## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>1. Funding, supporting and delivering high quality research</td>
<td>4</td>
</tr>
<tr>
<td>2. Investing in world-class infrastructure and a skilled delivery workforce</td>
<td>10</td>
</tr>
<tr>
<td>3. Attracting, training and supporting the best researchers</td>
<td>18</td>
</tr>
<tr>
<td>4. Partnering with other public funders, charities and industry</td>
<td>24</td>
</tr>
<tr>
<td>5. Funding applied global health research and training</td>
<td>31</td>
</tr>
<tr>
<td>6. Engaging and involving patients, carers and the public</td>
<td>37</td>
</tr>
<tr>
<td>Financial summary</td>
<td>44</td>
</tr>
</tbody>
</table>
Foreword

The NIHR is the largest funder of health and care research in England and provides the people, facilities and technology that enable research to thrive and influence policy and practice. It also provides the research infrastructure and training to underpin the work of other research funders, research charities and industry. The benefits of this have been seen in the last year, with the rapid ability to stand up translational and clinical research in response to COVID-19. This includes the RECOVERY trial and the Oxford COVID-19 vaccine research. This Report mainly covers output started prior to the start of COVID-19, and highlights some of the progress that has been made into multiple health conditions and diseases to improve the future of health in the UK and globally.

Funding, supporting and delivering high quality research that benefits the NHS, public health and social care is at the heart of what we do. We are grateful to our peer reviewers and all of those who sat on our funding panels to enable this. This year we awarded funding to more than 300 research projects through our funding programmes, covering a broad spectrum of topics across the innovation pathway and increasing our investment in social care research.

Our global health research portfolio continued to expand, including the launch of our first global health policy and systems research programme and further partnerships with the Joint Global Health Trial Initiative, Wellcome and the Medical Research Council (MRC).

With the world engulfed by a pandemic, our contribution to understanding emerging health threats has been more important than ever. We enhanced our focus on developing innovative, responsive ways to tackle them through our investment in 14 NIHR Health Protection Research Units.

NIHR research would not be possible without the hundreds of thousands of patients, service users, carers and members of the public who are essential partners in our work. Throughout the year, we continued to seek progressive ways to better engage with these groups and embed collaboration with them by researchers and practitioners. To help achieve this, we launched new UK Standards for Public Involvement, which will improve public involvement practice, and the ‘Be Part of Research’ website, which has already been used by more than 400,000 people searching for opportunities to participate in research.
To maintain and improve our leadership in health and care research, we continue to seek to attract, train and support the best researchers and strengthen the NIHR Academy which supports researchers at all points along a career in medical research. This year saw the launch of a new Leaders Support and Development programme to build capability among researchers at all stages of their careers and a new Development and Skills Enhancement Award for postdoctoral researchers. NIHR aims to be a diverse and inclusive funder in terms of our staff, advisory workforce and the people who lead, deliver and are involved in our research. We recognise that the reality does not yet match our ambitions. We are working to understand the causes of any inequities and barriers, and to identify and implement interventions that work to address these.

Our sustained investment in research infrastructure has meant that this year every hospital trust in the country was involved in research, with the support of our Clinical Research Network (CRN). Our research infrastructure also translates scientific discoveries into new treatments for patients, one example being a new surgical procedure to aid walking in children with cerebral palsy, now available on the NHS thanks to our support.

A key ingredient in NIHR’s success is our work with partners from across the life sciences industry, public sector and charities, where we have delivered a number of innovations such as a new approach to identifying, recruiting and following up patients that is being used in a large nationwide trial of a treatment for high cholesterol. The significant economic benefits of our activities to support commercial clinical research was confirmed this year in an independent report by KPMG.

There were changes to our leadership this year, including the retirement of CRN Chief Executive Dr Jonathan Sheffield OBE. During his 10 years as Chief Executive, Jonathan oversaw a spectacular increase in the number of participants recruited to CRN-supported studies each year – from 564,000 to over 870,000 and action to better support research following patient need. Dr William van’t Hoff, who has held leadership roles within NIHR since 2006, was appointed as the CRN’s new Chief Executive.

Funding and support for COVID-19 research was our major priority as we moved into 2020. In February, we launched a ‘rapid response’ COVID-19 funding call with UK Research & Innovation, and the next month we announced the first six projects to be funded by this call, including therapeutic and vaccine trials and major observational studies. NIHR continued to play a major role in the nation’s research response to COVID-19 and the impact delivered by our research and infrastructure on COVID-19 will feature heavily in our 2020-21 annual report.

This annual report showcases our funding and support for world-class health and care research, and how our collaborations and partnerships improve the health and wealth of the nation and advance science. Inevitably it covers only a small portion of NIHR’s activities and impact. We encourage you to browse our website to find out more and to engage with the NIHR through our events and social media channels.

Professor Chris Whitty  
Chief Scientific Adviser,  
Department of Health and Social Care, Chief Medical Officer for England

Dr Louise Wood CBE  
Director of Science, Research & Evidence, Department of Health and Social Care
Introduction

The NIHR’s mission is to improve the health and wealth of the nation through research. We deliver against this mission through six core workstreams:

- **We fund, support and deliver high quality research** that benefits the NHS, public health and social care.
- **We engage and involve patients, carers and the public** in order to improve the reach, quality and impact of research.
- **We invest in world-class infrastructure and a skilled delivery workforce** to translate discoveries into improved treatments and services.
- **We partner with other public funders, charities and industry** to maximise the value of research to patients and the economy.
- **We attract, train and support the best researchers** to tackle the complex health and care challenges of the future.
- **We fund applied global health research and training** to meet the needs of the poorest people in low and middle-income countries.

The information in this annual report represents the period from 1 April 2019 to 31 March 2020, unless otherwise stated.
1. Funding, supporting and delivering high quality research
Introduction

At the core of NIHR is a commitment to fund high quality research that benefits the NHS, public health and social care. Our research funding schemes – programmes, units and schools – deliver a coherent programme of response mode and commissioned research.

Funding through our research programmes

This year, we awarded over £250 million of funding to 310 research projects.

<table>
<thead>
<tr>
<th>Research programme</th>
<th>New projects funded</th>
<th>Funding amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy and Mechanism Evaluation*</td>
<td>23</td>
<td>£27,385,343</td>
</tr>
<tr>
<td>Evidence Synthesis**</td>
<td>19</td>
<td>£172,078</td>
</tr>
<tr>
<td>Health Services and Delivery Research</td>
<td>37</td>
<td>£28,914,061</td>
</tr>
<tr>
<td>Health Technology Assessment</td>
<td>77</td>
<td>£96,159,794</td>
</tr>
<tr>
<td>Invention for Innovation</td>
<td>26</td>
<td>£16,925,517</td>
</tr>
<tr>
<td>Policy Research Programme</td>
<td>14</td>
<td>£15,465,611</td>
</tr>
<tr>
<td>Programme Grants for Applied Research and Programme Development Grants</td>
<td>13</td>
<td>£28,144,914</td>
</tr>
<tr>
<td>Public Health Research</td>
<td>32</td>
<td>£25,977,034</td>
</tr>
<tr>
<td>Research for Patient Benefit</td>
<td>69</td>
<td>£14,754,187</td>
</tr>
</tbody>
</table>

*In partnership with the Medical Research Council (MRC)

**Formerly Systematic Reviews

Funding through our schools and units

<table>
<thead>
<tr>
<th>School for Primary Care Research</th>
<th>Active projects</th>
<th>Funding amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>129</td>
<td>£13,191,589</td>
</tr>
<tr>
<td>School for Public Health Research</td>
<td>18</td>
<td>£4,424,030</td>
</tr>
<tr>
<td>School for Social Care Research</td>
<td>10</td>
<td>£494,482</td>
</tr>
</tbody>
</table>
Key highlights

• We supported our commitment to improving social care through funding high quality research and building capacity for research in this field. Our first-ever dedicated social care funding call awarded **£2.5 million of funding to 12 new research projects focused on adult social care.** Following this successful call, we have cemented our investment in future social care research with annual funding calls under the banner of **NIHR Research for Social Care (RfSC).**

• We announced a further **£58.7 million to protect the public from current and emerging health threats.** The 14 new NIHR Health Protection Research Units (HPRUs) will fund high quality research that enhances Public Health England’s (PHE) ability to protect the public from health threats such as antimicrobial resistance, air pollution and infectious diseases. These multidisciplinary centres of excellence will deliver responsive research to tackle emerging or potential public health emergencies.

