute to the economic growth of the country through the life science industry
- Act as sound custodians of public money for the public good

SETTING STRATEGIC DIRECTIONS AND PRIORITIES

NIHR Advisory Board

The NIHR Advisory Board's role is to advise the NIHR on improving the culture and performance of health and social care in supporting, conducting and hosting research. The NIHR Advisory Board includes NHS chief executives, representatives of key bodies in health and social care as well as leaders of academic organisations and representatives from patient-focused organisations.

NIHR Strategy Board

The NIHR Strategy Board advises on the strategic issues relating to the management of NIHR and the implementation of NIHR's strategic plans, ensuring the NIHR acts as one entity and communicates effectively both externally and internally. The Board includes directors of the NIHR coordinating centres, programmes and infrastructure, and the senior management team of the Research and Development Directorate (RDD) at the Department of Health.

STRUCTURE

The NIHR manages its health research activities through four main work strands:

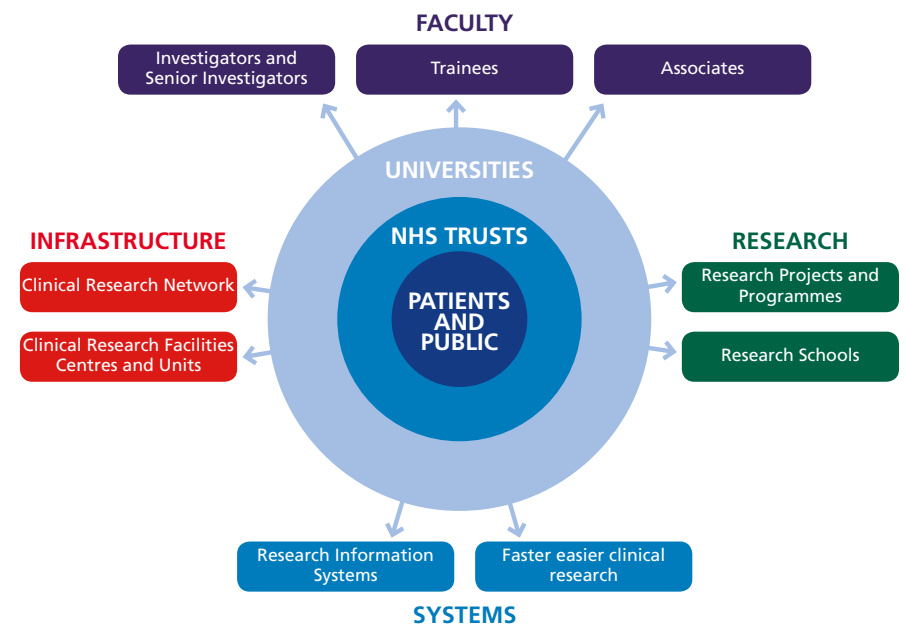
- **Research:** commissioning and funding research
- **Infrastructure:** providing the facilities and people for a thriving research environment
- **Faculty:** supporting the individuals carrying out and leading research
- **Systems:** promoting faster, easier clinical research through unified, streamlined and simple systems for managing ethical research and its outputs.

The diagram opposite shows the NIHR health research system, which has the interests of patients and the public at its heart.

The main work strands of the NIHR are managed by the following NIHR Coordinating Centres:

- Infrastructure is managed by the **NIHR Clinical Research Network Coordinating Centre (CRNCC)** and the **Central Commissioning Facility (CCF)**
- Research is managed by the **NIHR Evaluation, Studies and Trials Coordinating Centre (NETSCC)** and the CCF
- Faculty is managed by the **NIHR Trainees Coordinating Centre (TCC)**
- INVOLVE is managed by the **INVOLVE Coordinating Centre.**

Information management and research management systems are managed by the CRNCC and through a cooperative venture between the work strands and the Department of Health.





The Government Spending Review 2015

In the [Spending Review](#), published on 25 November 2015, the Government demonstrated its continued strong support for research by protecting funding for the NIHR through the Department of Health (DH) R&D budget. This was in recognition of the crucial role that health and care research plays in improving the health of patients and the public and in underpinning economic growth through the life science industries. RDD was also allocated an additional budget of £449.5 million to commission global health research through the NIHR.

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Professor Chris Whitty CB FMedSci appointed as Chief Scientific Adviser for the Department of Health

On 2 December 2015, [Professor Chris Whitty was appointed as the Chief Scientific Adviser at the DH](#) with responsibility for the Science, Research and Evidence portfolio and overall strategic responsibility for the NIHR, following the decision by the Chief Medical Officer, Professor Dame Sally C Davies, to step back from the leadership of the NIHR and the R&D Directorate at the Department of Health.

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Best Research for Best Health: 10 years since publication

25 January 2016 marked the tenth anniversary of the publication of [Best Research for Best Health](#) (BRfBH), the Government's health research strategy that created the NIHR in April 2006. BRfBH set out the national goals for research and development and demonstrated a commitment to creating a vibrant national research environment that contributed to the health and wealth of England.

BRfBH has been endorsed by subsequent governments and remains the enduring research strategy for health and care research in England.

