



Leicester, Leicestershire and Rutland (LLR) ICS Embedding Research into Practice

**A discussion document to inform the
research strategy**



DRAFT: 20/06/22

Why Research

We know that research can change as well as save lives. It is only through research that we can develop better treatments and care as well as improve diagnosis and prevention.

Every year thousands of people from all ages and backgrounds volunteer for research studies taking place across LLR. In 2019–2020 and 2020–2021 alone over 52,000 people from our hospitals, CCG's and partnership trusts were new recruits into our research trials.

Our healthcare community is dynamic and research active, developing world class specialists in all medical fields providing the latest medicines, treatment and care pathways for our patients.

COVID-19 has shown clearly the importance of research in tackling major health issues. LLR received national and international acclaim to their response to COVID-19. More than 29,000 people took part in COVID-19 research at UHL alone, more than recruited from the whole of Scotland and over 95% of COVID-19 patients in the first wave were recruited to a least one study with over 50% entering interventional trials.

UHL was the UK's highest recruiting centre to the RECOVERY trial with more than double the number of people recruited compared to the next highest Trust, and also co-led two studies into the longer term effects of COVID on hospitalised patients (PHOSP-COVID) and the effects of the pandemic on ethnic minority healthcare workers (UK REACH).

The Leicester Patient Recruitment Centre were ranked 3rd in the world for recruitment to the ENSEMBLE vaccine trial, meeting the target within weeks of opening the study.

The Getting It Right First Time (GIRFT Report) highlighted the link between research and reduced mortality, with UHL reporting one of the lowest mortality rates from COVID in the UK.

Furthermore, the NHS constitution states anyone should be able to learn of research taking place that is relevant to them. There is evidence that taking part in research can benefit patients and carers by offering the opportunity to try new treatments and learn more about their condition.

Dynamic research communities are more likely to attract and retain high quality staff and also bring investment into LLR, for example, in our Biomedical Research Centre, every £1 invested by NIHR generated an additional £10 of new funding from research grants. This enables the community to grow their research teams, facilities and expertise.

Research excellence in LLR has been exemplified by the recent 2021 Clinical Research Network (CRN) Regional Research Awards, where our researchers won in all 6 nominated award categories.

Integrated care systems (ICSs) are a new partnership collaborations bringing together healthcare providers and commissioners of NHS services with local authorities and other partners to collectively plan health and care services to meet the needs of their population. Along with 41 other ICSs, Leicester, Leicestershire and Rutland ICS will look to integrate care across different organisations and settings, joining up hospital and community-based services, physical and mental health, and health and social care. As this new system is formed there is an opportunity to ensure research is embedded at its core.

Health Issues

The NHS, in all its forms, serves a population of 1.2 million people across LLR. The people of Leicester, Leicestershire and Rutland (LLR) represent one of the most diverse populations in the country in terms of age, education, ethnicity, wealth, health and health needs. Thereby improving the health of local residents by preventing illness, tackling inequalities and unwarranted variation in care, whilst delivering seamless services is the mantra for the new ICS.

Priority areas for health include cardiovascular disease, diabetes, obesity and mental health. These 4 areas are critical to the health and wellbeing of the local population, and the challenges they represent can only be addressed by the NHS, local government and voluntary and community sector working together to tackle the wider determinants of ill health that often lead to poorer health outcomes. All of this work needs to be underpinned by research showcasing the latest evidence into the reduction in overall inequalities and lessening the burden on healthcare.

Why Leicester, Leicestershire and Rutland?

Our environment and community

Leicester, Leicestershire and Rutland (LLR) covers an area of roughly 2,532km² and is a mix of densely populated urban and rural environments with a population of 1.2 million people.



LLR has a wide socio-economic spectrum, with areas of both wealth and severe deprivation, and is ranked as the 20th most deprived region in England.



Whilst LLR is an urban environment, it is home to 13 large parks, many smaller parks and gardens. Many of Leicestershire's parks are awarded a Green Flag Award.



In the city of Leicester alone, there are 31 outdoor gyms Leicester City parks, showing the potential for the use of green space within an urban environment.



Leicester city is home to the largest outdoor covered market in England. Loughborough and other market towns still host weekly market stalls.

Our population and diversity

LLR are ethnically and culturally diverse counties in the heart of England.



Of LLR's 1.2 million population, 78% identify themselves as being of white ethnicity, compared with an average of 87% across the rest of the UK.



More than 70 languages and/or dialects are spoken in the county. In addition to English, Commonly spoken languages are: Gujarati, Punjabi, Somali and Urdu.



LLR has the most diverse shopping street in Britain – Narborough Road – with at least 23 different nationalities in the space of a mile.



There are 193 different places of worship representing 45 different religious groups in Leicester alone.

Our culture and sports

LLR is a culture vulture's paradise, home to an array of museums and galleries, a vibrant festival calendar, a rich and varied heritage. The sports scene is thriving and is home to no less than four top sports teams.



DNA fingerprinting, was discovered at the University of Leicester by Sir Alec Jeffreys in 1984.



Raised on campus at the University of Leicester, Sir David Attenborough and his brother Lord Richard Attenborough



Britain's oldest basketball team, Leicester Riders, was founded in 1967



The longest running women's football club in the league is Leicester Ladies FC.

Our universities

Within LLR, we are lucky enough to have 3 world renowned universities who are producing high quality research programmes, developing our next generation of medical and healthcare staff, supporting world leaders in clinical and health implementation research and improving the quality of care received by our population. Each of these universities have their own specific strengths and are performing collaborative work to better provide outputs for the populations they serve.