• At the start of February, we **launched a ‘rapid response’ cross-government funding call with UK Research and Innovation (UKRI) to allocate £20 million to quickly develop initiatives to tackle the novel coronavirus outbreak.** The next month we **announced the first six projects to be funded by this call,** including:
  
  • research at Oxford to **develop and test a new vaccine for COVID-19**
  
  • the **Randomised Evaluation of COVID Therapy (RECOVERY) trial** to repurpose existing and new drugs for COVID-19 patients
  
  • research by the **International Severe Acute Respiratory Infection Consortiums (ISARIC) Coronavirus Clinical Characterisation Consortium** into understanding COVID-19.
Global trial is first clear evidence that widely available drug reduces head injury deaths

Traumatic brain injury (TBI) is a leading cause of death and disability worldwide, with an estimated 69 million new cases each year. Intracranial bleeding is a common complication and increases head injury-related death and disability.

The NIHR Health Technology Assessment (HTA) programme funded a trial that showed how a low-cost and widely available drug could reduce TBI deaths by as much as 20%.

Tranexamic acid prevents bleeding into the brain. Researchers found administering tranexamic acid within three hours of injury reduced the number of deaths, with the greatest effect in patients with mild and moderate TBI.

The Clinical Randomisation of an Antifibrinolytic in Significant Head Injury (CRASH-3) trial is the largest of its kind, and the findings have been published in The Lancet. The breakthrough is the first neuroprotective drug for patients with head injury, and researchers say that it has the potential to save hundreds of thousands of lives worldwide.

Snack tax may be more effective than sugary drink tax in tackling obesity

In the UK, around 1 in 4 adults are estimated to be obese, with higher rates among lower income groups. Obesity is a major risk factor for several chronic conditions, including cardiovascular disease, many cancers and type 2 diabetes.

New research funded by the NIHR Policy Research Programme (PRP) showed that increasing the price of high-sugar snacks could be a more effective way to reduce levels of obesity than taxing sugar-sweetened drinks.

The results, published in the British Medical Journal, suggest that a 20% price increase on snacks such as biscuits, confectionery and cakes would reduce average energy intake over a year by around 8,900 calories across adults in all income groups. This would lead to an average weight loss of 1.3kg over a year, compared with 0.23kg from a comparative price increase in sugary drinks, and an estimated 2.7% population level reduction in obesity.

Largest study to date shows effective drug treatment prevents HIV transmission in male couples

The NIHR-funded PARTNER 1 study showed that effective antiretroviral therapy (ART) can prevent sexual transmission of HIV in heterosexual couples where one partner has HIV. However, there was a comparative lack of evidence available for transmission risk for male couples.

A subsequent study of nearly 1,000 male couples funded by the NIHR Research for Patient Benefit (RfPB) programme has now confirmed that effective ART prevents HIV transmission, with no cases of transmission within couples over the space of eight years.

The results from the PARTNER 2 study, published in The Lancet, provided very strong evidence that a person with undetectable levels of HIV in their blood cannot transmit the virus through sex.

Researchers believe that these findings have an important impact on preventing HIV transmission, as well as tackling the stigma and discrimination that many people with HIV face.
New rapid genetic test could prevent antibiotic-related hearing loss in newborns

Newborn babies admitted to intensive care with an infection should be given antibiotics within an hour. Each year in the UK, approximately 90,000 of them are treated with gentamicin. This can lead to many infants developing irreversible hearing loss due to a genetic predisposition.

Researchers funded by the **NIHR Invention for Innovation (i4i) Programme** have begun a new study on a world-first **20 minute bedside test that identifies those babies who are particularly sensitive to aminoglycoside antibiotics like gentamicin**.

The Pharmacogenetics to Avoid Loss of Hearing (PALoH) study is also supported by the **NIHR Manchester Biomedical Research Centre**, in partnership with Manchester-based firm Genedrive and the charity Action on Hearing Loss.

The test could prevent hearing loss for an estimated 180 babies a year in the UK and save the NHS an estimated £5 million every year in cochlear implants and other hospital costs.

Cheaper wound dressings stop infections as well as expensive options

Worldwide, major trauma is the leading cause of death in people under 45 years and a significant cause of short and long-term disability. Major trauma is commonly associated with limb injuries and serious complications such as deep surgical infection.

Negative pressure wound therapy (NPWT), which involves applying gentle suction to the surface of the wound as it heals, is a relatively new treatment that has provided promising early results in patients with surgical wounds associated with major trauma.

This study, funded by the **NIHR HTA Programme**, sought to assess outcomes in patients treated by either NPWT or standard wound dressing.

The findings showed that NPWT costing nearly £150 per dressing **may be no more effective in reducing infections than a standard wound dressing priced under £2**. The results were published in the **Journal of the American Medical Association (JAMA)**.

The NHS spends millions of pounds on wound dressings each year. Using less costly standard treatment could mean savings for the NHS without compromising patient outcomes.

Research finds drug widely used to treat eye condition has ‘no benefit’

Central serous chorioretinopathy (CSCR) is a common retinal disease that can lead to vision loss in up to a third of patients. The condition is currently widely treated by ophthalmologists with the drug eplerenone, but this approach is based on limited clinical data.

A large study funded by the **NIHR Efficacy and Mechanism Evaluation (EME) programme**, a partnership between the Medical Research Council (MRC) and NIHR, has found that **eplerenone has ‘no benefit’ and should no longer be used**.

The trial saw 111 patients at 22 sites across the UK receive either the medication or an identical placebo tablet for up to 12 months. Results showed there was no benefit of treating patients with eplerenone compared to those who took a placebo.

The results, published in **The Lancet**, are considered by researchers to be a clear message to ophthalmologists to discontinue the treatment of central serous chorioretinopathy with eplerenone.
NIHR-funded online diabetes tool rolled-out across NHS

Currently more than 2.8 million people in England have type 2 diabetes, accounting for around 10% of health expenditure, largely due to preventable complications of the disease. Patient self-management can improve health outcomes and reduce healthcare costs, but uptake of diabetes self-management training remains low.

An online tool developed with NIHR funding is the first ever to be shown to help people with type 2 diabetes reduce blood glucose levels and has been rolled out across the NHS.

The HeLP-Diabetes tool was developed with funding from NIHR Programme Grants for Applied Research (PGfAR). The web-based self-management programme gives patients with type 2 diabetes access to expert advice, personalised information and support. It overcomes the need for a face-to-face appointment or group education interventions.

Eleven NHS sites will pilot the new service, with HeLP-Diabetes being made nationally available in 2020.

Alan, 71, from Sunderland, was diagnosed with type 2 diabetes in 2002. He said: “When I was diagnosed it was a shock to the system. My first piece of advice to anyone diagnosed with any form of diabetes is to learn as much as possible about it. HeLP is a great way to do that – the more you know, the better you can manage your condition.”

Professor Jonathan Valabhji, National Clinical Director for Diabetes and Obesity for NHS England said: “Living with diabetes is a daily challenge for millions, as well as a growing issue for our NHS. Access to trusted information and support is key to helping people manage their diabetes and this online tool helps deliver this as part of our Long Term Plan to tackle major conditions and diseases.”
2. Investing in world-class infrastructure and a skilled delivery workforce
Introduction

The NIHR’s sustained investment in people, facilities and technology has transformed the health and care system’s ability to translate discoveries into improved treatments and services. This infrastructure supports research funded by NIHR and by our partners.