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The NIHR at 10

On 13 January 2016, and in recognition that the NIHR would reach its [tenth anniversary](#) in April, then Minister for Life Sciences, George Freeman MP, hosted the first NIHR Parliamentary Day in Portcullis House, Westminster.

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Dr Russell Hamilton CBE

Dr Russell Hamilton CBE, Director of R&D at DH, retired at the end of March 2016. Russell had worked closely alongside Dame Sally Davies for many years, conceptualising the government's health research strategy, [Best Research for Best Health](#), and subsequently creating, developing and building the NIHR into the internationally recognised organisation it is today.

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HRA Approval

Health Research Authority (HRA) Approval replaced the NIHR's Coordinated System for gaining NHS Permission (CSP) in May 2015. [HRA Approval](#) brings together the assessment of governance and legal compliance, undertaken by dedicated HRA staff, with the independent Research Ethics Committee opinion provided through the UK Health Departments' Research Ethics Service. It replaces the need for local checks of legal compliance and related matters by each participating organisation in England.

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Genomics England Ltd

[Genomics England Ltd](#) (GEL) has been allocated up to £50 million a year from NIHR's budget to deliver the world-leading 100,000 Genomes Project. Key progress in 2015/16 included completing around 8,000 whole genome sequences and putting in place a complex informatics infrastructure to allow the NHS to capture medical data. GEL has started to provide reports back to the NHS to enable the diagnoses of rare disease and inform patient treatment. It has also established the Genomics England Clinical Interpretation Partnership bringing together 2,500+ researchers and clinicians to analyse the unique dataset of genomic and medical data which the project is building to enable new scientific and medical breakthroughs.

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CONTRACTS

NIHR Dissemination Centre

We contracted the Wessex Institute at the University of Southampton, in collaboration with Bazian, to provide a new [NIHR Dissemination Centre](#) from 1 April 2015. The Centre critically appraises the latest research findings from both the NIHR and other health research organisations to identify the most reliable, relevant and significant findings. It summarises and interprets the evidence to help NHS clinicians, commissioners and patients make the best decisions about which treatments and practices are most effective and provide the best use of resources.

The Centre also offers a series of other dissemination activities including events, webinars, podcasts and blogs.

INVOLVE

We awarded a new [INVOLVE](#) Coordinating Centre contract, worth £3.2 million over four years from 1 February 2016, to the Wessex Institute. INVOLVE will deliver its services at national, regional and local levels through a new partnership with our Research Design Service, building on strong foundations of providing central coordination for our patient and public involvement, participation and engagement agenda. INVOLVE is charged with delivering the NIHR's commitments to public involvement, participation and engagement set out in [Going the Extra Mile](#).

The Leadership Support and Development Programme

A new three-year contract for the [NIHR Leadership Support and Development Programme](#) commenced in August 2015 and is being delivered by Ashridge Consulting Ltd. The Programme focuses on improving the quality of research leadership in clinical and applied health and social care research. The programme's workstreams are designed to support the development of our Research Leaders and Trainees, NHS R&D Managers and our strategic collaborations.

Fourth Blood and Transplant Research Unit

[Our Blood and Transplant Research Units](#) (BTRUs) support the future needs of donors, patients and [NHS Blood and Transplant](#) (NHSBT). The first three NIHR BTRUs were contracted in March 2015. The fourth, based at the University of Bristol, contracted in October 2015 and representing £3 million of the NIHR's investment, will carry out research to support the development of new blood products for treatment of patients with rare blood types and those needing regular transfusions.



ANNOUNCEMENTS

A strategic alliance between our Clinical Research Network and global biopharmaceutical company, Pfizer

The alliance, announced in June 2015, is the first time an entire national research network has been invited to participate in Pfizer's INSPIRE programme highlighting the important role our Clinical Research Network performs in delivering commercial clinical research in the UK. Through INSPIRE, Pfizer and the Clinical Research Network will share expert knowledge and experience of medicines research to help bring more clinical trials to the UK and to help deliver the best results for patients in the NHS.

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The Biomedical Research Centre competition

On 15 December 2015, the Chancellor announced a new, open competition for NIHR Biomedical Research Centres (BRCs), worth around £800 million over five years from April 2017. NHS/University partnerships in England with very substantial portfolios of world-class biomedical research across either a range of clinical or research areas, or in a specific clinical or research area, were eligible to apply.

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A competition to renew and refresh NIHR funding and designation for Clinical Research Facilities

In February 2016, we announced a competition to renew and refresh NIHR funding and designation for Clinical Research Facilities (CRFs), to cover the period from April 2017 to March 2022. These facilities allow specialist clinical researchers and support staff from universities and NHS Trusts to work together on patient-orientated commercial and non-commercial experimental medicine studies to speed up the translation of scientific advances. All NHS organisations in England with an established CRF, including those with existing contracts for NIHR CRFs, were eligible to apply.

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The Quinquennial Review of the Experimental Cancer Medicine Centres Network

In February 2016, Cancer Research UK and the Departments of Health for Scotland, Wales and Northern Ireland, announced the Quinquennial Review of the Network of Experimental Cancer Medicine Centres (ECMCs) for the period covering April 2017 to March 2022. The Network brings together world-class expertise in each of its Centres, and provides industry partners with the opportunity to collaborate with academia to obtain access to cutting-edge, early-stage innovation.

