

OUR PROSPECTUS



Introduction

I am proud to introduce the Applied Research Collaboration East Midlands (ARC EM) prospectus of research that sets out our research priorities and our early programme of research. ARC EM will build on the successes of its predecessor CLAHRCs over the last 10 years.

Our research aims to improve outcomes for patients and the public and to increase the efficiency, quality, accessibility and sustainability of health and care services. All of our research is of the highest scientific quality and addresses the most important health and care challenges.

Our research will be co-produced by highly skilled and motivated practitioners, health and care managers, patients, community representatives and world class academic researchers. These multi-skilled teams will steer research projects from their initial idea through to the use of findings to improve health and wellbeing.

Our strategy has been informed by wide consultations with our partners, patients and the public, and our long-term collaborations with East Midlands Academic Health Science Network. In June 2018 for example, CLAHRC EM carried out a local public consultation to seek views on future research priorities. Findings showed the following priorities were identified:

- Older people
- Mental health
- Management of long term conditions, including multi-morbidities
- Preventing ill health and promoting healthy lifestyles
- Health inequality

ARC EM has six themes which are:

- Building Community Resilience and Enabling Independence
- Managing Multi-morbidity
- Mental Health and Wellbeing
- Data2Health
- Ethnicity and Health Inequalities
- Translating and Implementing Sustainable Service Improvement

We held a series of successful stakeholder events across the East Midlands to enable us to refine and shape key priorities within these themes.

Our research themes correlate with the priorities identified by the report Future of Health: Findings from a survey of stakeholders on the future of health and healthcare in England. RAND Europe, 2017 which are: Mental Illness; Multi-morbidity; and Older People & Frailty. These priorities also align with the NHS Long Term Plan, the NHSE /NIHR National Survey of Research and Innovation Needs (2019) and regionally with our Integrated Care System (ICS) and Sustainability and Transformation Partnership Plans (STPs).

We believe the projects and other activities outlined in the brochure show the range and breadth of our support for the local health and care economy.

We hope you enjoy reading it and look forward to working with you over the next five years.



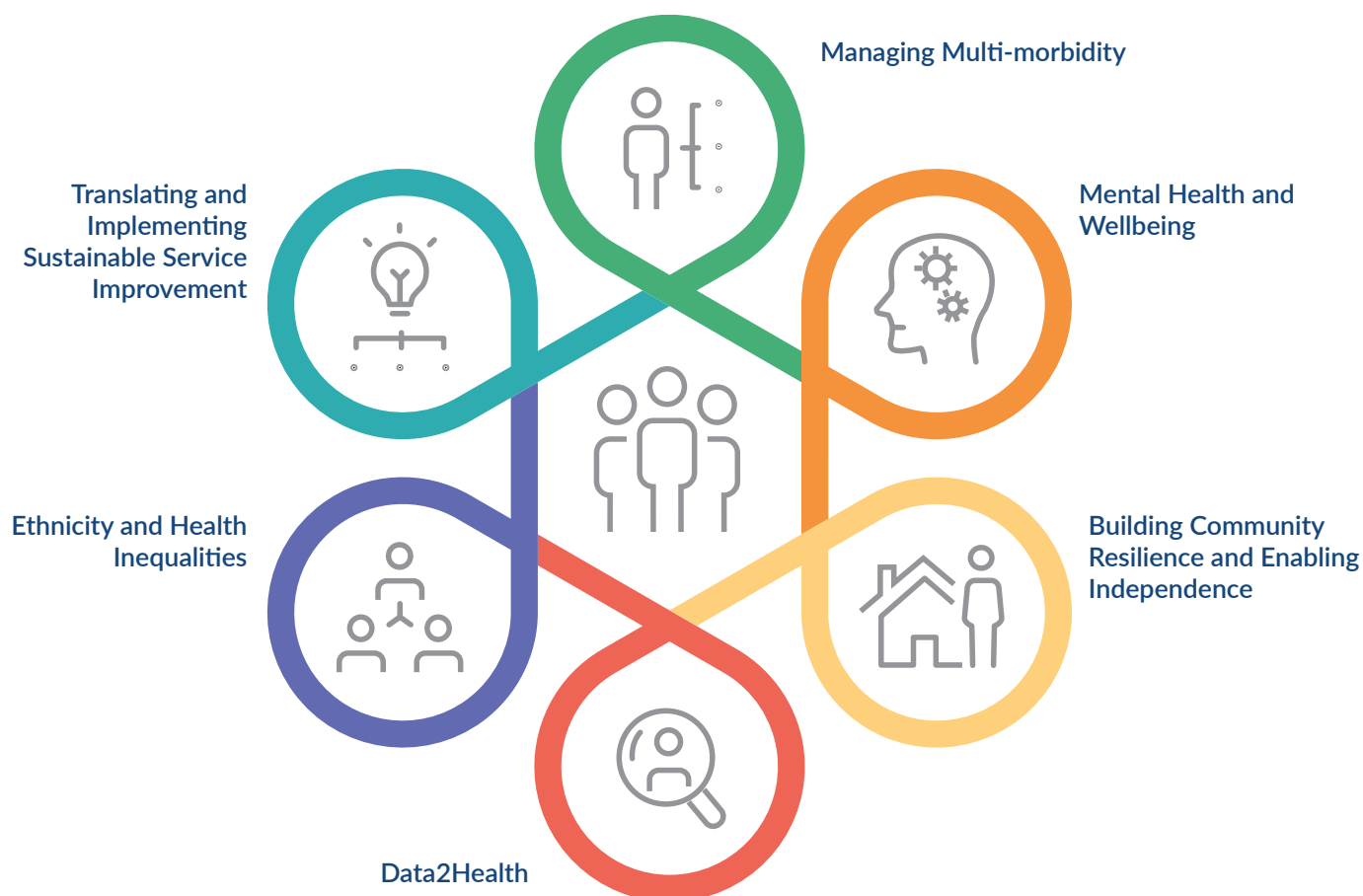
Professor Kamlesh Khunti
Director NIHR ARC East Midlands