Our people encompass internationally renowned investigators and a delivery workforce of doctors, nurses, midwives, other professionals and support staff.

<table>
<thead>
<tr>
<th>Number of studies supported</th>
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<tbody>
<tr>
<td>Biomedical Research Centres</td>
</tr>
<tr>
<td>Clinical Research Facilities</td>
</tr>
<tr>
<td>Clinical Research Network</td>
</tr>
<tr>
<td>Collaborations for Leadership in Applied Health Research and Care</td>
</tr>
<tr>
<td>Experimental Cancer Medicine Centres</td>
</tr>
<tr>
<td>Medtech and In vitro diagnostic Co-operatives</td>
</tr>
<tr>
<td>Patient Safety Translational Research Centres</td>
</tr>
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Delivering world-class research

100% of hospital trusts involved in non-commercial research

87% of non-commercial studies delivered to time and target
## Ongoing investment in research infrastructure

<table>
<thead>
<tr>
<th>Infrastructure scheme</th>
<th>Investment</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>15</strong> NIHR Applied Research Collaborations (ARCs)</td>
<td><strong>£135 million</strong> between 2019 &amp; 2024</td>
<td>Local partnerships that support applied health and care research that responds to, and meets, the needs of local populations and local health and care systems</td>
</tr>
<tr>
<td><strong>20</strong> Biomedical Research Centres (BRCs)</td>
<td><strong>£816 million</strong> between 2017 &amp; 2022</td>
<td>Partnerships between world-leading universities and NHS organisations that translate lab-based scientific breakthroughs into potential new treatments, diagnostics and medical technologies</td>
</tr>
<tr>
<td><strong>13</strong> BioResource Centres</td>
<td><strong>£37 million</strong> between 2018 &amp; 2023</td>
<td>National resource of people who have volunteered for research to understand how genes and other factors influence disease</td>
</tr>
<tr>
<td><strong>23</strong> Clinical Research Facilities (CRFs)</td>
<td><strong>£112 million</strong> between 2017 &amp; 2022</td>
<td>Purpose built facilities in NHS hospitals where researchers can deliver early-phase and complex studies</td>
</tr>
<tr>
<td><strong>14</strong> Experimental Cancer Medicine Centres (ECMCs)</td>
<td><strong>£14 million</strong> between 2017 &amp; 2022</td>
<td>Network of centres for delivering pioneering, early-phase trials to test new treatments for adults and children with cancer</td>
</tr>
<tr>
<td><strong>11</strong> Medtech and In vitro diagnostic Co-operatives (MICs)</td>
<td><strong>£14 million</strong> between 2018 &amp; 2023</td>
<td>Collaborations to build expertise and capacity in the NHS to develop new medical technologies and provide evidence on commercially-supplied in vitro diagnostic tests</td>
</tr>
<tr>
<td><strong>3</strong> Patient Safety Translational Research Centres (PSTRCs)</td>
<td><strong>£17 million</strong> between 2017 &amp; 2022</td>
<td>Centres of excellence that translate patient safety discoveries into practice</td>
</tr>
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Our research delivery workforce

5405 research nurses employed within the NIHR CRN

43,568 people participated in training, including Good Clinical Practice

36% of GP practices engaged in recruiting participants
Key highlights

• The Professional Standards Authority approved registration for Clinical Research Practitioners (CRPs) will help to develop their professional identity. CRPs contributed to the application seeking registration via the CRP Directory, launched by NIHR and Academy for Healthcare Science (AHCS). CRP Registration is part of the AHCS Accredited Register and recognises the valuable role CRPs play in research delivery, as well as providing a clear path for career development.

• We announced a £135 million investment in 15 new NIHR Applied Research Collaborations (ARCs), to tackle the biggest challenges faced by the health and care system over the next five years. The funding has been awarded to 15 partnerships covering every area of England. Professor Chris Whitty, NIHR Lead and Chief Scientific Adviser to the Department of Health and Social Care, said: “The unique local collective approach at each NIHR ARC will support applied health and care research that responds to and meets the needs of local patients, and local health and care systems. The network will also be able to tackle health priorities at a national level.”

• Research supported by the NIHR Bristol Biomedical Research Centre (BRC) and the NIHR Birmingham BRC could rapidly accelerate the discovery of much-needed new treatments for patients with irreversible liver disease. A new technology ‘single cell RNA sequencing’ was used to study liver scarring in high definition. The findings, published in Nature, provide the first in-depth understanding of how cells behave in diseased livers and how their activity might be blocked as a treatment for liver scarring.
New surgical procedure available for children with cerebral palsy

Cerebral palsy is the name for a group of lifelong conditions that affect movement and coordination, caused by abnormal development or damage to the brain that occurs before, during or soon after birth. Patients have very few treatment options.

Researchers at the NIHR Guy’s and St Thomas’ BRC were commissioned by the National Institute for Health and Care Excellence to undertake an analysis of a surgical procedure that can help children with cerebral palsy walk.

Their analysis of the effectiveness of the procedure was strong enough that NHS England has decided to fund the procedure for eligible children aged 3-9 years. The findings were published in The Lancet.

Health Secretary Matt Hancock said: “This is a revolutionary treatment which has the power to transform the lives of young children with cerebral palsy and give fresh hope to their families. I’m delighted the NHS is funding this new procedure as part of our Long Term Plan.”

New stem cell combination could help to repair damaged hearts

People with heart failure can’t regenerate their damaged hearts and the only cure is a heart transplant. In the UK, there are hundreds of thousands of people living with heart failure, many in a race against time for a life-saving heart transplant, and a treatment is desperately needed.

Scientists have been trying to use stem cells to repair damaged hearts for a number of years, but the vast majority of transplanted cells die within a few days.

Researchers at the NIHR Cambridge BRC believe that they have taken a big step closer to the first therapy for heart failure. Their research, published in Nature, used supportive epicardial cells developed from human stem cells to help transplanted heart cells live longer.

The researchers hope that, by harnessing the regenerative power of stem cells, they will one day be able to heal human hearts using a patient’s own cells.

Hormone injection aids weight loss without the need for gastric bypass operation

It is estimated that one in four adults in the UK is obese, with some undergoing gastric bypass weight loss surgery. However, the procedure can cause complications such as abdominal pain, chronic nausea, vomiting and debilitating low blood sugar levels.

New research supported by the NIHR has shown that an injection of gut hormones helps obese people lose weight via a similar mechanism to gastric bypass surgery. The study, published in Diabetes Care, found patients lost on average 4.4kg. Although the weight loss achieved was smaller than in those having a gastric bypass operation, the hormone treatment has the benefit of being non-invasive and having fewer side effects than surgery.

The research was supported by the NIHR Imperial BRC and trialled on patients at the NIHR Imperial Clinical Research Facility (CRF).

This result shows that a simple injection could bring benefits similar to those from major surgery and the treatment could potentially be given to many more patients.
Even low-intensity physical activity reduces the risk of early death

Physical inactivity is associated with many chronic diseases and premature death. It is not clear exactly how much activity is needed (and at what intensity) to protect health, because guidance is based mainly on self-reported activity.

Researchers at the NIHR Leicester BRC analysed observational studies that assessed links between physical activity of different intensities and mortality.

The findings, published in BMJ, showed that deaths fell steeply as the total volume of physical activity increased up to a plateau of about 300 minutes (5 hours) per day of light-intensity physical activity or about 24 minutes per day moderate-intensity physical activity. At these levels, the risk of death was halved compared to those engaging in little or no physical activity.

The findings show that physical activity of any intensity lowers the risk of early death in middle-aged and older people.

Artificial intelligence could help to detect breast cancer

Breast cancer is the most common type of cancer in the UK, affecting around one in eight women, with 55,000 diagnoses annually and 11,000 deaths. Early detection and treatment provide the best outcomes. However, screening has many challenges, including the volume of images radiologists have to review, and human interpretation of the x-rays is open to errors.

