

NIHR

Newcastle Biomedical
Research Centre



Our Annual Report

2024-2025

Our BRC

The National Institute for Health and Care Research (NIHR) Newcastle Biomedical Research Centre (BRC) brings together world-leading researchers and clinicians to turn early scientific breakthroughs into potential new treatments, diagnostics and health technologies for patients.

In this report, we are celebrating our key achievements between 2024-2025 across our research themes and cross-cutting areas. Thanks to our researchers, clinicians, students, healthcare professionals, research participants, industry colleagues, funders, public contributors and the core team, we turn innovative ideas and discoveries into practical benefits for patients, as well as contributing to the local and national economy.

We Are a North East Success Story

Newcastle is the only centre outside of London, Oxford and Cambridge to have been awarded NIHR BRC status in every funding round since 2007.

That's four consecutive funding awards from the NIHR and nearly 20 years of experience in world-leading translational research here in the North East of England.

Awarded £25.8m by NIHR for 5 years from 2022, we continue to invest in a research programme, which aims to transform the lives of patients through world-leading research in ageing and multiple long-term conditions (MLTC).

Who We Are

Across eight research themes, we bring a breadth and depth of world-leading experimental medicine research expertise where we can drive forward health improvements in areas that matter to patients and the NHS.



8 Research Themes



134 Funded Researchers and Support Staff



31 PhD Students

Building Interdisciplinary Research Across Our Themes

By combining diversity of research experiences and approaches within and across disciplines we provide new insights and methods to more effectively tackle the clinical challenges that the BRC is addressing.

This year we have established structures to facilitate BRC-wide synergistic programmes of research. We have made key appointments across our Research Themes to achieve BRC-wide coherence and collaboration and built opportunities for interdisciplinary research in the following five areas:

1. Collecting standardised ageing and MLTC data across patient cohorts
2. Focusing on patient priority symptoms including low mood and mobility
3. Incorporating advances in wearable technology
4. Sharing mechanistic expertise such as single cell genomics
5. Linking rare disease areas

In 2024-2025, we funded:



9 Interdisciplinary Research Projects

Progress and Developments

We made significant progress advancing our five strategic objectives: *excellence, impact, synergy, partnership building and capacity building*, all following our vision to transform lives through world-leading research in ageing and multiple long-term conditions (MLTC).

We have progressed short-, medium- and long-term objectives across our programme of translational research, as well as in areas such as, PPIE, equality, diversity and research inclusion, research capacity development, and building collaborations with industry partners.

In 2024-2025, we had:



249 Publications



315 Active research projects



3363 Participants recruited to clinical trials



Our Top 3 Significant Achievements in 2024-2025

We are addressing the three “big shifts” identified in the Government’s 10-year Health Plan for the NHS of *hospital to community, analogue to digital, and treatment to prevention* as illustrated through our three key achievements.




Treatment to prevention:
We continue to raise the profile and importance of Ageing and Multiple Long-Term Conditions (MLTC) Research

Analogue to digital:
We have further developed an Early Warning Score System in Digital Hospital Care

Hospital to community:
We released an open source algorithm that generates validated and reliable Digital Mobility Outcomes for use in multiple patient populations

Leveraged Funding

We leveraged over £29m in external funding from industry, charities and government organisations in 2024-2025:

-  **£3.9m** from over 30 industry funders
-  **£5.3m** from over 40 research charities
-  **£5.5m** from government organisations

Expanding Our Translational Research

We are committed to supporting researchers across our themes to drive their research forward along the translational pipeline. We offer funding opportunities through pump-prime funding, studentships and bursaries.

Collaborative Working

The BRC sits at the heart of a world-class translational research environment across our Partnership and the North East and North Cumbria (NENC) region, and is also home to a wide range of NIHR funded infrastructure.

We continue to collaborate with NIHR Infrastructure across our region, and our themes remain active in a number of Translational Research Collaborations (TRC).

NIHR Infrastructure

Together with the NIHR Applied Research Collaborations North East and North Cumbria Chief Operating Officer, our BRC Chief Operating Officer continues to Co-Chair the NENC NIHR Infrastructure Group bringing together the Directors and Managers of a diverse range of NIHR infrastructure. This group provides a collective voice regionally, linking to the NENC Integrated Care Board, as well as catalysing innovative initiatives and developing activity.

Our **Northern BRC network**, including Sheffield, Leeds and Manchester, remains active in sharing, learning and collaborating on topics including annual reporting, capacity building, and industry and partnerships.