Loughborough University

Loughborough University is one of the country's leading universities, with a reputation for excellence in teaching and research, strong links with business and industry and unrivalled sporting achievement. Loughborough University has a wide-ranging portfolio of research relating to health and wellbeing. Much of this research is interdisciplinary, engaging colleagues from engineering, design, science, social sciences, and humanities.

Loughborough Universities hosts the **National Centre for Sport and Exercise Medicine (NCSEM)** which is a partnership between the University of Leicester, Loughborough University, The University of Nottingham, University Hospitals of Leicester NHS Trust and Nottingham University Hospitals NHS Trust.



De Montfort University

De Montfort University (DMU) is organised into four faculties: Arts, Design and Humanities; Business and Law; Computing, Engineering and Media Studies; and Health and Life Sciences (HLS). Research in HLS is aimed at being responsive to challenging opportunities within areas that utilise their interdisciplinary research expertise to support regional, national and international health and social-care needs. One of their five institutional research themes is “**lifelong well-being**” which is focused on an integrated approach to the understanding of health and well-being across the life course.



University of Leicester

The University of Leicester is made up of 3 Colleges; The College of Life Sciences, The College of Science and Engineering and The College of Social Sciences, Arts and Humanities.

Key centres within in the University are the **Centre for Environmental Health and Sustainability (CEHS)** and the **Centre for Ethnic Health Research (CEHR)**. The CEHS has a vision of improving human health and the health of the environment, through cutting edge multidisciplinary research, in a changing world. Meanwhile, The CEHR works to address the inequalities in health care access and health outcomes by supporting individuals and organisations in planning and undertaking research and healthcare delivery that involves and understands the needs of ethnic minorities and seldom heard communities. The University of Leicester hosts an accredited clinical trials unit and has created the **Leicester Precision Medicine Institute (LPMI)**. LPMI brings together research expertise and facilities with industry to advance medicines and technology to impact on healthcare in our multi-ethnic population.



Our NHS hospitals and partnership trusts

The University Hospitals of Leicester (UHL) NHS Trust, with just under 2000 beds is one of the biggest and busiest trusts in the country, serving 1.2 million residents of LLR – and increasingly specialist services over a much wider area. Leicester's nationally and internationally-renowned specialist treatment and services in cardio-respiratory diseases, Extra Corporeal Membrane Oxygenation (ECMO), cancer and renal disorders reach a further two to three million patients from the rest of the country.

Leicester has an Experimental Cancer Medicine Centre and their HOPE Cancer Trials Centre is an instrumental factor in delivering clinical trials of new cancer treatments. Their heart centre at Glenfield Hospital continues to lead the way in developing new and innovative research and techniques, such as TAVI (Trans-Catheter Aortic Valve Insertion) and the use of the suture-less valve in heart surgery.

UHL also hosts the Leicester Diabetes centre. Founded in 2012, the Leicester Diabetes Centre is a national and international centre of excellence in diabetes, responsible for world-leading clinical research, evidence-based education and cutting-edge innovation. The Centre's pioneering work has driven up standards in diabetes care worldwide, uncovered new insights about prevention and the impact of treatments and added to the global evidence base on a condition posing a major threat to world health.

Leicestershire Partnership NHS Trust is one the largest community and mental health trusts in the UK. There are over 120 individual site premises across LLR, with 12 wards based at 8 hospitals in the area including Melton Mowbray and Loughborough Hospitals. There are over 6,500 staff providing services touching lives across all ages (health visiting to end-of-life), and from head to toe (mental health to podiatry), spanning the gap between acute and primary care (everything, everywhere), and closely integrated with both.

LPT's main areas of research strength are in both physical and mental health, but equally between adult and child health services.

- Neurodegenerative Diseases (Dementia and Huntington's Disease)
- Mental Health across all age groups
 - Early Psychosis
 - Eating Disorders
 - Schizophrenia/Schizoaffective Disorder etc.
- Intellectual Disabilities/Autism

Within the ICS there is an ambition to ensure parity of esteem between adult and mental health services to ensure equity of provision and also strengthen research in child mental health.

Our primary care

Primary care services often provide the first point of contact for patients, acting as the 'front door' of the NHS. Primary care includes general practice, community pharmacy, dental, and optometry (eye health) services. GPs (family doctors) have one of the highest public satisfaction ratings of any public service, at over 85%. Across LLR we have 132 practices and host some of the most prominent primary care academic fellows both nationally and Internationally, including Professor Kamlesh Khunti CBE, Professor Azhar Farooqi OBE, and Professor Sam Seidu who has recently been awarded the Outstanding Early Career Researchers in UK and Ireland by the Royal College of General Practitioners (RCGP) and the Society for Academic Primary Care (SAPC).

Prof Aly Rashid, Medical Director (Leicester) is the Midlands Higher level responsible officer for medical revalidation and is responsible for Professional Standards

Working together across the geography of LLR, this is supported through a framework of "better Care together" which supports GP practices in their learning and sharing of 'good practice' to colleagues. This helps build resilience across the system and offers opportunity for good clinical care to flourish. Across the region 40% of practices are research active. We aim to broaden this and extend the remit to the wider MDT individuals, pharmacy, optometry and dentistry.