Researchers, supported by the NIHR Imperial BRC, designed and trained an artificial intelligence algorithm using mammography images from almost 29,000 women in the UK and the US.

The system was then used to identify the presence of breast cancer in mammograms of women who were known to have had either biopsy-proven breast cancer or no cancer. The findings, published in Nature, show that the artificial intelligence algorithm outperformed both the historical decisions made by the radiologists who initially assessed the mammograms, as well as the decisions of six expert radiologists who interpreted 500 randomly selected cases.

The researchers believe that such artificial intelligence tools could support clinical decision-making in the future, as well as alleviate the pressure on healthcare systems by supporting the workload of clinicians.

Diabetes drug may help prevent recurrent miscarriage in some women

Recurrent pregnancy loss is a prevalent disorder for which there are few effective treatment options.

An NIHR-supported study has found that an existing diabetes drug can be used to reduce the risk of miscarriage in women who have already experienced pregnancy loss.

Researchers supported by the NIHR Coventry and Warwickshire CRF found that the diabetes drug Sitagliptin could prevent miscarriage by increasing the number of stem cells in the womb lining, improving conditions in the womb to support pregnancy.

The findings of this trial have been published in The Lancet. It is the first trial that has identified a pharmacological approach to normalising the womb before pregnancy and warrants a large-scale trial to verify the findings.
Small rise in heart attack protein linked to increased risk of early death

There have been many advances in treating heart disease, yet it remains the leading cause of death in the UK and around the world. Clinicians use blood levels of a protein called troponin, alongside other investigations, to determine whether a patient is having a heart attack and to inform treatment choices. It has been assumed that the higher the amount of troponin in the blood, the higher the risk of death in all age groups.

The **NIHR Health Informatics Collaborative** (HIC) brings together comparable clinical data from all NHS trusts with NIHR BRCs, enabling data sharing across the trusts, researchers and partner organisations.

In the **first large-scale study of its kind**, HIC researchers undertook an analysis of anonymised cardiovascular data from more than 250,000 patients who had undergone troponin tests at five hospital trusts in the collaborative.

Their research, published in the *British Medical Journal*, confirmed that a raised troponin level is associated with an increase in the risk of death in all age groups. This was seen even if the troponin result was only slightly raised, with the increased risk of death concentrated in the first few weeks.

Amit Kaura, lead author of the research and NIHR Clinical Research Fellow at Imperial College London, said: “Doctors will be able to use this information to help identify the risk of early death in patients who have a troponin level measured. This could lead to interventions at a much earlier stage in a wider group of patients than are currently treated.”
3. Attracting, training and supporting the best researchers
Introduction

The NIHR is the largest funder of health research training in the UK. We invest in academic career pathways for health and care researchers from all professional backgrounds, building the capacity and capabilities needed to tackle the complex health and care challenges of the future.

Our collegiate ethos extends across our health and care research and health and care research delivery workforces.

Attracting and training the best researchers

- **525** new personal training awards
- **2,335** people in total who held NIHR-funded training awards
- **133** people supported by leadership and mentorship programmes
- **45** new NIHR Senior Investigators
- **341** early career researchers in the UK and in low and middle income countries
Key highlights

- We continued to support people to become leading researchers with the announcement of a new funding award from the NIHR Fellowship programme. The Development and Skills Enhancement Award offers postdoctoral level short-term funding to NIHR Academy members, supporting these researchers to reach the next phase of their research career. The funding is for a maximum of 12 months, and applicants need to demonstrate a continued commitment to a research career in an area of relevance to NIHR.

- We launched a new campaign to inspire health and care professionals to get more involved in research and support improved patient outcomes. ‘Your Path in Research’ gives health and care professionals an opportunity to learn more about the research that can directly impact their everyday work. More than 10 individual stories were highlighted as part of the month-long campaign, and the landing pages attracted over 7,000 visits.

- We developed a more flexible funding approach to support early career researchers be competitive applicants for a doctoral level research training fellowship. Early-career researchers applying to the Health Education England-NIHR Predoctoral Clinical Academic Fellowship will now be able to indicate the level of support most appropriate for their individual requirements, without proposing a significant programme of academic training. The increased flexibility will encourage applications from a broader range of individuals, including those who need minimal further formal training but still require some support and time to develop a doctoral fellowship.
A new toolkit launched to support the delivery of health services research

Health services research is critical for an NHS that is effective, efficient and centred on patient need. We fund and support the set-up and delivery of a wide range of research studies that deal with the development of health services. However, there are a lot of challenges to performing good quality health services research.

Our CRN launched a Health Services Research Toolkit that brings together in one place ideas, guidance and support to help researchers successfully deliver high quality and innovative health services research. The toolkit will also bring together NIHR’s specialty leads in health services research and in the Local Clinical Research Networks, providing researchers with a local point of contact.

The toolkit will equip researchers with the practical support they need to make clinical studies happen in both the NHS and the wider health and social care environment.

New initiative supports nurses and midwives to become research leaders

NIHR’s 2017 Strategic Review of Training set out a series of recommendations to grow research capacity in strategically important areas. We have subsequently developed NIHR Incubators to accelerate capacity building and multidisciplinary career development in priority areas where critical mass is low.

In October 2019 we launched the NIHR Nursing and Midwifery Incubator, established to support the development of nurses and midwives looking to develop a career leading research. The incubator will use a single online platform as a repository for information and resources, a noticeboard for developments and opportunities, and a forum for discussion and collaboration.

The virtual community will provide high-level career development support, led by experts in the field and supported by the NIHR Academy, the Royal College of Midwives and the Royal College of Nursing. It will accelerate the development of a skilled clinical academic research workforce across the nursing and midwifery professions.

Promoting diversity in stroke clinical research leadership

We are committed to promoting gender equality in research leadership. Our CRN specialties have a shared objective to promote and improve the involvement of early career researchers in studies they support.

A new analysis has shown that stroke studies supported by our CRN have a high proportion of female chief investigators, including those in the early stage of their career. Out of a total of 202 stroke specialty studies in 2018/19, 49% of chief investigators were female and 22% of those were early career researchers.

Chief investigators leading stroke studies included those with medical backgrounds as well as healthcare professionals from nursing, therapy, psychology, assistive technology and biomechanics.

The data shows NIHR’s commitment to promoting equality and diversity in research and using all the talent accessible to us. We consider this to be vital for ensuring appropriate role models are in place among those leading studies.
New funding opportunity seeks to build clinical trials experience of researchers

We continue to explore novel ways to support the development of capacity and expertise in conducting clinical trials.

Two NIHR funding programmes joined forces as part of a pilot to provide health researchers with the opportunity to undertake a career development award alongside leading a study funded by an NIHR research programme.

The Efficacy and Mechanism Evaluation (EME) programme is a partnership between the Medical Research Council (MRC) and the NIHR that looks to attract studies with novel methodological designs. It invited applications for clinical studies to be led by a chief investigator who was also applying for an Advanced Fellowship Award. Researchers from all areas of health were encouraged to apply.

The NIHR Academy provides a range of career development awards, but these cannot always support the size of study that can be funded through the EME Programme. This initiative of bringing the funding opportunities together will help researchers develop their careers while building clinical trials experience, and supports the development of clinical trial capacity and expertise in the UK.

Industry partnership aims to tackle key areas of health research

We have successfully delivered a number of charity partnership fellowship awards over recent years. This year, we announced that we would be partnering with an industry partner, pharmaceutical company Pfizer UK. The partnership will see Pfizer UK co-fund NIHR Doctoral and Advanced fellowships with a focus on research in alopecia areata, atopic dermatitis and chronic pain.

This is the first time the NIHR Academy has launched co-funded awards with an industry partner. These awards will enable NIHR researchers to help tackle some of the most common health issues in the country.