The **Multiple Long-Term Conditions (MLTC) Cross-NIHR Collaboration (CNC)**, jointly led by NIHR Newcastle BRC and NIHR East Midlands ARC was officially launched. This initiative brings together a range of NIHR infrastructure to address complex MLTC research questions.



Examples From Our Themes



Our **Dementia, Mental Health and Neurodegeneration Theme** is playing a key role in building the UK's clinical trial capability. They secured £18.5m for a UK mood disorders research clinic network and £49.9m for the Dementia Translational Research Collaboration Trials Network.



Our **Musculoskeletal Disease and Inflammation Medicine Theme** is active in the NIHR Versus Arthritis Musculoskeletal Translational Research Collaboration (TRC).



Newcastle has a distinguished history of research and clinical care in rare disease. The **Neuromuscular Disease, Rare Diseases and Mitochondrial Dysfunction Theme** play a key role in the [LifeArc Centre for Acceleration of Rare Disease Trials](#) and the [LifeArc Centre for Rare Mitochondrial Diseases](#). These centres are national partnership including colleagues at Cambridge University, UCL, the [Lily Foundation](#), and [Muscular Dystrophy UK](#).



Charities and Other Public Funders of Research

Funded by the Medical Research Council (MRC) and NIHR, a new platform, [Rare Disease Research UK](#), brings together the UK's

strengths in rare disease research to improve diagnosis and treatment. The Hub positions the work of the 11 research groups or networks (called nodes) within the wider UK and international rare disease research ecosystem, and addresses shared challenges by working across diseases.

Newcastle University leads the Hub in partnership with Newcastle Hospitals and Genetic Alliance UK. Newcastle also leads two of the research nodes including Rare Renal Diseases.



Our researchers are strengthening UK engagement with international rare disease initiatives through our role as a partner in the [European Rare Diseases Research Alliance \(ERDERA\)](#). Newcastle's role includes advancing genomic science and diagnostics as well as strengthening national and international collaboration.



Newcastle leads one of only three Alzheimer's Society funded [Doctoral Training Centres](#). Focused on Lewy body dementia (LBD) it will support a minimum of 27 PhD studentships with a vision to co-create a thriving, and united, LBD UK research community whose core mission is to improve the lives of people living with LBD, with their experiences at its core. This initiative will significantly amplify both local BRC scientific and translational work along with national efforts and links with other BRCs including UCL, Exeter, Southampton and Nottingham.

Patient and Public Involvement and Engagement (PPIE)

We work with public contributors at all stages of the research cycle, assuring the relevance of research that meets patient need as well as maximising research quality, value and impact.

Engaging and Involving Under-served Communities

We held a very successful NIHR Newcastle BRC Celebration of Research Excellence: Community Event in central Newcastle attended by a diverse group of 170 people from across the region, with a particular focus on under-served communities.

In 2024-2025, we had:



1023 Public contributors involved in our research



210 Community outreach activities and events

PPIE Activities in Our Themes

Across our themes, a number of other activities were held to involve under-served communities. Some examples are:



In the MET-PREVENT trial run by the **Ageing, Sarcopenia and Multimorbidity Theme**, older people with sarcopenia were involved in conception, design, delivery, management and dissemination.



The **Skin Disease, Oral Disease and Immunogenomics Theme** co-produced a video featuring people with learning disabilities with the aim of enhancing communication with dental health professionals through working with the theatre group, The Lawnmowers.



The **Liver Disease, Multimorbidity and Lifestyle Theme** delivered food insecurity and liver disease workshops involving carers and people from socio-economically deprived communities, developing shared agendas for future research.



The **Dementia, Mental Health and Neurodegeneration Theme** held national workshops and focus groups co-developed with PPIE contributors to explore and promote inclusion of under-served groups with dementia and Parkinson's disease. These efforts also linked to digital inclusion work led by the **Digital Health, Ageing Innovation and Inclusion Theme**.



Inclusive Opportunities for Public Members



All Themes have PPIE advisory groups. Three new groups were launched this year, and we have increased the diversity of groups with a supporting review into best practice. We co-fund the Public Partnerships Training Programme delivered by Newcastle Health Research Partnership (NHRP) offering PPIE training to researchers and public members covering the whole Research Cycle.

Involving Public Members in Governance

Our NIHR Newcastle BRC Public Partnerships Advisory Group (PPAG) continues to provide governance and oversight of our PPIE strategy and contributions to the NIHR Newcastle BRC Strategy Group. Our PPAG provided valuable new contacts and were instrumental in the successful planning and execution of our public showcase event. They have provided significant input to improve our communication materials.