Our council and public health

LLR respective county Councils are now responsible for more public health services across the region. With data analysts, they collect data on the health and wellbeing of their citizens and deliver services appropriately. This has been particularly evident during the COVID-19 pandemic and their targeted approach to vaccinations and testing.

Leicester City Council have a Health and Wellbeing Board which works in partnership with local communities and healthcare providers to develop and deliver health and wellbeing strategies. Their Health and Wellbeing Strategy has 5 key, interconnected themes.



Leicestershire County Council also has a health and wellbeing strategy. Giving everyone in Leicestershire the opportunity to thrive and live happy and healthy lives.



Our Pharmacies

As well as the pharmacists embedded in our hospitals we have 227 Community Pharmacies in LLR. Over 99% of those in areas of highest deprivation are within a 20 minute walk of a community pharmacy; and as the accessibility of community pharmacies is greatest in areas of higher deprivation, they have an important role to play in reducing inequalities around research.

As well as national services provided by all pharmacies, the pharmacy contract also includes services that are commissioned at a local level. Examples of such services In LLR include:



Emergency out of hours services:
To provide special medicines for the terminally ill



Screening services:
(e.g. for diabetes, Chlamydia, high blood pressure etc.)



Stop smoking service

The ambition of the ICS will be to broaden primary care research to include pharmacy

Our community

The NHS Long Term Plan wants to give people more control over their health and their wellbeing. This will require more collaboration between GPs, medical staff and community services. LLR have a great many community assets which could be utilised to help improve the lives of the population.



There are 381 Primary schools and a further 176 Secondary school (including Colleges and further education) in LLR.

The Leicester Council of faiths (represents Leicester and Leicestershire) represents over 300 faith leaders representing over 50 different faith groups.

In LLR there are a total of 25 PCNs representing over 132 GP practices.

In LLR there are faith groups, community groups, schools and sports club, to name a few, who have an influential impact of their communities. The Cities Changing Diabetes initiative in Leicester has demonstrated the impact these assets could have on the health on their peers. Leicester's professional sports clubs have collaborated with academics at the Leicester Diabetes Centre, Community Engagement Officers at the **Centre for Ethnic Health Research (CEHR)** and local South Asian communities to develop a new health promotion initiative which is suited to their needs and delivered in an appealing way for these communities.

We have identified local community leaders, from faith groups, schools and workplaces to be trained to be Type 2 Diabetes Champions. An evidence-based training curriculum has been developed to ensure these champions can raise awareness of type 2 diabetes and the risk factors, be able to screen for type 2 diabetes risk, meaningfully discuss the risk results and be able to signpost their peers for further support.

Our third sector partners

LLR has relationship's with British Heart Foundation (BHF) includes £12.5 million cardiovascular research centre, Research Accelerator Award, 4-year PhD Programme, infrastructure awards including a new BHF MRI research facility (2021) and BHF Chairs at UoL and UHL.

There are established partnerships with other charities (e.g. Diabetes UK, Cancer Research UK, Hope Against Cancer). LLR investigators were Instrumental in establishing the South Asian Health Foundation, a leading Asian health charity. The PHOSP-COVID Study team worked with NIHR Office for Clinical Research Infrastructure to establish a Charities Group embedded across multiple research teams to enhance patient outreach, impact and funding. LOROS Hospice is a local charity and every year cares for over 2,500 people across Leicester, Leicestershire and Rutland, delivering free, high-quality, compassionate care and support to terminally ill patients .LOROS are actively involved in research as this help inform better palliative care.

Active Together is the sport England and public health funded active partnership that covers LLR, supports the people of Leicestershire, Leicester & Rutland get moving a little more in their own way.

Our industry partners

Industry partners, can help accelerate the discovery, development, and evaluation of precise and tailored therapies, diagnostics, and devices whilst advancing digital health opportunities and maximising patient participation to benefit citizen health.

LLR hosts small and medium enterprises (SME) and has collaborations with multi-national pharma companies who work across discovery of pharmaceuticals to device development and evaluation. Leicester BRC for example, annual report documents 33 collaborations with SMEs, 75 with Pharma, 15 with Biotech, 26 with non-life sciences industry, achieving over £40 Million industry investment since 2016. Existing collaborations with LLR Researchers include:

Pharma

Formal collaborations exist with AstraZeneca/Medimmune, Novartis, Novo-Nordisk, Boehringer Ingelheim, BMS, Bayer, Janssen, Roche, Genentech, GSK, NAPP Pharmaceuticals, Pfizer, Chiesi, Gilead and MSD.

Our investigators are principal investigators on global pharmaceutical trials such as SCALE (Diabetes) COPD-HELP (Respiratory) leading to new licensed therapies or late-phase development of therapies.

Non-Life Sciences

Formal collaborations exist with Aysadi, Yakult Honsa, Technogym, Concept 2, Walkers Snack Foods, 3M, Everest Healthcare, Nuffield Health, Well Point, DHL and Ingeus.

Biotech, Devices & Diagnostics

Formal collaborations and partnerships with Binding Site, Capillary film technology (CFT), FitnessGenes, Genkyotex, FLUIDDA, Materialise, Owlstone Nanotech, BS Analytik, St Jude Medical, Medtronic and Boston Scientific, Sphingotec AG Berlin, Mologics, Abingdon Health UK, Horizon Discovery, European Screening Port, Firalis, Waters Corp, Amigo, Dot Medical UK, Catheter Robotics Inc. USA, Zimmer Biomet, Varma Varidesk, and Ergotron.