We continue to look for opportunities to work with commercial partners in order to increase the number of researchers and clinical academics equipped with the skills to work at the interface between industry, academia and the NHS.

NIHR joins colleagues to improve UK research culture

Researchers are passionate about their work but there are concerns about the culture in which they work. A survey of over 4,000 researchers, published by Wellcome, revealed high levels of stress, insecurity and aggressive working conditions.

We have joined Wellcome, UKRI and other stakeholders to ensure research excellence is achieved in a supportive and inclusive environment.

We also have a number of activities currently underway that will contribute to improving the research culture, including implementation of our equality, diversity and inclusion plan. Several initiatives are focused on the assessment of more meaningful impact criteria for research outputs and improving how research is undertaken. In addition, we will continue to work with researchers’ host institutions to ensure the research community is supported in its career development.
NIHR launches new leadership programme

Our new Leaders Support and Development programme was launched in summer 2019 to maintain and improve the quality of leadership in health and social care research. It aims to meet the leadership development needs of early to mid-career researchers within NIHR, through to senior leaders who are accountable for pan-NIHR strategic goals.

The new approach replaces our previous leadership programme, which was in place since 2009 and supported the development of more than 900 health and care research leaders.

At the centre of the new programme’s design, structure and approach is our commitment to equality, diversity and inclusion. The suite of programmes has been developed with stakeholder input and provided in collaboration with partners. It includes:

- Future Focused Leadership programme for NIHR leaders and emerging NIHR research leaders, supporting 240 people over three years
- modular on-demand resources for leadership and management development
- coaching and facilitation support for NIHR strategic initiatives, including executive coaching, events facilitation and programme assurance

The Leaders Support and Development programme is governed by our Academy Leadership Programme Advisory Board. The suite of options it delivers will help us ensure that we grow and develop the leadership capabilities that we need to navigate the challenges of health and care research in the years to come.

Professor Dave Jones, Dean for the NIHR Academy, said: “Our new programme is a fantastic resource for researchers and NIHR leaders to develop their leadership and management skills, build and nurture networks across NIHR and access tools and resources that can be taken back to the workplace. These are vital skills that will be needed to help achieve NIHR’s strategic goals as well as tackling the current and future challenges in health and care research.”
4. Partnering with other public funders, charities and industry
Introduction

The NIHR works with UKRI, charities and industry to maximise the value of research to patients and the economy. We do this both to achieve our aims and to improve the UK research ecosystem, thus playing our part in supporting the UK’s world-leading life sciences sector.

We work with a diverse range of industry sectors and provide extensive support to small and medium-sized enterprises.

Supporting commercial research through our research infrastructure

- **Number of commercial contract studies**: 4304
- **Value of commercial contract studies**: £129,198,632
- **Number of industry collaborative research projects**: 1286
- **Value of industry collaborative research projects**: £179,583,218
- **Number of collaborations and partnerships with small and medium-sized enterprises**: 1266
Supporting commercial research through our Clinical Research Network

- 1,580 industry and commercial studies supported
- 28,832 participants recruited
- 1,166 studies recruited participants
- 75% of NHS trusts were involved in recruiting participants
- 14 global firsts achieved in participant recruitment

Supporting charity-funded research

- 1,738 charity funded studies supported through our Clinical Research Network
- 3110 charity funded studies supported through our research infrastructure (CCF)
Key highlights

- **We launched a new collaboration to fast-track the development of hearing therapeutics.** The Hearing Medicines Discovery Syndicate is a unique collaboration between the NIHR, Action on Hearing Loss and the Medicines Discovery Catapult, which will accelerate the development of treatments for hearing loss and tinnitus. Hearing loss affects almost half a billion people globally, with almost 12 million people in the UK impacted, and there are no registered pharmaceutical treatments. This initiative will help bring life-changing treatments to patients faster.

- **We published the results of a National Survey of Local Innovation and Research Needs of the NHS,** which we had commissioned with NHS England and NHS Improvement, and the Academic Health Science Network (AHSN). The report presents findings from the 15 AHSN regions in England, and each AHSN region will publish a statement of their local innovation and research needs and priorities. The project will help shape research and innovation that will be most relevant to patients and the health and care system.

- **The NIHR co-funded Experimental Cancer Medicine Centre (ECMC) network made recommendations that could get innovative treatments to cancer patients quicker.** The 10 recommendations have been developed to provide a framework of multi-stakeholder guidance on conducting complex innovative design (CID) trials. CIDs seek to address multiple clinical questions at once and can be challenging to conduct, with no practical guidelines for teams that fund, design and conduct these trials in Europe. Each recommendation covers a specific stage of the clinical trial pathway and could improve the conduct, quality and acceptability of oncology CID trials in clinical research.
NIHR launches campaign to highlight UK expertise in delivering complex and innovative trials

We have been supporting the delivery of CID trials over the past decade, aligning with the government’s commitment to consolidate the UK as a world-leader in this field. This means that the UK has a wealth of expertise and capability in the area. The Life Sciences Industrial Strategy highlights our role in making CIDs ‘business as usual’.

We launched a campaign to highlight UK expertise in delivering CID trials. Our new webpage demonstrates our expertise and also shares best practice and signposts our customers to access NIHR support to design, fund and deliver CID studies.

The webpage was launched with case studies that shine a spotlight on renal CIDs, among other case studies. The spotlight featured video content including a case study about a commercial adaptive trial in which the UK recruited the first global patient to the study and was joint top recruiting country alongside Belgium.

CIDs have the potential to improve the speed and efficiency of clinical trials, shorten drug development timelines and, ultimately, bring new treatments to patients faster.

NIHR partners with other funders to support £50 million worth of research into disease prevention

Non-communicable diseases – illnesses that can’t be passed from person to person, such as heart disease, obesity, poor mental health – pose a significant burden to the UK. No single research funder has the resources or expertise to address these complex issues on their own.

We partnered with twelve funders including charities, UK Research and Innovation (UKRI) councils and the UK health and social care departments to establish the multimillion-pound UK Prevention Research Partnership (UKPRP).

Two UKPRP funding calls, one in May and the other in September, each awarded £25 million to multidisciplinary groups of researchers. Their research covers topics such as school food systems and their effects on the quality of children’s diets, identifying health considerations in urban planning, ageing, mental health and wellbeing, and obesity.

By investing in these interdisciplinary teams and drawing on a wide range of knowledge and expertise, UKPRP is supporting work that will have real benefits for both policy makers and the wider public alike.

NIHR teams up with NHS England and NHS Improvement to support elite university-NHS partnerships

Academic Health Science Centres (AHSC) bring together the most talented academics, scientists and clinicians. They operate across the world and in England, the Department of Health and Social Care oversees six designated AHSCs.

We partnered with NHS England and NHS Improvement for the first time to launch a new open competition to designate AHSCs in England.

These partnerships between top universities and outstanding NHS organisations will undertake world-leading research to tackle deadly diseases, develop new treatments and transform patient care. The new centres will be designated for five years from April 2020.

Professor Chris Whitty, Chief Medical Officer and NIHR lead, said: “These partnerships act as engines for world-class research and education and the translation of new discoveries into tangible benefits for patients and the NHS.”
NIHR joins forces with MRC and ESRC to fund multidisciplinary research in multimorbidity

Multimorbidity – the co-existence of two or more chronic conditions in an individual – is associated with a reduction in quality of life, increased use of health services and reduced life expectancy. Multimorbidity research has been identified as an urgent priority for the UK and globally, and collaboration is critical to achieve the scale of impact required in this area.

In December, we joined forces with the MRC and Economic and Social Research Council (ESRC) to fund collaborative research into multimorbidity, as part of a £20 million initiative.

The new funding will bring together a wide range of multi-disciplinary researchers from fields as diverse as public health, social science, epidemiology, health services research and computer science to create new Research Collaboratives in multimorbidity.