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The Surgical Technology Evaluation Portal

Launched in May 2015, the [Surgery Technology Evaluation Portal](#) (STEP) is the result of a partnership between our Office for Clinical Research Infrastructure (NOCRI) and the Royal College of Surgeons. STEP provides surgical technology developers with rapid access to a wide network of research-active surgical clinicians and three projects are already underway.

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The Integrated Clinical Academic Programme

A new [Integrated Clinical Academic Programme](#) for non-medical healthcare professionals was established in 2015. Funded by Health Education England and managed through our Trainees Coordinating Centre, it made 34 personal awards during its first year; comprising 24 Clinical Doctoral Fellowships, 7 Clinical Lecturers and 3 Senior Clinical Lecturers. Ten Higher Education Institutions were awarded Masters in Clinical Research Studentships per year for 3 years from 2015/16.

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Patient Research Ambassador Initiative

Through our Clinical Research Network, we launched the [Patient Research Ambassador Initiative](#) in January 2016. In collaboration with a range of NHS stakeholders, including NHS England, research ambassadors will encourage local NHS service providers to help patients find out more about taking part in research studies.

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APPOINTMENTS

In 2015/16, we appointed:

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Professor Dave Jones as Dean for Faculty Trainees on 1 July 2015. The Dean is an important role which fosters the next generation of health researchers, ensuring the quality of training programmes and development of career pathways for healthcare professionals. Professor Jones took over from Professor Jim Neilson who was the inaugural post-holder in 2008 and who has now retired.
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Professor Hywel Williams succeeded Professor Tom Walley as the NIHR Health Technology Assessment (HTA) Programme Director in the autumn of 2015.
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Professor Alan Jackson was appointed as the first NIHR Director of Nutrition Research in February 2016.
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Dr William Van't Hoff was appointed as Clinical Director for NHS Engagement at our Clinical Research Network in February 2016.
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Professor Julia Brown, Director of the Clinical Trials Unit at the University of Leeds was appointed as Deputy Chair of the HTA Clinical Evaluation and Trials board.
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Professor David Crossman was appointed as the next Chair of the Efficacy and Mechanism Evaluation (EME) Funding Board, succeeding Professor Rajesh Thakker who stepped down in Spring 2016.
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SOME IMPACTFUL RESEARCH STUDIES

Poorer ratings of care from commercial out-of-hours care providers

In the first study of its kind, a team funded through our Programme Grants for Applied Research at the University of Exeter Medical School analysed results from more than 80,000 patients who had responded to the English General Practice Patient Survey, and who had used an out-of-hours service in the past six months.

Published online in the [BMJ](#), the study compared commercial providers and NHS providers with not-for-profit providers. Commercial providers scored lowest overall, and NHS providers scored highest by a small margin. This finding was evident even after controlling for factors including ethnicity, gender, age, deprivation, parent status and the ability to take time away from work to use daytime GP services.

Bronchiolitis trial wins BMJ Award for research paper of the year

Bronchiolitis is a viral infection of the lung that most often affects infants. It can be treated with oxygen, but it was not known when it is best to start using oxygen or how much to use. Dr Steve Cunningham of the Department of Child Life and Health at Edinburgh University and colleagues led the HTA-funded study which compared two recommended oxygen levels (low/90% and normal/94%), finding there was no clinical difference between the two. However, children in the lower oxygen group starting feeding sooner and returned home earlier. It was also £290 cheaper to treat infants in the lower oxygen group.

The research was published in the *Lancet* in September 2016 and it won 'research paper of the year' at the [2016 BMJ Awards](#). This award recognises original UK research published in the past year with the greatest potential to significantly improve health and healthcare.

Switching off streetlights at night does not increase traffic accidents and crime

Research funded through our Public Health Research Programme and published in the *Journal of Epidemiology and Community Health* in July 2015 demonstrated that local authorities could save energy costs and reduce carbon emissions by reducing street lighting at night without there being an increase in traffic accidents or crime.

Led by investigator, Dr Phil Edwards of the London School of Hygiene & Tropical Medicine, the research team analysed data from 62 local authorities across England and Wales who had implemented a range of reduced street light strategies. The researchers looked at the type of street lighting in place in each local authority area and then examined the numbers of traffic accidents and reported crime that had taken place in those areas finding no evidence of an association between reduced street lighting and night-time collisions. An estimated £300 million is spent every year on street lights in the UK and by carefully assessing risks, street lighting can be reduced by local authorities without an increase in car crashes and crime.



More people are dying in hospices

The proportion of people dying in hospices in England has nearly doubled since 1993, but the gap in hospice deaths between people living in the least and most deprived areas appears to be growing.

Published in the journal [Palliative Medicine](#), and funded through our Health Services and Delivery Research Programme and our Collaboration for Leadership in Applied Health Research and Care, the study examined all hospice deaths in England over a 20-year period, including almost 450,000 deaths from 1993-2012. It investigated the relationship between dying in a hospice and factors such as age, diagnosis and socio-economic position. This is the first study to use whole-population data to examine how hospice deaths have changed over time, and the factors related to hospice death.