Our principal investigators have developed tuberculosis diagnostics with small-to-medium enterprises (FindDx, PBD Biotech, QuantumDx) which will impact global health in low-to-middle income countries

We will develop and maintain these collaborations via attendance at events and meetings, hosting events, marketing, developing promotional materials, and engaging with regional and national infrastructure such as Midlands Health Alliance, Midlands Engine Health, Midlands Innovation Health and Medilink, BioCity in the EM, and Venturefest EM. Leicester Life Sciences Accelerator at UoL (funded by European Regional Development Fund), supports collaboration with small-to-medium enterprises (>30 companies in development, including 5 Knowledge Transfer Partnerships)

Our regional partners



Academic Health Science Network – East Midlands

The EMAHSN serve the East Midlands region covering Nottinghamshire, Derbyshire, Lincolnshire, Leicestershire and Northamptonshire – a combined population of 4.7m people. EMAHSN works both within their region and as part of the connected, national AHSN Network to drive the spread and adoption of innovation.

In addition to the nationally-agreed priorities above and their related programmes, each AHSN liaises with its local Sustainability and Transformation Partnerships (STPs) and Integrated Care Systems (ICSs) to develop local projects that address the biggest health and care challenges within their region. These projects often emerge from the Innovation Exchanges; collaborative processes that bring together the region's NHS, public health, social care, third sector and industry partners.



NIHR Research Design Service – East Midlands

The Research Design Service (RDS) provides free and confidential advice on research design, writing funding applications and public involvement, to health and social care researchers across England. RDS advisers have a wealth of experience and proven track records in supporting high quality funding applications.

The RDS supports applications not only to NIHR research programmes, but also to other open, national, peer-reviewed funding competitions for applied health or social care research, including research charities. The RDS can support a broad range of familiar quantitative, qualitative and mixed-methods research designs, as well as newer and more novel approaches.



The Midlands Health Alliance (MHA)

The MHA was established across the NHS and NIHR infrastructure in the Midlands to support a shared strategy for maximising the impact of NIHR funding for clinical experimental research through agreeing priority areas to put the Midlands at the heart of UK biomedical research excellence.

The driving vision of the MHA is to work with its stakeholders to ensure a step change in the quality and quantity of high quality clinical biomedical research in the Midlands related to patients, public and industry.

The MHA intends to increase the reach and voice in national and international funding opportunities and secure regional investment to the Midlands and to this end they will work alongside the Midlands Engine and Midlands Health Innovation to increase funding to the Midlands.



Midlands Innovation Health (MIH)

MIH coordinates and combines the collective excellence of seven Midlands Innovation universities to deliver improved health and regional growth. These institutions are; Aston University, University of Birmingham, Keele University, University of Leicester, Loughborough University, University of Nottingham and University of Warwick

In driving disruptive translational interventions and influencing nationally, MIH draws together a critical mass of innovative regional stakeholders to impact national and global health challenges whilst using local training strengths, expertise, networks, best practice and facilities.



Midlands Engine Health (MEH)

The role of the Midlands Engine (ME) is to connect, champion and amplify, supporting its partners to work together to pursue shared ambitions and to add value. The Midlands is the UK's largest regional economy outside London and home to a sixth of the UK population. ME acts as a focal point to drive economic growth for the greater benefit of its people, places, and businesses. It champions the region through shared intent, collaborative investment, and a unified voice, direct to government.

In Recognising the fundamental connection between health and the economy, ME has worked closely with industry, academic, health sector and public sector partners to establish MEH. **Midlands Engine Health (MEH)** is a collaboration that enables effective championing of our region's world-leading capabilities in health, medical technologies, and life sciences. A recent publication led MEH was the production of a Blueprint report on diabetes which builds on discussions between industry leader Novo Nordisk, the MHA and the ME. The report explored the benefits to patients, population health and the economy of improving diabetes outcomes in the Midlands.

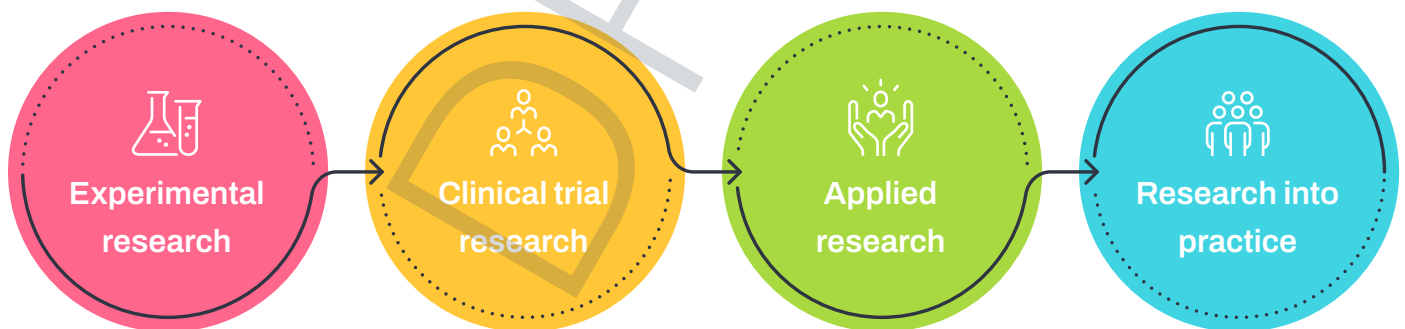



National Rehabilitation Centre (NRC)

At its core, the NRC is about transforming outcomes for patients who need specialist rehabilitation after suffering potentially life-changing injury, trauma or illness – and making sure that they can regain a quality of life equivalent to or as close as possible to their life prior to injury or illness. NRC aims to collaborate and educate using knowledge across the Armed Forces, academia and local NHS Trusts for mutual benefit and to stimulate new ways of solving problems. Research and innovation, and education and training will be delivered through an academic partnership led by the Loughborough University and University of Nottingham.