ARC EM

ARC EM spans all of the region's NHS providers and commissioning groups, local authorities, universities, industry and voluntary sector partners. Collectively, these members have committed £19.3m in co-funding to ARC EM over five years.

This funding will be used to conduct world class research across the following six themes:



We will also use these funds to support the implementation of our project findings, offer a wide range of training and research opportunities and host networks that allow academics, clinicians, public health experts and members of the public to connect and collaborate.

ARC EM's research will build on the achievements of CLAHRC (Collaboration for Leadership in Applied Health Research and Care) EM

OUR OFFER

Our offer to the East Midlands is wide and varied and includes:

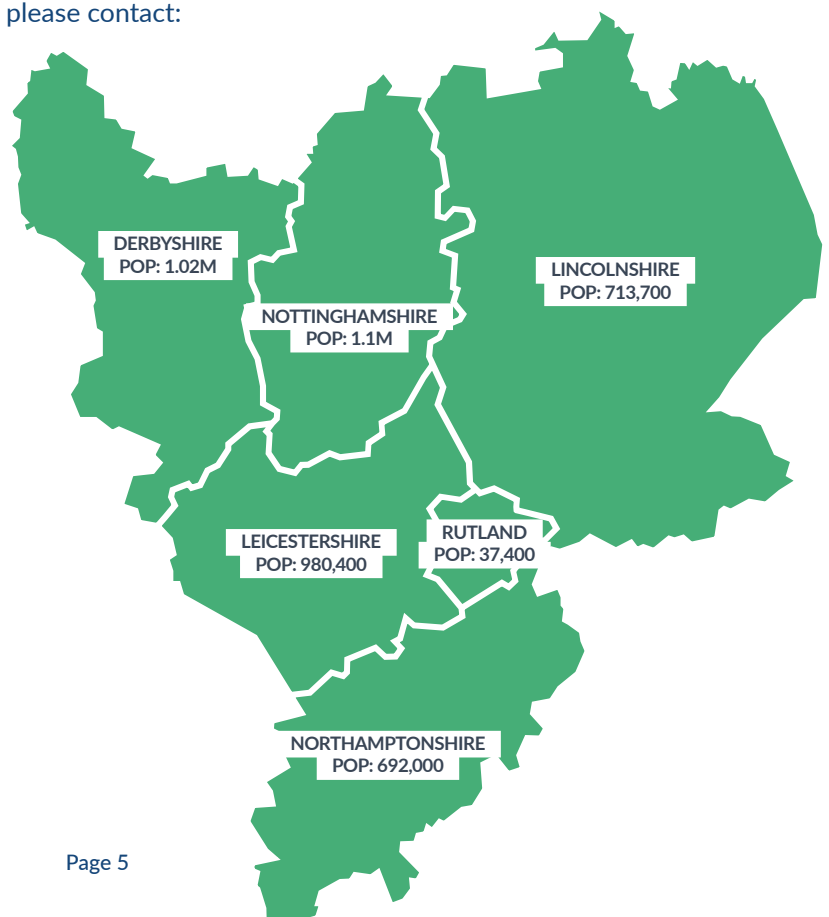
- Connections to world class researchers who are leaders in their field of healthcare research
- Connections to regional networks in education, research and innovation including Universities, Clinical Research Networks, Biomedical Research Units and the East Midlands Academic Health Science Network (EMAHSN)
- Involvement in a range of research opportunities including implementation projects that can positively impact on services
- Opportunity to apply for NIHR ARC EM applied health research funding
- Support, advice and training in Effective Community Engagement and Cultural Competence through the Centre for Black and Minority Ethnic Health (BME Centre)
- Support in disseminating and promoting research outputs including with our Implementation Hub and in collaboration with the EMAHSN
- Access to a wide range of skills and expertise through the ARC EM Faculty to help expand the reach and impact of applied health initiatives
- Receiving contemporary information on ARC EM activities in particular those related to research, training and funding opportunities
- Range of opportunities to support individuals and organisations such as training courses, PhD opportunities and research placements
- Regular updates from the ARC on a range of subjects including its activities and those of the wider ARC network.