The funded Research Collaboratives will shed light on how particular diseases cluster together and how multimorbidity is driven not only by physical issues but also psychological and social factors.

First new cough treatment in 50 years as trials shows a significant reduction in symptoms

Millions of people live with a chronic cough, defined as a cough lasting eight weeks or more, with many patients living with the condition for years without effective treatment.

Researchers supported by the NIHR Respiratory Translational Research Collaboration and the NIHR Manchester CRF have shown that a new drug can reduce symptoms of chronic cough with minimal side effects.

Afferent Pharmaceuticals developed the drug Gefapixant (MK-7264). They initially approached the NIHR and were connected with experts from the NIHR Respiratory Translational Research Collaboration, who tested Gefapixant.

The 12 week study involved more than 200 patients at 47 sites in the UK and US. The results, published in The Lancet Respiratory Medicine, showed that of 253 patients, 80% had a clinically significant response to a dose of 50mg.

If licensed, this will be the first new cough drug in 50 years and offers hope to the millions of people living with chronic cough.

New heart disease drug to be made available through a ground-breaking clinical trial

Heart disease is the world’s biggest killer and the second biggest cause of death in the UK. Over three million people suffer from atherosclerotic cardiovascular disease and two and a half million rely on statins to lower their cholesterol.

The NIHR CRN will deliver a large-scale UK clinical trial of the yet to be approved drug Inclisiran, a treatment to lower cholesterol. In collaboration with NHS England, Oxford University and Novartis, our CRN will pilot an innovative approach to identifying, recruiting and following a large-scale patient group. Potentially eligible patients will be identified via NHS Digital searching patient records nationally and inviting potential recruits to be screened at one of 40 trial centres.

In a world-first, the drug is expected to be available through a population-level agreement, pioneering a game-changing approach to reducing the risk of heart disease.

Early results from clinical trials suggest that if Inclisiran is given to 300,000 patients annually, it could help prevent 55,000 heart attacks and strokes, and save 30,000 lives in the next 10 years.

Annual Report 2019/2020
New report highlights how NIHR support for clinical research benefits the UK economy and NHS

The value of clinical research to the NHS, the UK economy and jobs market has been evaluated in a new report. Produced by KPMG UK’s Economics team and commissioned by the NIHR CRN, the report provides an assessment of the economic impact of our activities to support clinical research in England.

The report covers the financial period 2016/17 to 2018/19. Over this three year period, clinical research supported by our CRN generated an estimated £8 billion of gross value added and 47,467 full time equivalent jobs for the UK.

The report also provides an insight into the benefits and income that NHS providers gain through undertaking commercial contract research – studies sponsored by life sciences companies and delivered alongside NHS care. Analysis showed that for each patient recruited to a commercial trial supported by the NIHR CRN, NHS providers in England received on average an estimated £9,200 from life sciences companies. In addition, an estimated £5,800 was saved per patient (where trial drugs replaced the standard NHS treatment).

Dr Jonathan Sheffield OBE, Chief Executive of the NIHR CRN, said: “The report highlights and evidences the significant contribution that the delivery of clinical research within the UK makes to the health and the wealth of the nation. Put simply, clinical research benefits our economy enormously – it creates jobs, and generates much needed income and savings for NHS Trusts – ultimately helping NHS finances to go further while improving patient care and services through the development of new drugs and treatments.”
5. Funding applied global health research and training
Introduction

The NIHR supports high quality applied health research for the direct and primary benefit of people in low and middle income countries using Official Development Assistance (ODA) funding.

We deliver our research funding through three main strands: 1) research programmes that award research funding to equitable partnerships between groups of researchers or groups of research institutions; 2) partnerships with other global health research organisations to support research and researcher career development; 3) investing in people by funding the career development of researchers at all stages and supporting research managers and research enabling staff.

New global health research funding

8 Research and Innovation for Global Health Transformation (RIGHT) awards, focused on epilepsy, severe and stigmatising skin diseases, and infection-related cancers

13 RIGHT Proposal and Partnership Development Awards (PPDA) on mental health

17 Global Health Policy and Systems Research (HPSR) programme development awards

1 Global Research Professorship

New global health research activities

9 new partnership funding agreements with other global health research organisations

1 new partnership agreement to deliver global health research capacity strengthening

61 Training Leads attended the first NIHR Global Health Research Training Forum
New approach to malaria treatment as effective as current regimen

For the past 60 years, treatment of certain types of malaria has involved taking drugs for 14 days. Many patients do not complete the course of treatment, which risks ongoing health problems as well as spreading drug resistance.

As a partner funder of the Joint Global Health Trials initiative, we co-funded a large clinical trial in Africa and Asia comparing a short 7-day course of primaquine, a drug used to treat Plasmodium vivax malaria, with the standard 14-day course. The trial results, published in The Lancet, showed that the short course was just as effective as the current standard regimen and did not cause any serious side effects. Offering a short course of primaquine could increase the number of people who complete their malaria medication and improve health outcomes, as well as save money.

NIHR and Wellcome partnership boosts global health research

Many major health issues in LMICs are under-served by research for new treatments. These include mental health, snakebite, multimorbidity (multiple long-term chronic conditions), nutrition, and non-communicable diseases such as cancer, heart disease and diabetes.

To address these health priorities, we joined forces with Wellcome to form the NIHR-Wellcome Global Health Research Partnership. This new multi-million pound partnership focuses on applied health research in these under-served topics, to strengthen the evidence base for interventions, and has patients and communities at its heart. The majority of the research funded will take place in low-resource settings.

Welcoming the new partnership, then Health Minister Nicola Blackwood said: “Diseases such as cancer, heart disease and diabetes are a growing problem for ageing populations around the world, particularly in low-income countries where resources are limited and treatment can be less readily available.

I’m determined to do all we can to improve the lives of the poorest people across the globe and I am delighted we have teamed up with the Wellcome Trust to unlock solutions to some of the biggest problems facing LMICs.”

New NIHR funding for global health policy and systems research announced at UN General Assembly

Protecting people from the financial consequences of paying for health services out of their own pockets reduces the risk that people will be pushed into poverty. At least half of the world’s population do not have full coverage of essential health services.

In October 2019, Professor Dame Sally Davies (then Chief Medical Officer for England) joined heads of state and health policy-makers at the UN General Assembly in New York to announce a £12 million funding call for health for all known as Universal Health Coverage.

The new commissioned funding call for the NIHR Global Health Policy and Systems Research programme will support research and capacity strengthening to improve access to appropriate and affordable health services across the lifecourse.

The £12 million of funding will enable experts from LMICs and the UK to form partnerships to contribute to universal health coverage and sustainable development goals.
NIHR invests £34 million into research on epilepsy and skin diseases

Epilepsy, infection-related cancers and severe stigmatising skin diseases are key areas of global health unmet need.

The NIHR Research and Innovation for Global Health Transformation Programme awarded £34 million to eight projects to address these health challenges, led by teams made up of researchers in the UK and those in 13 LMICs.

Five of the eight projects focus on reducing the public health burden of severe stigmatising skin diseases, which affect millions of people worldwide, causing chronic pain, discrimination and social ostracism.

Professor Chris Whitty, Chief Medical Officer and NIHR lead, said: “This significant investment in such a diverse spectrum of projects in under-funded and under-researched areas highlights NIHR’s emerging aim to fund applied global health research for the direct and primary benefit of people in LMICs, where the health needs are often greatest.”

NIHR and MRC join forces to tackle chronic diseases globally

World Health Organisation (WHO) figures show that every year, 41 million people die from non-communicable diseases, such as cardiovascular diseases, cancers, respiratory diseases, and diabetes. It is estimated that over three quarters of these global deaths occur in LMICs.

Unhealthy diets, physical inactivity, exposure to tobacco smoke, the harmful use of alcohol, as well as rapid unplanned urbanisation and an ageing population, all contribute to the increase in the number of people affected by non-communicable diseases.