Our bench to bedside research pipeline and beyond to primary care

With the clinical and research infrastructure in LLR, it is an ideal area for cross sector collaboration to incorporate high quality research into the health care delivery services. These collaborations are not new and there have been numerous successes of cross-sector partnership working with huge benefits.



 Supporting research infrastructure across LLR to ensure high quality research

Our hosted NIHR infrastructure across LLR



NIHR Leicester Biomedical Research Centre

University Hospitals of Leicester NHS Trust, the University of Leicester (UoL) and Loughborough University (LU) together have a critical mass of research excellence and infrastructure in three disease areas; Cardiovascular, respiratory and lifestyle-related metabolic disease (particularly type 2 diabetes). This has been recognised as world class by the award of a National Institute of Health Research (NIHR) Biomedical Research Centre, which has an additional precision medicine cross-cutting theme.

The Leicester BRC supports capacity building through partnership with industry and the third sector. They have created a workspace that allows their multidisciplinary team of scientists and clinicians to share their findings and deliver research that is relevant to patients and the professionals who treat them.



NIHR Leicester Clinical Research Facility

The mission of the Leicester CRF is to support excellent early translational studies in order to increase understanding of disease, evaluate new treatments and improve the health of our patients. The Leicester CRF provides the people, expertise, space and equipment to conduct world-class experimental medicine research and early phase clinical trials.



Clinical Research Network – East Midlands

The Clinical Research Network (CRN) East Midlands supports the delivery of clinical research in the East Midlands and they are hosted by the University Hospitals of Leicester NHS Trust.

They help to increase the opportunities for patients to take part in clinical research, ensure that studies are carried out efficiently, and support the Government's Strategy for UK Life Sciences by improving the environment for commercial contract clinical research in the NHS in the East Midlands area.



NIHR Patient Recruitment Centre – Leicester

PRC: Leicester is one of only five national Patient Recruitment Centres across the country. The PRCs are a new addition to the NIHR research infrastructure and the first NIHR-funded research facilities to be 100% dedicated to commercial research that is funded by the life sciences industry. PRC: Leicester was awarded to UHL through a competitive application process. The centre is based at Leicester General Hospital and co-located with Leicester Diabetes Centre (LDC).

The PRCs are purpose-designed to deliver phase 3 and 4 commercial trials requiring a large volume of patients, with dedicated facilities and staff. By operating as a collaborative, they offer standardised contracting and delivery approaches to facilitate high volumes of commercial clinical trials in the NHS in a rapid and efficient manner. They also specialise in delivering clinical research into common chronic conditions that are often managed in primary, community, social and other non-traditional care settings.



Applied Research Collaboration – East Midlands

ARC East Midlands is a collaboration made up of world class clinical academics, NHS and other health and social care partners supported by close relations with the public. Its primary aim is to deliver a program of research aimed at improving outcomes for patients and the public and to increase the efficiency, quality, accessibility and sustainability of care services.

Leicester leads 3 of the core themes within the ARC-EM portfolio; Managing Multi-morbidity, Ethnicity and Health Inequalities (EHI) and Data2Health. The Managing Multi-morbidity theme focusses on research to improve the health, care and safety of the growing number of people with more than one long-term condition. The Ethnicity and Health Inequalities theme considers health gaps between population groups, including those related to ethnicity, culture, wealth, disability, geography and education, so that our research is fully inclusive. Data2Health ensures the most efficient and appropriate design of future

research studies and maximum use of existing evidence, including large-scale linked data resources, to address important questions for patients, the public and care services, both locally and nationally.

Research carried out in Leicestershire and Rutland leisure services, on falls prevention, was included in a WHO report. The Falls Management Exercise (FaME) is being funded as part of a research project by the NIHR Collaboration in Applied Research Collaborative (ARC) East Midlands.



NIHR Public Health Intervention Responsive Studies Teams (PHIRST)

Within local government across the UK, interventions and services are often developed and implemented without a plan for their evaluation. Without evaluation it is difficult to build an evidence base about what works, for whom and in what circumstances. The Public Health Intervention Responsive Studies Teams (PHIRST) scheme which enables evaluation of schemes that local authorities already have in place, providing research evidence to meet local government needs. Leicestershire County Council (LCC) set up three community kitchens in 2017 to reduce the amount of household food waste being produced by people in Leicestershire. The first results suggest that the three kitchens do indeed result in less household food waste. LCC therefore started a further three kitchens in 2017. People who attend the kitchens also said that participation had resulted in other positive outcomes including better health and wellbeing. They reported having more social contacts, feeling less lonely, having more confidence and having a better chance at getting a job. These effects were not expected because LCC started the kitchens only to reduce household food waste.

Cross cutting research infrastructure



Research Governance, Management and Enabling Infrastructure

Across LLR we have well established research and innovation management teams embedded in our hospitals, CCG's partnership trusts and our Universities.

There are many examples of where these management teams come together to work collaboratively, for example in the Biomedical Research Centre, Loughborough University, University of Leicester and UHL work together to deliver the Biomedical Research Centre through robust and transparent governance arrangements which minimises bureaucracy and ensures the rapid deployment, effective resource use and timely delivery of the research objectives.