Chemical markers in urine provide clues to how obesity causes disease

Scientists at Imperial College London, supported by our Health Protection Research Unit on Health Impact of Environmental Hazard and Imperial Biomedical Research Centre have identified chemical markers in urine associated with body mass, providing insights into how obesity causes disease.

Being overweight or obese is associated with higher risk of heart disease, stroke, diabetes and cancer, but the mechanisms connecting body fat and disease are not well understood. The study has shown that obesity has a 'metabolic signature' detectable in urine samples, pointing to processes that could be targeted to mitigate its effects on health. The findings are published in [Science Translational Medicine](#).

Prototype device provides a voice for throat cancer patients

A [prototype device](#) that provides realistic sounding speech to patients whose voice box has been removed as part of treatment for throat cancer and other conditions has been developed with funding from our Invention for Innovation (i4i) Programme. The approach involves attaching magnetic implants to the lips and tongue which detect motion and translate it into computer-generated speech. This technology could benefit up to 6,000 patients in the UK, providing better quality of speech and, compared to existing technology such as implanted speech valves, potentially reduce costs to the NHS of up to £10 million per year.

A new, simple postural manoeuvre can stop an abnormally fast heart rate

A trial funded by our Research for Patient Benefit programme showed that a simple postural change to the Valsalva manoeuvre improves the effectiveness of this cheap, non-invasive means of treating supraventricular tachycardia – an abnormally fast heart rate of over 100 beats per minute.

Tested in ten hospital emergency departments in England and published in the [Lancet](#) in 2015, the technique found that laying people flat and raising their legs was three times more effective at bringing their heart rhythm back to normal than in the usual semi-reclining position. The findings add to existing guidance and have the potential to reduce the need for more interventional treatments, such as intravenous adenosine, which may have unpleasant side effects, save resources and improve patient satisfaction.

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A new approach to delivering stop smoking services

A six month study funded through our Programme Grants for Applied Research, of a mobile, drop in, stop smoking service operating from various locations in Nottingham was found to be effective in reaching smokers who had not previously accessed stop smoking services. This service also appeared to be an effective way to trigger action in smokers without prior intentions to cease smoking. This mobile service was similar in cost per user to the standard stop smoking service.

The study was published in the [BMJ](#) in January 2016.

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DNA technology to diagnose cases of tuberculosis (TB) faster

Whole Genome Sequencing was applied by researchers at Oxford's John Radcliffe Hospital to detect the presence of TB in patients presenting with the condition. The technology could also determine whether the strain detected was resistant to commonly used antibiotics within one week. This is up to eight times faster than detection through traditional diagnosis methods.

Funded by the Health Innovation Challenge Fund and supported by our Oxford Biomedical Research Centre (BRC), the innovative technology also proved more cost effective, at an average cost of £481 per positive case, compared to £517 per case using current technologies. The results of this trial have implications for TB prevention in the UK. The new technique will be adopted by [Public Health England](#) (PHE) and is expected to reduce transmission of TB.

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'Bionic eye' restores the ability to read

In January 2016, surgeons at the Oxford Eye Hospital at the John Radcliffe Hospital implanted a tiny electronic chip, measuring 3x3mm², at the back of a blind woman's retina to replace damaged photoreceptors allowing her to read the time for the first time in more than five years.

Funded by our i4i Programme in partnership with Retina Implant AG and our Oxford BRC, the '[bionic eye](#)' as a treatment for retinitis pigmentosa has been tested in Oxford since 2012 and during this time the hospital has worked in close partnership to develop the technology with the hope that it will one day be ready for use across the NHS.

New imaging scans track down persistent cancer cells

The HTA-funded research showed that innovative scanning-led surveillance can identify the need for, and guidance of, neck dissection, to remove remaining cancer cells. The study, led by Professor Janet Dunn, from Warwick Clinical Trials Unit and published in March 2016 in the [New England Journal of Medicine](#), used advanced imaging to identify cancer cells still present after treatment of head and neck cancer. Previous guidelines meant that all head and neck cancer patients had to undergo neck dissection surgery, a three-hour operation with considerable morbidity and up to a one week hospital stay, because there was no reliable way to identify which patients still had remaining cancer cells.

When compared with neck dissection, the PET-CT guided surveillance saved almost £1.5 thousand per person for the NHS and is a much more acceptable intervention for patients. With tens of thousands of cases each year across the world, significant savings could be redistributed into other therapies.

Valve implants show positive results for patients with emphysema

A study investigating the use of valves placed in the lungs of patients with emphysema has concluded that the treatment produces significant improvements in lung function and ability to do light exercise, and provides a less invasive alternative to surgery to remove the affected part of the lung.

Emphysema is a condition of the lungs that causes breathlessness, limiting ability to do even light exercise and affecting quality of life. The study, funded by our Efficacy and Mechanism Programme, an MRC and NIHR partnership, involved 50 patients with severe emphysema. Half had valves placed to shut off airflow to the impaired part of their lung and half did not. The valves stopped air entering this portion of the lung, where it would otherwise become trapped, allowing the remaining healthier sections of the lung to function more efficiently.