We joined with the Medical Research Council to invest over £6 million in five implementation science projects focused on tackling diabetes and hypertension in LMICs. These projects will unite with over 25 international research projects from across 40 different countries in a landmark collaboration under the Global Alliance for Chronic Diseases (GACD).

The GACD is a unique collaboration of fifteen of the world’s largest health research funding agencies. Its goal is to tackle the burden of non-communicable diseases in LMICs by systematically building the evidence base for sound policymaking through implementation science.
Driving health improvements globally through Global Health Research Units and Groups

This year our existing Global Health Research Units and Groups continued to harness NIHR expertise to address global health needs in clinical disciplines not traditionally engaged in global health. Partnerships between UK and LMICs researchers supported research in over 50 countries.

This includes the following highlights:

- A hospital handbook developed to support management in critical care reduced waiting times in emergency departments in Malawi and Uganda
- A new centre was set up to provide counselling and crisis intervention for survivors of violence in a hospital in Maharashtra, India
- New diagnostic criteria were defined for brain infections in low and middle income countries, and existing UK diagnostic criteria were modified for use in these settings.
- In Tanzania, the country’s first rheumatology clinic was set up at the Kilimanjaro Christian Medical Centre.

Our funding has also developed training to support research and improve local practice:

- A diagnosis technique for severe mental illness is being used in practice by psychiatrists in Rawalpindi, Pakistan
- Midwives in Malawi and Zambia have benefited from training in ultrasound imaging and remote support from clinicians to help with decision-making in real time
- 255 healthcare practitioners were trained on best practice for asthma management, inhaler use, and spirometry in three hospitals in Ecuador
- Comprehensive Pulmonary Rehabilitation is now being used in practice by physiotherapists in public hospitals in Uganda
- A new module on household air pollution health and prevention, produced for the Kenyan Ministry of Health, is being used to train community health workers.

Through these partnerships and collaborations, we have harnessed UK medical and research expertise, working with other countries and networks of researchers and government, strengthening capability and addressing the greatest burden of diseases affecting populations in LMICs.
6. Engaging and involving patients, carers and the public
Introduction

The NIHR engages and involves patients, carers and the public in all the processes by which research is identified, prioritised, designed, conducted, evaluated and disseminated. We do this in order to improve the reach, quality and impact of our research. Our pioneering partnership with these communities has become one of the hallmarks of NIHR and is considered to be world-leading.

Participation

732,176 participants were recruited by the NIHR Clinical Research Network (CRN) into research studies in England.

90% of respondents to the Research Participant Experience Survey had a good experience of taking part in research, and 83% told us “It is important to me to know the results of the research study”

415,832 people visited the Be Part of Research website to find opportunities to participate in research.

7,455 new UK volunteers signed up to Join Dementia Research, many of whom took part in research.

46,135 volunteers signed up to the NIHR BioResource, bringing the total number of people willing to take part in early phase clinical research to 181,915.

556 patients, carers and members of the public acted as volunteer Research Champions to attract more people to participate in research.
Involvement

398 members of the public conducted 841 reviews of research funding proposals

124 public members served on our funding committees and advisory boards

239 opportunities to get involved in research were listed on the People in Research website

Participants from the DRIFT research study at the 10-year follow-up event. Read more on page 41.
Key highlights

• In November, we launched a free online course to help patients, service users, interested members of the public and carers learn more about health research. ‘What is Health Research?’, developed by the NIHR Clinical Research Network (CRN), is run three times each year. In addition to discovering how research is improving healthcare, learners hear from people who have taken part in research and the difference it can make.

• The NIHR Inflammatory Bowel Disease (IBD) BioResource reached a new recruitment milestone of 25,000 research volunteers, two years ahead of schedule. The IBD BioResource is a database of patients with Crohn’s disease and ulcerative colitis who are willing to participate in research. More than 10 studies are using the NIHR IBD BioResource, and the aim is to recruit a total of 50,000 participants over the next five years.

• We launched a competition to establish five new NHS Patient Recruitment Centres, to increase the public’s ability to take part in research in England. Each centre uses predefined standard procedures and technology, enabling a digital-first approach to recruitment into clinical trials and facilitating the rapid set-up of late-phase commercial research. The centres will help shape the future of commercial clinical trials in the NHS and expand the NHS’s capacity to deliver research.
New standards for public involvement in research launched

High quality public involvement can make a real difference to research and healthcare. People, teams and organisations in health research often ask ‘What does good public involvement in research look like?’. To address this question, a strategic review of public involvement recommended that the NIHR should develop a set of values, principles and standards for public involvement.

We have now released a final and complete set of UK Standards for Public Involvement, developed over three years through a joint four-nation partnership. The standards, tested during a year-long pilot programme, cover six ‘values-based’ areas: Inclusive Opportunities; Working Together; Support and Learning; Communications; Impact; and Governance.

The standards aim to improve public involvement practice by providing examples of good practice and helping people and organisations identify what they are doing well, and what needs improving.

Work begins on developing a single, new NIHR centre that will lead public engagement and research dissemination

In 2015, Going the Extra Mile, NIHR’s 10-year plan for public involvement and engagement, made recommendations of how to develop sustainable improvement in public involvement and how innovation can thrive.

To help achieve some of these recommendations, we announced plans to open a new, single centre to develop and enhance the ways that patients, service users, carers and the public can partner with us to advance research.

The new NIHR Centre for Engagement and Dissemination was scheduled to open in April 2020. It will improve research relevance for all by combining the strengths of current NIHR approaches to research dissemination with patient and public involvement, engagement and participation (PPIE).

Dr Louise Wood, Director of Science, Research and Evidence at the Department of Health and Social Care (DHSC) and co-lead for NIHR, said: “Our public contributors continue to challenge us to improve what we do. The new centre will put us in a better position to build new partnerships and to work differently, including using co-production and co-design.”

Join Dementia Research celebrates fifth birthday

Dementia affects more than 850,000 people in the UK. Our knowledge of dementia currently lags behind that of other major conditions, such as cancer or heart disease, and the number of patients is set to double over the next 30 years. Researchers have struggled to recruit participants for studies, and potential volunteers have had difficulty finding out how they might contribute to research.

In partnership with Alzheimer’s Research UK, Alzheimer Scotland and Alzheimer’s Society, we developed Join Dementia Research, which allows people to register their interest in participating in dementia research and be matched to suitable studies. It also connects healthcare professionals all around the country.

Join Dementia Research celebrated its fifth birthday in February 2020. Since the service launched in 2015, over 45,000 people have volunteered and nearly 40,000 participants have joined a study. New studies are added to Join Dementia Research every week.

To celebrate the occasion, Join Dementia Research volunteers were asked to share a birthday card with someone who might sign up.
International thought leadership for patient and public involvement

Patient and public involvement (PPI) in health and social care research is a rapidly growing, important global movement.

We are a founding partner in the International PPI Network, which has representation from 47 countries and includes partners such as Cochrane, COMET, University of Warwick, University of Southern Denmark and Telethon Kids Australia.

The network seeks to build a global partnership that strengthens PPI in health research, producing better and more relevant research, and resulting in services and treatments needed by patients and the public.

As part of the network’s Learning Live series, NIHR INVOLVE presented two of seven webinars: Patient and Public Involvement in research: What, why and how? (August 2019) and Co-production in Action (November 2019). The webinars were viewed by almost 200 people.

Long-term patient and public engagement in a pioneering brain haemorrhage treatment study in premature babies

Bleeding in the brain is one of the most serious complications of preterm birth and can cause significant brain injury leading to severe learning disabilities.

An initial two-year trial of a novel surgical technique to treat serious brain haemorrhage, called ‘Drainage, Irrigation and Fibrinolytic Therapy’ (DRIFT), showed promising results.