Collaborations



Our BRC part-funds a Research Partnerships Coordinator at the Voluntary Organisations Network North East (VONNE) and we continue to strengthen relationships with local community groups including Elders Council, Liver North, and Haref Connected Voice. We are also part of the Health Innovation Neighbourhood campus of Newcastle University, working with the outreach teams to engage with under-served communities in the West End of Newcastle.



Research Capacity Development

We build capacity through collaborative leadership and training opportunities that will develop a flourishing interdisciplinary pipeline of translational researchers for the future.

Over the past year, NIHR Newcastle BRC has continued to champion and raise the profile of Ageing and MLTC research opportunities with a focus on collaborating with local and regional NIHR infrastructure, partners and beyond. It has a range of capacity building initiatives targeted at different career stages. Our collaborative approach has led to cross-NIHR infrastructure working with further cross-partnership opportunities in the pipeline.

The NIHR Newcastle BRC and their researchers made the following impact in academic career development:

Training

- Awarded **BRC Bursaries** for intercalated degrees related to inflammation and ageing to two students
- Our flagship **Health and Care Professional (HCP) Internship Scheme** funded a 6-month secondment for a Newcastle Hospitals Occupational Therapist to develop research skills
- Launch of a **Bioinformatics Training Course** attended by Biomedical and Clinical PhD students



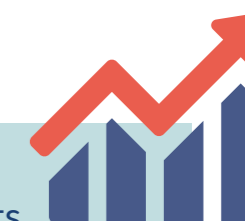
Preparatory Fellowships and Funding



- **Pre-Application Support Fund Award** to develop a project on inherited retinal disease, forming the basis of a future Doctoral Fellowship funding application
- **Four-year Royal Society Career Development Fellowship** for researchers of Black heritage with the overall aim to support their retention in STEM
- **MRC Clinician Scientist Fellowship**
- **Alzheimer's Research UK Fellowship** to advance post-doctoral studies on a path to independence
- The NIHR Newcastle BRC was successful in the second round of **NIHR Senior Clinical and Practitioner Research Awards**, highlighting our commitment to supporting diverse talent into clinical academic careers via non-traditional pathways
- **2025 Venture Building Incubator Award** for future researchers to grow and develop business and related skills at the University of Edinburgh

Leveraged Research Funding

- Prestigious Academy of Medical Sciences Starter Grants
- Internationally competitive LEO Foundation Serendipity Award
- 2025 Versus Arthritis Inflammatory Arthritis Research Consortium



Collaborations

Together with NIHR Leeds BRC, we held an annual joint training event in September 2025, bringing together 140 Rheumatology clinical and academic researchers at all career stages across the Northern and Yorkshire regions.

In collaboration with [Newcastle Health Research Partnership \(NHRP\)](#), NIHR Newcastle BRC hosted a 'Health and Care Research is all Our Business' event in October 2024, welcoming over 50 professionals from diverse professional backgrounds interested in exploring or advancing academic careers. The event included presentations from [Cumbria, Northumberland, Tyne and Wear NHS Foundation Trust \(CNTW\)](#) and [Applied Research Collaboration \(ARC\) for the North East and North Cumbria \(NENC\)](#) infrastructure.

NIHR/NHSE North East and Yorkshire Forum for HCP Capacity Building is a collaboration between NIHR ARCs and BRCs from the NENC, Yorkshire and Humber regions. Together with NHSE and stakeholders at key regional Teaching Hospitals, the overarching goal is to work synergistically to deliver regional capacity building for HCPs.



Healthcare Research Is All Our Business Event:



Equality, Diversity and Research Inclusion

We are committed to ensuring our research excellence is enabled by an inclusive environment that prioritises equality and diversity.

In 2024-2025 we have further implemented our Equality, Diversity and Inclusion Strategy to reflect NIHR's expectations regarding inclusive practice in research, culture and systems.

Our key EDI activities in 2024-2025:

NIHR Research Inclusion Networks

The BRC is engaged with wider NIHR national and regional Research Inclusion networks.

The BRC & Clinical Research Facility (CRF) Inclusive Research Network met to share strategies and discuss opportunities for collaboration.

The NIHR Newcastle BRC is also a member of the regional NIHR Research Inclusion Network led by the NIHR Research Support Service Hub. This Network has two distinct areas of focus which are 'Organisational EDI' and 'Research Inclusion'.