Furthermore, the formation of the **Leicestershire Academic Health Partners** a partnership between UHL, Leicester Partnership Trust and the University of Leicester, aims to harness the collective clinical and academic excellence to accelerate the transmission of cutting edge research into health care innovations to improve the health and wellbeing of the people of LLR. LAHP will be an important vehicle for developing and delivering the research strategy for LLR ICS.



Academic Training Workforce Development

The NIHR research strategy document, *Best Research for Best Health* (2021), highlighted the need to invest in the skilled delivery workforce as well as attracting, training and supporting the best researchers to tackle complex health and social care challenges. Therefore it is important that we continue to drive capacity in areas where there are gaps, for example, in research areas such as lifestyle, ethnic health, multi-morbidity, but also in professions, for example allied health care professionals, and across a diverse workforce ensuring opportunities for all.

LLR already has examples of outstanding training, for example in experimental medicine via our Biomedical Research Centre, MRC, EPSRC and BHF training programmes as well as the award of a new **Wellcome Trust Doctoral Training Programme (2022) for health care professionals focusing on allied health care professionals.**



Public and Patient Involvement, Engagement and Participant PPI/EP

LLR hosts considerable NIHR infrastructure which has developed excellent PPI and EP aligned particularly to the BRC, CRF and ARC.

The infrastructure is positioned within local communities, hospitals, Universities and also an extensive network of commercial and third sector partners. There is a close relationship with the Centre for Ethnic Health Research to mutually enhance PPI/EP strengths. For example, within the current BRC the PPI/EP approach was highly praised by NIHR with more than 600 contributors and a well-earned reputation in expertise in sharing novel approaches and sharing good practice.

PPI/EP work is assessed for equality, diversity and inclusivity and continues to work to address short falls in ethnic diversity. The PPI/EP strategy will be critical to the success of research across LLR.

Examples of research in practice



A cross sector research collaboration – Cities Changing Diabetes

In response to the unsustainable global rise in T2D, Novo Nordisk, Steno Diabetes Centre and University College London launched Cities Changing Diabetes in 2014. The Global programme aims to bring together a range of organisations and partners within cities to help address their type 2 diabetes challenge locally. Initially 5 cities joined the programme, but there are now 36 cities worldwide, with Leicester becoming the first UK city, and one of only 3 in Europe, to join in 2017.

The CCD Leicester programme is a prime example of how collaborative working of academics, local government, community organisations and local stakeholders can directly impact the health of the community members.

From the creation of new health promotion programmes to suit the needs of South Asian communities and delivered in partnership with our professional sports clubs to the creation of a community champion network to help raise awareness of type 2 diabetes and the risk factors in community settings.

This collaborative working has led to new ways of delivering evidence based programmes through community assets such as champions or sports clubs, but has also highlighted the need to collect data on existing programmes to ensure the programmes are the most successful and effective as possible.

This programme has certainly changed the culture of Leicester City in the Community as they are now embedding research into their health promotion programmes, they have a joint post funded by University Hospitals of Leicester and themselves to evaluate their programmes and gather the important impact data of their programmes.

The learnings and the framework which has been established from this programme will be key when looking at building research into healthcare delivery through the ICS for wider conditions.



A research project across two of our universities tackling sedentary behaviour – A Structured Health Intervention For Truckers (SHIFT)

A group-based healthy lifestyle intervention designed with and for lorry drivers, including the use of activity monitors and cab workouts, resulted in improved health profiles after 3 months. Working with industry partner (DHL) and relevant industry stakeholders and training providers to translate the SHIFT programme into a Certificate of Professional Competence Training (CPC) module for HGV drivers, accessible to the ~300,000 HGV lorry drivers currently employed within the UK. NIHR Public Health Research grant to undertake a multisite trial across UK depots with 382 drivers recruited

The Intervention delivery was supported by the National Centre for Sport and Exercise Medicine (NCSEM). Results indicate positive changes to physical activity and reduction to sitting time following the 6 month intervention (results under Review by NIHR through the final report)



Developing new treatments for cancer – Immunotherapy for mesothelioma

Mesothelioma is a devastating disease caused by asbestos – the only occupation-caused lung cancer. In light of poor treatment options, the NIHR-funded James Lind Alliance Mesothelioma priority-setting partnership, identified the top research question as whether boosting the immune system with new immunotherapy agents could improve survival rates. We led a clinical trial called CONFIRM (CheckpOint Blockade for Inhibition of Relapsed Mesothelioma), funded by Cancer Research UK & Standup to Cancer. This compared the immunotherapy nivolumab with placebo and received television coverage on Channel 4. Improved survival was seen and presented as a plenary in the 2021 World Lung Cancer Conference.

Leicester has led at a global level, advances in treatment for mesothelioma. In addition to CONFIRM, the CRUK funded VIM study, comparing chemotherapy with vinorelbine versus active symptom control, demonstrated benefit and now this drug is used widely in the NHS. Leicester has pioneered therapy for mesothelioma based on the tumour genetic makeup with MIST, the world's first mesothelioma platform trial (funded £3M by the British Lung Foundation). It has demonstrated an improvement in overall survival for patients with relapsed mesothelioma. Nivolumab is now available on the NHS, constituting a change of practice in the UK.