The subsequent 10-year outcomes of DRIFT (DRIFT10), funded by the HTA programme, showed that children who received the treatment were significantly more likely to survive without a severe learning disability and more likely to attend mainstream education. It is the first and only treatment for severe bleeding in the brain to show a long-term advantage in the outcome.

PPIE was crucial to the development and delivery of the research, with parent advisors included on the study steering group. One parent, Steve Walker Cox, became a co-applicant on the study after his newborn Isaac experienced a brain haemorrhage and took part in the trial. A 10-year follow-up showcase event was held to share the results with the families and children involved, and Steve shared his experiences as a co-applicant. Participants from the UK, Norway and Poland attended.

Promoting equality, diversity and inclusion in research

We are committed to actively and openly supporting and promoting equality, diversity and inclusion (EDI). To address under-representation, we are working to include and broaden the diversity of the patients, carers and members of the public that are engaged and involved with NIHR research.

Applicants to NIHR research now need to demonstrate how specific EDI characteristics have been considered and addressed in their proposal. This includes the steps taken to ensure the research sample is representative of the population the study is targeted at, justify any exclusions and demonstrate consideration of inclusive research locations.

This year we also changed the cross-centre recruitment criteria for public committee members and strategic advisory group members, to better engage communities that were under-represented in their work. A total of 27 public members were recruited as part of this campaign.
Launch of ‘Be Part of Research’ website for patients to sign up to research studies

A new NIHR website intends to make it as easy as possible for the public to find out about and take part in research studies across the UK.

‘Be Part of Research’ is a service which aims to help people find research studies and approach research teams to volunteer for studies. It supports the goal in the NHS Long Term Plan for a million people to register their interest to participate in research studies by 2023/24. Clinicians and healthcare professionals can also use the site to inform patients about research and support those who ask about studies.

The Be Part of Research website includes simplified navigation, improved search and filtering facility, and the ability to feedback on the usefulness of study information.

The website attracted over 50,000 visits in the first three months and was built from mobile-first principles so that users can find a research study wherever they are.

The redevelopment sought input from members of the public throughout the process and builds on the success of the UK Clinical Trials Gateway (UKCTG). Continued improvement based on user feedback is planned over the coming months and years.

Lynn, a public user tester for the site, said: “Be Part of Research website helps break down the barriers between people wanting to participate in research and people conducting research. I have a long term medical condition, research is very important to me because it gives me hope. The work of the NIHR means I can access the latest research opportunities, to benefit myself and potentially help others wherever I am in the UK.”
Financial summary
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<th>Spend (£m)</th>
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<td>Health Innovation Challenge Fund</td>
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**Research programmes total** 300.0
### Infrastructure

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<th>Infrastructure</th>
<th>Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Research Collaborations</td>
<td>25.0</td>
</tr>
<tr>
<td>Biomedical Research Centres</td>
<td>169.0</td>
</tr>
<tr>
<td>BioResource</td>
<td>8.0</td>
</tr>
<tr>
<td>Clinical Research Facilities</td>
<td>23.1</td>
</tr>
<tr>
<td>Clinical Research Network</td>
<td>307.8</td>
</tr>
<tr>
<td>Experimental Cancer Medicine Centres</td>
<td>3.3</td>
</tr>
<tr>
<td>Patient Safety Translational Research Centres</td>
<td>3.7</td>
</tr>
<tr>
<td>Medtech and In vitro Diagnostics Co-operatives</td>
<td>2.8</td>
</tr>
<tr>
<td>Research Capability Funding</td>
<td>57.2</td>
</tr>
<tr>
<td>Research Design Service</td>
<td>10.5</td>
</tr>
<tr>
<td>Other (including dementia and child prosthetics)</td>
<td>12.3</td>
</tr>
<tr>
<td><strong>Infrastructure total</strong></td>
<td><strong>622.7</strong></td>
</tr>
</tbody>
</table>

### Academy

<table>
<thead>
<tr>
<th>Academy</th>
<th>Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70@70 Senior Nurse and Midwife Research Leader Programme</td>
<td>1.9</td>
</tr>
<tr>
<td>Fellowships (including legacy training awards)</td>
<td>21.2</td>
</tr>
<tr>
<td>Integrated Academic Training (including academic clinical fellowships, lectureships and clinician scientist awards)</td>
<td>67.4</td>
</tr>
<tr>
<td>Research Professorships</td>
<td>7.9</td>
</tr>
<tr>
<td>Senior Investigators</td>
<td>3.5</td>
</tr>
<tr>
<td>Other (including management and clinical academics)</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>Academy total</strong></td>
<td><strong>107.2</strong></td>
</tr>
</tbody>
</table>
### Systems

<table>
<thead>
<tr>
<th>Description</th>
<th>Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Informatics Collaborative</td>
<td>0.2</td>
</tr>
<tr>
<td>Information systems that enable research</td>
<td>5.4</td>
</tr>
<tr>
<td><strong>Systems total</strong></td>
<td><strong>5.6</strong></td>
</tr>
</tbody>
</table>

### Total revenue spend

<table>
<thead>
<tr>
<th>Description</th>
<th>Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total revenue spend</strong></td>
<td><strong>1035.4</strong></td>
</tr>
</tbody>
</table>

### Other spend

<table>
<thead>
<tr>
<th>Description</th>
<th>Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIHR contribution to Genomics England</td>
<td>50.0</td>
</tr>
</tbody>
</table>

### Total NIHR spend excluding Official Development Assistance

<table>
<thead>
<tr>
<th>Description</th>
<th>Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total NIHR spend excluding Official Development Assistance</strong></td>
<td><strong>1085.4</strong></td>
</tr>
</tbody>
</table>

### Official Development Assistance

<table>
<thead>
<tr>
<th>Description</th>
<th>Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobial resistance (AMR): Behaviour within and beyond the healthcare setting</td>
<td>0.9</td>
</tr>
<tr>
<td>AMR in the Global Setting: understanding the drivers of AMR</td>
<td>2.0</td>
</tr>
<tr>
<td>AMR Operational Research</td>
<td>2.5</td>
</tr>
<tr>
<td>Coalition for Epidemic Preparedness Innovations</td>
<td>20.0</td>
</tr>
<tr>
<td>Diagnostics, prosthetics and orthotics to tackle health challenges in developing countries</td>
<td>2.6</td>
</tr>
<tr>
<td>European and Developing Countries Clinical Trials Partnership</td>
<td>22.0</td>
</tr>
<tr>
<td>Global Alliance for Chronic Disease</td>
<td>0.7</td>
</tr>
<tr>
<td>Global Antibiotic Research and Development Programme</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Total Official Development Assistance</strong></td>
<td><strong>120.0</strong></td>
</tr>
</tbody>
</table>
### Official Development Assistance

<table>
<thead>
<tr>
<th>Project</th>
<th>Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Health Research Units and Groups</td>
<td>44.8</td>
</tr>
<tr>
<td>Global Research Professorships</td>
<td>0.6</td>
</tr>
<tr>
<td>Global Road Safety Facility</td>
<td>1.8</td>
</tr>
<tr>
<td>Grand Challenges Canada – Mental Health Partnership</td>
<td>0.5</td>
</tr>
<tr>
<td>Joint Global Health Trials Initiative</td>
<td>6.0</td>
</tr>
<tr>
<td>NIHR-Wellcome Partnership</td>
<td>2.0</td>
</tr>
<tr>
<td>Research and Innovation for Global Health Transformation</td>
<td>4.3</td>
</tr>
<tr>
<td>Research for Health in Humanitarian Crisis</td>
<td>0.9</td>
</tr>
<tr>
<td>Research to improve adolescent health in low and middle income settings</td>
<td>1.6</td>
</tr>
<tr>
<td>Other</td>
<td>4.6</td>
</tr>
</tbody>
</table>

**Total Official Development Assistance**  
120.0

### Total NIHR spend including Official Development Assistance  
1205.4

Full details of the Department of Health and Social Care’s Official Development Assistance spending, including through the NIHR, is reported to the International Aid Transparency Initiative.