Theme EDI Leads

An EDI Lead for each research theme was appointed. Their role is to be an active and engaged member of the wider EDI team, representing their respective research themes at meetings. The Theme EDI Leads have worked well to promote the first NIHR Newcastle BRC EDI survey, helping to disseminate the survey and raise awareness.



EDI Survey

The NIHR Newcastle BRC developed an EDI survey to capture BRC baseline data in order to develop activities and initiatives that are informed by survey findings.

The survey responses included a spread of reported experiences with evidence of an overall desire to see EDI related issues be better addressed through regular events on EDI topics and bespoke EDI training. We are curating a programme of EDI workshops on topics identified in the survey e.g. neurodiversity, accents and bias and EDI language and terminology.



Industry

Industry partnerships are vital to our strategy, translating discoveries into benefits for patients and economic growth. Companies are attracted by the access we can provide to experienced clinicians and scientists, patient cohorts, robust delivery infrastructure and our collaborative ethos.

Here are three examples how we've worked with industry partners last year:

1

Through our **Ageing, Sarcopenia and Multimorbidity Theme** we have agreed a major collaboration with Regeneron to conduct a range of structural and transcriptomic analyses of muscle samples across the lifecourse collected as part of our MASS Lifecourse deep phenotyped cohort. This partnership will apply cutting-edge skeletal muscle biology analyses to our samples, providing new insights into mechanisms under-pinning the loss of muscle strength and mass with advancing age, and thus suggesting new therapeutic targets to prevent and treat sarcopenia.

We have also leveraged our expertise in trial design and delivery to enter a consultative relationship with Rejuvenate Biomed: a biotech company with particular focus on novel targets to ameliorate fundamental biological mechanisms of ageing and age-related conditions including sarcopenia. We are advising on trial design for their pipeline of novel sarcopenia interventions to ensure clinical relevance and deliverability of trials in this new and challenging space.

REGENERON

**Rejuvenate
Biomed**

2

Over the last decade, Member of the BRC Leadership Track for **Informatics and Precision Care for an Ageing Population** Prof Chris Lamb has successfully delivered four sequential Inflammatory Bowel Disease (IBD) research contracts with Genentech, who was a key partner in the successful bid to the public private partnership Open Targets. Several partners will be involved in Open Targets including the Wellcome Sanger Institute, the European Bioinformatics Institute (EMBL-EBI), Genentech, GSK, MSD, Pfizer and Sanofi. Serial blood, intestinal biopsy and stool samples will generate single cell transcriptomic, gut microbiome and virome data and form an unparalleled biorepository from this inception cohort. An expert patient panel has been convened through our links with Crohn's & Colitis UK.

3

Within our **Informatics and Precision Care for an Ageing Population Theme** and in collaboration with our Academic Health Science Centre we are now committed to wide-ranging strategic partnerships with Roche and Leica; this includes use of health data and AI developments together with programs around digital pathology. Furthermore, discussions are ongoing regarding a strategic partnership with the global health AI company Tempus and there is an emerging strategic partnership with Owkin, an international leader in AI applications in precision diagnostics as well as with several digital pathology AI SMEs. An additional opportunity for establishing new industrial engagement is offered through the recently launched Newcastle NIHR Health Tech Research Centre (HRC).



NIHR Newcastle BRC Industry Engagement

Colleagues across our BRC have identified the need to build skills and confidence as a key enabler to working with industry.

As a result we have developed our industry plans around **two broad objectives**:

Support NIHR Newcastle BRC investigators at all levels to develop confidence and skills to engage with industry

Accelerate progression of research along the translational pathway through increased industry involvement

Our key activities included:

In February 2025, we hosted a meeting of the Northern BRC Operational Teams, with a focus on industry engagement. We were delighted that Kim Down, NIHR Senior Business Development Manager attended, and her colleagues were able to join virtually, adding to the cross-BRC discussions.

In June 2025, we held our first ever BRC Industry Month with a series of dedicated events and initiatives aimed at supporting the BRC Community to engage with industry partners in order to accelerate progression of research along the translational pathway to patient benefit.

This included:

- BRC industry masterclass programme
- Rapid response call – pump priming funding to support investigators to respond to industry opportunities
- Industry focussed bursary scheme – small funding pots to support industry engagement and travel.

In 2024-2025, we had:



46 New industry partnerships



17 Continued industry partnerships



55 Partnerships with international companies

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The NIHR Newcastle Biomedical Research Centre (BRC) is part of the NIHR and hosted by The Newcastle upon Tyne Hospitals NHS Foundation Trust and Cumbria, Northumberland, Tyne and Wear NHS Foundation Trust in partnership with Newcastle University.