Findings from the study, published in [The Lancet](#), showed that after three months lung function and exercise tolerance had improved significantly in the group receiving the valve and had the potential to limit the need for lung reduction surgery.

STATISTICS AND INFORMATION:

1 APRIL 2015 – 31 MARCH 2016

Patient and public participation, involvement and engagement in our work

Throughout the year, more than 605,000 people participated in clinical research studies through our Clinical Research Network.

Over and above supporting patients to take part in studies, we are committed to patient and public involvement (PPI), in all aspects of our research as it leads to research that is relevant, better designed, with clearer outcomes, and the uptake of new evidence is faster.

As well as significant PPI in our research centres and facilities in the NHS, during 2015/16, our research funding programmes worked with:

- **144 people** in developing funding applications
- **84 individuals** reviewing our pre-commissioning briefs
- **547 people** reviewing applications for our funding
- **108 patients and the public** as members of our Boards and Panels.

INVOLVE

INVOLVE is our national advisory group on public involvement in research, and is one of the few Government funded programmes of its kind in the world. During 2015/16, INVOLVE:

- responded to **over 285 complex enquiries** to support researchers to deliver effective public involvement in research
- had nearly **600,000 unique visitors** to the INVOLVE website with the 'Briefing notes for researchers' downloaded over 100,000 times
- advertised **100 opportunities** for public involvement through the People in Research website
- gained **over 1,000 followers** to @NIHRINVOLVE Twitter account, bringing the total to **more than 4,100 followers**.

During the year and under the direction of Simon Denegri, our National Director for Patient and Public involvement in Research, INVOLVE ran our strategic review of how successful we have been in achieving public involvement across all our activities. The evidence submitted came from patients, members of the public, the voluntary sector, researchers, medical research charities and industry through written, oral and video formats. There were also dedicated events and focus groups offering the opportunity to comment on the current state of involvement and priorities for the future. The review resulted in the report [Going the Extra Mile](#), published in March 2016, with its recommendations subsequently endorsed by Professor Dame Sally C Davies, Chief Medical Officer.

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Spotlight Campaigns

Each year, we run a number of 'spotlight campaigns' to help engage the public in different aspects of research. In 2015/16 these included:

- A nation-wide 'Big Challenge' campaign in January, promoting **obesity research** in the four key areas of surgery, lifestyle, mental health and brain imaging. A radio day with the Chief Executive of our Clinical Research Network received coverage by 10 major news networks including **Sky News which has a reach of 31 million people**. Online coverage included **Pharma News online, Wallstreet online and Yahoo Finance** and our NIHR webpage received **410 unique visits** plus a further **847 viewings of a series of video case studies**.
- In February, and to coincide with Children's Mental Health Week, we created a series of online resources for children and young people to help them find out about **mental health research** and how it can help them. **Seven national charities** asked for their logos and websites to be linked to the campaign which **received 1,492 visits** leading to **351 viewings** of four videos. **7,155 people joined** the campaign's Facebook page, making it our most popular page ever recorded.
- Our fourth annual **'OK to ask'** campaign in May to raise public awareness of NHS research and encourage patients to ask their doctor about clinical research they might take part in. Our Local Clinical Research Networks ran **open days, mock research trials, information stands, touring buses and social media campaigns** in their area. Over **100,000 leaflets, badges and other materials** were distributed during the campaign and our #NIHRoktoask hashtag **reached nearly a million people**.

CONTRIBUTING TO ECONOMIC GROWTH

We contribute to growth in many ways by creating a research environment that supports the nation's international competitiveness. We attract, develop and retain a highly skilled health research workforce, provide the clinical evidence to help the NHS and public sector to make efficient use of resources and provide the research evidence that contributes to establishing a healthier workforce and wider population.

The contribution we make to the economy through attracting investment by the UK and global life sciences industry, and through collaboration with charities, is vital. Our infrastructure in the NHS and integrated health research system contributes to driving the nation's economic growth by supporting the studies of national and global life sciences industry, charities and other health research funders.

Our world-class infrastructure in the NHS comprises Biomedical Research Centres (BRCs), Biomedical Research Units (BRUs), Clinical Research Facilities (CRFs), Diagnostic Evidence Co-operatives (DECs), Healthcare Technology Co-operatives (HTCs), Collaborations for Leadership in Applied Health Research and Care (CLAHRCs) and Patient Safety Translational Research Centres (PSTRCs) as well as our Clinical Research Network (CRN).

During the year, our research infrastructure:

- generated **£150 million of industry funding**
- supported **3,176 industry collaborative and contract research studies**
- recruited **14 first global** and **13 first European patients** into commercial contract studies, a strong indicator that the UK is a highly competitive environment in terms of rapid study set-up
- published **10,169 peer reviewed publications**, demonstrating a 4-fold increase since 2009/10 financial year
- reported a **total of 1,021 individual research partnerships and collaborations** with SMEs.

During this year, NIHR BRCs and BRUs alone:

- saw **£171 million NIHR investment leverage industry funding of £130 million**
- undertook **1,604 contract and collaborative industry studies**
- had **174 patent applications filed** and **45 applications granted**
- generated **£75.6 million from exploiting intellectual property**
- had **15 spin-off companies established**, winning private sector investment from the UK and abroad.