Harnessing diversity in research – Extended Cohort for E-Health, Environment and DNA (EXCEED)

Established to help understand the causes of long-term conditions via the collection of information related to genes and lifestyle. Recruitment is conducted via primary care across LLR, through a medium of postal and face-face contact. Participants consent to provide access to health records, saliva sampling and residual samples from routine clinical testing. Linked primary care data facilitates the recall of participants by phenotype and genotype as well as supporting future experimental work including Genome Wide Association studies. EXCEED commenced 2013 and will run to 2038. Current recruitment stands at over 10,000 participants, with a planned shift in focus to minority ethnic recruitment.

EXCEED also employs innovative methodologies to explore trajectories in multiple long-term conditions (MLTCs), defined novel clusters in diverse populations and examined changing demographics, antecedents, causes and outcomes in large/real-world datasets.

The study is supported by NIHR Leicester BRC, UoL, UHL, Primary Care Networks and supporting practices across LLR.



Embedding research into primary care – Genetics and the Vascular Health Check Programme (GENVASC)

A large cohort observational study delivered between 2012 and 2019, recruiting well-phenotyped participants with no history of coronary artery disease via the NHS Health Check programme. The aim being to discover novel genetic markers to help improve risk stratification of coronary artery disease in individuals at low to medium risk. Recruitment was integrated into standard clinical NHS Health Check workflows in over 70% of GP practices across Leicester, Leicestershire and Rutland (LLR). More than 40,000 participants recruited with ongoing study data acquisition centrally coordinated using a Commissioning Support Unit as data processor supported by an underpinning Data Sharing Agreement.

The study was supported by NIHR Leicester BRC, UoL, UHL, NIHR CRN East Midlands, Primary Care Networks and recruiting practices across LLR.

Our mission

Our mission is to maximise the benefits of research in improving patient outcomes, attracting and retaining a high quality workforce and increasing efficiencies and investment into our region. We will embed research at the core of our ICS.

The ICS recognises that investing in local research facilitates our patient population to access the latest medical advances at the earliest opportunity. Creating an inclusive approach to research can help address the needs of underserved communities and reduce health inequalities in the provision of care. We will ensure that there is diverse and inclusive participation in our research meaning that the findings are generalizable and applicable to our local populations.

The ICS will endeavour to understand the unique character of its population and the specific health challenges and these should actively inform local research priorities to continue to increase understanding of our local population needs.

Research is most efficiently done when embedded into clinical practice and through harnessing research networks. Collaborative working can help create important frameworks for implementation of clinical research and ensuring this informs local clinical practice.

Our work of embedding research in the NHS will help to support the Governments new ambition to embed clinical research at the heart of patient care across the NHS, ensuring that it becomes easy, economic and efficient in running innovative and high quality clinical research.



Our values

Our work will be underpinned by key core values:



Understanding specific needs and health challenges to inform research priorities



Equality and Inclusivity

As LLR recovers from COVID-19, there is a need to address equity of access for care. We will work towards improving this and ensuring fair distribution and access of care for all.



Collaborative Working

Using local research networks can create important frameworks to implement clinical research. We will ensure collaborative working across all of our partners to maximise our efforts and improve efficient and effectiveness of our research.

Our vision

Our mantra is that today's research is tomorrow's care, we want LLR ICS to be a front runner in embedding clinical research at the heart of everything that we do, to ensure that we improve patient care, which will lead to improved patient outcomes.

We will ensure our research priorities understand and address the specific health challenges facing our population and we will ensure an inclusive approach which addresses the needs of our underserved communities and drives a reduction in health inequalities.

Today's research is tomorrow's care

Achieving our vision – key aims and objectives

Overarching objectives in the following areas:



Agreeing an overall strategic direction for research in the ICS

- Use this paper as a focus for discussions with all parties to agree and endorse the strategic vision



Building a governance and operational structure

- Use the formation of the Leicestershire Academic Health Partners as a vehicle to develop a robust governance and operational structure to deliver the strategy
- We will use these structures to enable a "bottom" up approach to make research easier to access and empower more HCP's to undertake research



Improving Public Health

- We will prioritise research that helps to improve the understanding of chronic conditions as these are growing in prevalence and have a disproportionate impact in LLR ICS, which has become particularly evident during the COVID 19.
- We will work to improve the resilience against future pandemics, particularly on health outcomes for people living with long term conditions.



Patient and public involvement

- We will ensure that research is delivered in partnership with people with lived experience



Increasing impact on patient care through research

- We will ensure research maps to clinical priorities.
- We will work across partners to maximise opportunities for research to improve patient care and patient outcomes. To include novel approaches on digital research to improve and support care.
- We will build in evaluation of research to measure impact on patient care.
- We will ensure research is implemented into practice for patient benefit



Effective use of data

- We will safely share patient data between partner organisations within Trusted Research Environments to enable seamless communication between clinical systems and opportunities to significantly reduce the time taken to conduct research.
- We will use existing patient data to reduce the time it takes to get new research findings into better care and treatment for people.



Technology

- We will lead in technological advances across a range of disease areas. Technology increases the quantity of skills and literacies needed to complete research, it also increases the efficiency of each step and effectiveness of the finished product.