In addition, the BRCs and BRUs supported:

- **602 studies** funded by UK research councils **leveraging £285 million**
- **1,742 studies** funded by charities **leveraging £402 million.**



Our Clinical Research Network (CRN) supports the life-sciences industry to deliver their research programmes in the NHS. During the year, the Network:

- recruited **nearly 35,000 people to take part in commercial contracts studies** across **74% of NHS Trusts**
- had **650 new commercial contract studies added** to their portfolio of supported research.

A study, published in the science journal PLOS ONE in February 2016, showed for the first time that research active Trusts deliver better health outcomes for their patients. Each year, our Network publishes the Research Activity Table, which highlights the extent of research activity across the NHS in England. This year, **100% of NHS Trusts** recruited patients to studies on the CRN portfolio. In addition, **42% of GP practices** recruited participants to CRN supported studies.

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The Government's 2020 Dementia Challenge is galvanising dementia and neurodegeneration research, with NIHR playing a central role in ensuring the success of this strategy. In March 2016, the Department of Health published the 2020 Dementia Challenge Implementation Plan, which sets out how funding partners will make this the best country in the world for dementia research in terms of research funding, research capacity, delivering new treatments and improving lives.

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Funding

NIHR funding for dementia research has continued to grow, reaching **£37 million**, representing a further year of steady growth from £24 million in 2012/13, and being a major contribution to meeting the commitment to maintain Government funding at £60 million a year.

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Translational Research Collaboration-Dementia (TRC-D)

A significant part of NIHR's contribution is TRC-D, operating across NIHR's Biomedical Research Centres and Biomedical Research Units. TRC-D pulls discoveries from basic science into benefits for patients, and offers partners in the life science industries a single point of access to research infrastructure for developing new treatments. TRC-D is a partner of Dementias Platform UK and will partner with the new national Dementia Research Institute.

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Capacity

To develop capacity in care research NIHR's Collaborations for Leadership in Applied Health and Care Research operate a doctoral research training programme for nurses and allied health professionals. This delivered training and national meetings to a cohort of **13 Dementia Care trainees**, to be research leaders of the future able to translate findings into benefits for people with dementia and their carers.

NIHR infrastructure also contributes to training and capacity development, with **68 trainees in dementia research in TRC-D**, and **48 research trainees in NIHR's other Biomedical Research Units and Centres** whose research is related to dementia and neurodegeneration.

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Participation

During the year, a total of **34,812 participants** were recruited into **274 dementias and neurodegenerative studies**, providing a **62% increase on the previous year**. Studies included a wide range of research, from drug trials and interviews to online brain-training studies.

An increasing proportion of participants were recruited to studies directly through **Join Dementia Research (JDR)**, a partnership between Alzheimer's Research UK, the Alzheimer's Society, Alzheimer Scotland and the NIHR. The service enables people to register their interest in taking part in research and, this year, **11,033 new registrants signed up**.

As of 31 March 2016, there were:

- **22,510 people registered** on JDR
- **135 NHS, university and commercial research organisations** successfully recruited via JDR.

ENRICH

ENRICH is our Research Ready Care Home Network. It brings together care home staff, residents and researchers to facilitate the design, delivery of, and enable participation in, research, coordinated by our National Director for Dementia Research. There are now **1,500 care homes in the Network** and, this year, residents have taken part in **65 dementia-related studies**.

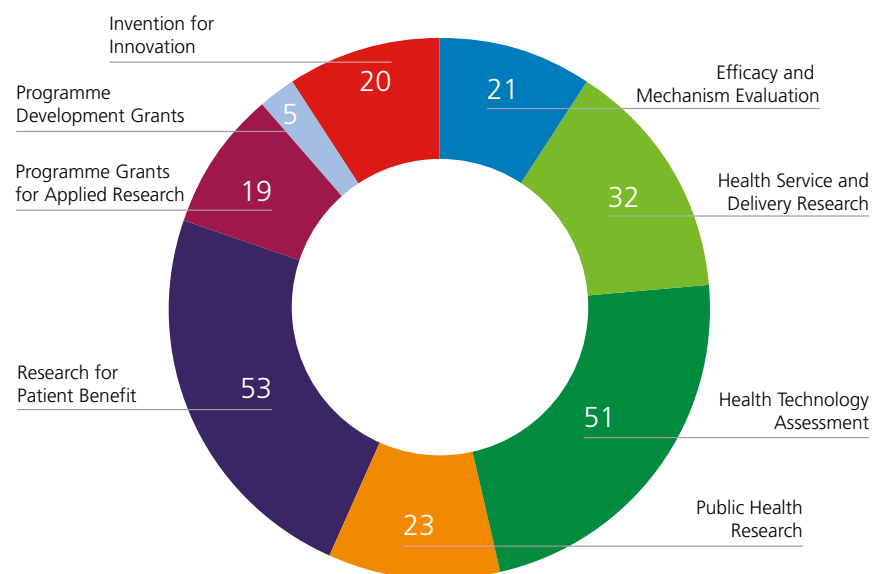
The ENRICH toolkit is considered a unique resource and referenced by almost all researchers working with care home residents or in the sector. During 2015/16 the site received **8,872 visits** from **6,666 unique visitors** and of those **2,287 returned to the site multiple times**.

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OUR RESEARCH PROGRAMMES

Our research evaluates the effectiveness and impact of healthcare treatments, finds new ways of preventing, identifying and treating ill health, and makes this evidence widely available to ensure decisions about health and social care are informed by the best possible evidence.

Throughout the year we funded a total of 224 projects across our range of research funding programmes. This breaks down by programme into:



In addition to this we had **372 studies running in our Health Protection Research Units** and another **15 studies in our Blood and Transplant Research Units**.

Setting research priorities through our Priority Setting Partnerships

The James Lind Alliance (JLA) Priority Setting Partnerships (PSPs) agree research priorities that are of importance to patients and clinicians nationally and internationally. There were **36 active PSPs** over the year, including **16 new partnerships, six of which are taking place internationally**.

During the year, eight PSPs published their top research priorities. These covered:

- Stillbirth
- Anaesthesia and Perioperative Care
- Surgery for Common Shoulder Complaints
- Mild to Moderate Hearing Loss
- Hair Loss
- Cavernoma (a cluster of abnormal blood vessels, usually found in the brain and spinal cord)
- Depression
- Kidney Transplant

A new JLA website launched in September 2015 to showcase the work of the JLA PSPs and is now the comprehensive repository of PSP and JLA activity and place of reference for PSP outputs.



Horizon Scanning

Our Horizon Scanning Research & Intelligence Centre (HSRIC) supplies information to policy and decision-makers within the NHS and research funders about emerging health technologies that may have a significant impact on patients or the provision of health services in the near future.

This year, the HSRIC increased the number of new and emerging technologies identified by one third, including **more than a 50% increase** in the number of outputs relating to pharmaceuticals and advanced therapies, and an **overall increase to 495**, up from 346 the previous year, comprising:

- **37 MedTech alerts**
- **11 MedTech and drugs intelligence reports**
- **301 filtration forms**
- **146 technology briefings.**

Technology Assessment Reviews

Each year we commission Technology Assessment Reviews (TARs) to provide the independent advice that helps inform health policy decisions in England and NICE guidance. This year, **63 active TARs** were being monitored and **52 TARs** were completed.

PROSPERO

PROSPERO, our international Prospective Register of Systematic Reviews, contains registration details of ongoing systematic reviews. Submissions to PROSPERO **doubled in the past year** with **approximately 600 added per month**. The register now contains nearly **11,000 records of reviews** being undertaken in **102 different countries and territories** around the world.

Themed Calls

Each year the NIHR invites experts to submit funding applications on specific themes that require research in order to inform NHS decisions.

This year, we:

- announced the outcome of the themed call for research proposals in *Long Term Conditions in Children and Young People* with a **total investment of £21 million in 35 new studies**, including seven Fellowship awards
- awarded **two Fellowships** for the *Older People with Multi-morbidities* themed call
- received **58 applications** for the *Prevention and Treatment of Obesity* themed call with three shortlisted by the Health Services and Delivery Research programme, five by the Health Technology Assessment Programme and one by the Public Health Research Programme. The final funding decisions are expected in the Autumn of 2016.



We support the principle of open access to increase the potential for quality research to be widely disseminated and freely accessed and expect findings from all our funded research to be published in an appropriate form.

This year there were **13,282** publications arising from our funding, including many in high impact journals such as the Lancet, the BMJ and the New England Journal of Medicine.

Journals Library

Our [Journals Library](#) provides full publication and open access to an extensive body of our research. Between April 2015 and March 2016 we published **172 issues** alongside plain English summaries. There were:

- **102 issues in volume 19 of Health Technology Assessment**, the highest number ever published in one year
- **46 issues in volume 3 of Health Services and Delivery Research**
- **6 issues in volume 3 of Programme Grants for Applied Research**
- **15 issues in volume 3 of Public Health Research**
- **6 issues in volume 2 of Efficacy and Mechanism Evaluation.**

The Journals Library website received **over 280,000 visits**, of which **74% were unique**, and there were **nearly 500,000 views**.

In addition, final reports of completed research undertaken by the three NIHR Research Schools – [Primary Care](#), [Public Health](#) and [Social Care](#) – are now also published on the Journals Library website including **31 School for**

Primary Care Research outputs, 11 School for Public Health Research outputs and 5 School for Social Care Research outputs.

Dissemination Centre

Our new [Dissemination Centre](#) critically appraises the latest research findings from both the NIHR and other health research organisations to identify the most reliable, relevant and significant findings. It summarises and interprets the evidence to help NHS clinicians, commissioners and patients make the best decisions about which treatments and practices are most effective and provide the best use of resources. During 2015/16 the Centre:

- published **130 NIHR Signals** – accessible summaries of recent research from the NIHR and other funders
- attracted over **1,000 new email subscribers**
- gained more than **3,000 new Twitter followers**
- published **three Highlights** on *managing obesity in men*, *cognitive therapies for depression* and *supporting carers of people with dementia*
- launched **two Themed Reviews** – in-depth reports looking at NIHR research into *end of life care* and *ambulance services*, with events held in London and Sheffield.