Equality, diversity and inclusivity

- That we will develop a common EDI strategy across our research partners.
- That we will measure, monitor and increase the inclusivity of our research, those of our researchers and also research participants.
- We will continue to contribute to the national agenda for research, particularly in the area of ethnic health.
- We will give more focus on using research as a vehicle to reduce health inequalities in health outcomes



Capacity development

- We will provide an environment that attracts and retains our research staff.
- We are passionate about contributing to the development of the next generation of research leaders across the LLR community, both clinical, including medical and allied health care professionals and that we will focus on addressing barriers to promotion, particularly ensuring that opportunities are equal for all.
- We will have a specific focus to increase research capacity in primary care and public health research



Communicating the outputs of our research

- We will increase knowledge of the research being undertaken by our ICS through innovative and face-to-face communication tools and techniques of communication to maximise direct and indirect engagement with the public



Maximising collaborative working

- We will work across all partners to maximise opportunity for partnership working to maximise efficiency and work to our collective strengths



Leveraging and maximising investment into research into LLR

- We will monitor inward investment into research across our ICS.
- That we will maximise collaborations across the 3rd sector and industry partners to increase inward investment of research into our ICS.



Excellence in Teaching

- We will maximise training opportunities across all disciplines



Maximising research delivery

- We will work collaboratively across our partners to ensure resources for research delivery are deployed in the most effective way.

Looking beyond

Our vision is for LLR to be a dynamic research community where there are excellent levels of integration and collaboration across all of our partners, maximising the benefits of research on prevention and clinical care to reduce mortality and improve quality of life for our community members.

LLR will be able to report increased investment in research into our region. A high level of collaborative working across all of our partners and the ability to attract and retain high quality research workforce that is embedded into clinical care.

We will align our strategic research priority with our local health needs and our research will be patient led, inclusive and will aim to reduce health inequalities.

ICS Research Strategy

Potential next steps for consideration

Driving principles: utilise and develop local academic strengths to support the national agenda in a local context.

Be mindful of the strategic principles underlying NIHR Best Research for Best Health: The Next Chapter¹:

- Build on learnings from COVID-19 and support recovery of health and social care system
- Build capacity in preventative, public health, and social care research
- Improved lives of people with multiple long-term conditions through
- Bring clinical and applied research to under-served regions and communities with major health needs
- Embed equality, diversity and inclusion across research systems and culture
- Strengthen careers for research delivery staff and under-represented disciplines and specialities
- Expand work with life sciences industry to improve health and prosperity

Options for the LLR ICS

Research Governance and Delivery

The ICS should explore how, and to what extent, research governance functions and delivery teams can be shared across organisations to provide a unified, streamlined approach across the LLR ICS.

Existing NIHR (and other) funded infrastructure across the LLR system should be leveraged to support delivery of clinical studies to out of hospital participants. For example the Leicester Patient Recruitment Centre is positioned to deliver commercial research to out of hospital patients and the Leicester Clinical Research Facility has an outreach strategy.

ICS system-wide processes should be established to institute, assess and support:

- System-wide research leadership structures
- Applications for infrastructure funding that cross organisational boundaries
- Expressions of interest for clinical studies that require cross-organisational support
- Development of research programmes in social care and with local authorities
- Incorporating PPI/E into research planning

Bringing more members of the public into research and providing access to underserved populations

This area includes:

- All elements of the ICS should work together to facilitate opening as many clinical research studies as possible
- Opening studies of conditions of particular relevance to the needs of the local population
- Facilitating access to all studies for individuals from under-served groups
- Clearly identify area that need particular support and development (eg mental health and child health)

There is significant expertise and infrastructure locally to support expanded delivery of clinical trials to ethnic minority populations. Leicester is an international leader in this field. A recent bid has been submitted to CRN East Midlands to establish a community engagement team hosted in the Centre for Minority Ethnic Health Research. This approach could be expanded.

The ICS should explore mechanisms for linking with colleagues in local authorities to facilitate increasing research in social care and public health.

Bringing more health and care professionals into research

Clinical research is positively related to care quality and workforce retention and therefore be positioned as an integral part of clinical service delivered to service users:

- The ICS should scope out and widely communicate opportunities for research training and workforce development whilst bearing in mind principles of EDI
- It would be useful to work with education providers to ensure relevant courses and training programmes are made available to the healthcare workforce across LLR
- Examine how research can be included and protected in the job plans of researchers from medical and allied health professions
- Provide support and mentorship to inexperienced researchers and those from developing areas such as social care and public health

Use of data and linking research to clinical quality and safety

There is a rich source of NHS and local authority data available across LLR. This data is routinely accessed to plan service delivery and to a lesser extent to support research studies. This data can be used to support linkage of research to service design and delivery, particularly to help people with multiple long-term conditions and to understand and reduce care inequalities.

The challenges to using healthcare data for research and potential solutions have been clearly described recently².

The ICS should:

- Build an ethos that facilitates access to healthcare data for research
- Build on previous local work that links health data with other local authority data
- Engage with national planning and processes for trusted access to NHS data for research

1. Best Research for Best Health: The Next Chapter. Available at: <https://www.nihr.ac.uk/documents/best-research-for-best-health-the-next-chapter/27778>
2. Goldacre, B & Morley, J. (2022). Better, Broader, Safer: Using health data for research and analysis. A review commissioned by the Secretary of State for Health and Social Care. Department of Health and Social Care.

Action Plan

ICS embedding research into Practice

Key for RAG rating	Red= Overdue and no updates received	Amber = Overdue but updated have been provided	Green= Closed/completed. Evidence of completion available	Clear= Work in progress but item not due for completion
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Recommendation number	Recommendation	Outcome	What do we intent to achieve	Action	What are we going to do	By Whom?	By When?	Monitoring