SUPPORTING OUR RESEARCH COMMUNITY



Research Design Service

Our Research Design Service (RDS) provides expert advice and support for researchers developing funding applications, helping researchers design high quality studies using the most appropriate approach to answer the research question. This year the RDS:

- supported **2,784 new projects** comprising:
 - **620 outline submissions**
 - **1,035 full/one stage applications**
 - **226 shortlisted** outline submissions
- resulting in **401 funded applications**.

Leadership Support and Development

Our new three-year NIHR Leadership Support and Development Programme **launched with two cohorts of Trainees – 40 in total**, and **two cohorts of Leaders – 51 in total**, recruited to their bespoke programmes commencing during 2015/16. In addition, **two cohorts of R&D Managers and Directors with a total of 101 participants**, representing **50 NHS Trusts**, commenced their programme. Several Strategic Operational Priority areas were also supported by the programme during the year.

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OUR FACULTY AND TRAINEES

Our research community is the largest networked body of experts and their teams in the world. The diverse groups of people working together to improve the health and wealth of the nation through research are known as the NIHR Faculty.

NIHR Research Trainees

We support the training of future health and social care researchers through a range of national career development programmes as well as through training in the NIHR infrastructure which has a remit to build research capacity.

During the year, we managed **2,031 active trainees in awards** across our Trainees Programmes and appointed **four new Research Professorships**. We award Research Professorships to outstanding research leaders in the early part of their careers to strengthen future leadership in research.

Our Trainees Programmes awarded:

- **65 Fellowships**, of which 33 were Doctoral, 11 were Post-Doctoral, 8 were Career Development Fellows, 2 were Senior Research Fellowships, 6 were Clinical Trials Fellowships and 5 were Knowledge Mobilisation Research Fellowships
- **250 Academic Clinical Fellowships** and **100 Clinical Lecturer positions** with 6 Clinician Scientist awards and 10 In-Practice Fellowships
- **10 Research Methods Fellowships and Internships** and **5 Systematic Review Fellowships** were awarded in the programme's second year
- Renewed funding for **48 Masters Studentships in Medical Statistics** with **5 Higher Education Institutions (HEIs)** being awarded 2-4 studentships each year for 3 years and the Masters Studentships in Economics of Health continued to be provided by four HEIs.

In addition, we supported a total of **3,678 trainees based in our NHS infrastructure**, of which **2,765 were PhD students**.

FINANCIAL SUMMARY



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NIHR funding for 2015/16

Area	Spend (£ million) 2015/16
RESEARCH PROGRAMMES	
Health Technology Assessment	73.5
Health Services Delivery & Research (previously HSR & SDO)	20.9
Programme Grants for Applied Research	33.7
Research for Patient Benefit	17.8
Invention for Innovation	13.9
Public Health Research	10.1
Systematic Reviews (Cochrane and TARs)	14.0
Horizon Scanning	1.8
Schools: Primary Care, Public Health and Social Care Research	14.1
Methodology	1.0
INVOLVE	0.7
Health Innovation Challenge Fund	7.0
Health Protection Units (funded by NIHR from 1 April 2010)	10.4
Other (including legacy programmes and management not attributed to specific programmes)	29.0
RESEARCH PROGRAMMES TOTAL	247.9

Area	Spend (£ million) 2015/16
INFRASTRUCTURE	
Research Capability Funding	91.0
Clinical Research Network	304.0
Biomedical Research Centres	137.1
Biomedical Research Units	26.3
Patient Safety Translational Research Centres	3.0
Clinical Research Facilities	22.7
Experimental Cancer Medicine Centres	3.4
Collaborations for Leadership in Applied Health Research and Care	26.5
Excess Treatment Costs	1.3
Research Design Service	10.6
BioResource	2.3
Translational Research Collaborations	4.8
Healthcare Technology Co-operatives	1.7
Diagnostic Evidence Co-operatives	1.0
MRC/NIHR National Phenome Centre	1.0
Other (including Athena Swan and dementia)	1.2
INFRASTRUCTURE TOTAL	637.9
FACULTY TRAINEES	
Integrated Academic Training (including academic clinical fellowships, lectureships and clinician scientist awards)	59.5
Fellowships (including legacy training awards)	20.1
Senior Investigators	3.8
Other (including management and clinical academics)	10.7
FACULTY TOTAL	94.1

Area	Spend (£ million) 2015/16
SYSTEMS	
Information systems that enable research	7.8
SYSTEMS TOTAL	7.8
TOTAL REVENUE SPEND	987.7
OTHER	
NIHR contribution to Genomics England	50.0
TOTAL NIHR SPEND	1,037.7

A woman with long dark hair, wearing a red and black plaid dress over a black long-sleeved top, is standing at a desk in a cluttered office. She is looking down at a red book she is holding with both hands. The desk is covered with papers, a keyboard, a mouse, and various office supplies. In the background, there are shelves with files and other office equipment. A blue banner is overlaid on the left side of the image.

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2015/16