For more details on how you can collaborate with us, please contact:

Karen Glover

Director of Partner Relations and Operations

karen.glover@nottingham.ac.uk



ARC EM Faculty

ARC EM will also carry forward our successful Faculty facility.

The NIHR ARC for East Midlands enables us to work with people from health, care and academia across the region interested in our research activity and findings. The Faculty has approximately 300 members across the region.

Faculty membership brings a range of substantial benefits including access to a wide range of resources that helps to expand the reach and impact of applied health initiatives and, ultimately improve the health and wellbeing of people in the region.

Amongst the benefits of being a Faculty member are:

- Affiliation with NIHR ARC East Midlands projects, for example as a Clinical Champion to support translation of research into practice
- Navigational support in developing research protocols
- Application for PhD bursary prizes
- Support in providing external peer review of protocols and outputs
- Support in developing effective public participation
- Written support for research applications from our world class pool of investigators
- Support in engaging with minority groups through the Centre for BME Health
- Support in disseminating and promoting research outputs which may be in conjunction with the East Midlands Academic Health Science Network
- Opportunity to apply for NIHR ARC East Midlands applied health research funding
- Regular updates from the ARC on a range of subjects including its activities and those of the wider ARC network.

If you would like to apply for ARC EM Faculty membership then please contact Karen Glover at karen.glover@nottingham.ac.uk



Our record as a CLAHRC



80 research projects, with over 6,600 participants consented



In excess of £17.5 million in matched funding



More than 400 publications in peer reviewed journals



Over £36.5 million in external funding, including from industry partners



Supervision of more than 100 PhD students



Extensive collaborations with industry



CLAHRC Achievements

We are proud of our exceptional track record of translating evidence into routine practice within and beyond the region. The ARCs predecessor organisations, CLAHRC East Midlands, CLAHRC LNR and CLAHRC NDL, showed that research evidence can be implemented quickly to improve health and care and to reduce service costs.

Our findings have been adopted by services and are already delivering widespread benefits, including to people with mood disorders and other mental health conditions; COPD; musculoskeletal problems; chronic respiratory disease; and those at risk of or with type 2 diabetes.

Here are some examples of translation into health and care:

LEICESTER SELF-ASSESSMENT (LSA) DIABETES QUESTIONNAIRE

The Leicester Self-Assessment (LSA) developed by CLAHRC LNR in partnership with Diabetes UK is a short questionnaire of seven questions to assess level of risk of having and/or developing type 2 diabetes. The questionnaire can be found on the Diabetes UK website where it has been taken by more than 1.7m people. It is also widely available in paper form where it is used by Boots, Tesco chemists, Weight Watchers and BUPA. It is recommended in NICE guidelines and the NIHR have used it as an example of how they have contributed to growth.

The questionnaire has now been translated into four South Asian languages: Bengali, Punjabi, Gujarati and Urdu.

Research conducted by the Leicester Diabetes Centre and Diabetes UK has indicated that over 100,000 people who have used the tool have had their diagnosis of type 2 diabetes confirmed, in many cases much earlier than would otherwise have happened.



ASSESSING QBTEST UTILITY IN ADHD (AQUA-TRIAL)

The Assessing QbTest Utility in ADHD: A Randomised Controlled Trial (AQUA-Trial) project which has now been passed to the East Midlands Academic Health Science Network (EMAHSN) won the 2018 Health Service Journal (HSJ) Award for innovation in mental health for QbTest. The QbTest is a uniquely designed Quantitative Behavioural measurement system that is able to diagnose ADHD. AQUA explored the clinical value of the test alongside standard practice in Child and Adolescent Mental Health Services (CAMHS) and community paediatric services. Clinicians using the test reached diagnostic decisions 44% faster, and were twice as likely to rule-out ADHD with no loss of diagnostic accuracy.

EMAHSN then deployed the QbTest diagnostic tool at seven NHS sites across Derbyshire, Leicestershire and Lincolnshire, aiming to transform care by using the computerised system alongside traditional observation and interviews as well as to prove and quantify the impact on patient experience, efficiency and time to diagnosis.

Evaluation of the project confirmed a reduction in time to diagnosis by an average of 153 days and identified an average cost saving of 32.6%. Savings were achieved through a reduction in the number of appointments needed for diagnosis and by ruling out ADHD sooner for ambiguous cases. Following the evaluation, United Lincolnshire Hospitals NHS Trust, Derbyshire Healthcare NHS Foundation Trust and Leicestershire Partnership NHS Trust announced they would continue to fund the QbTest.

Our AQUA project, which is the dissemination and evaluation of the QbTest has been adopted into the AHSN Atlas of Innovations. It is now in use in over 65 Trusts nationally and is currently being considered for the AHSN's national roll-out programme.



PHYSICAL ACTIVITY IMPLEMENTATION IN COMMUNITY DWELLING ADULTS (PhISICAL)

The Falls Management Exercise programme (FaME) is recommended by NICE as an effective intervention for reducing falls in older people. The CLAHRC EM PhISICAL study evaluated the implementation of FaME into routine practice in different areas of the East Midlands in order to understand the factors that make such a programme successful or not.

Following dissemination of findings from the PhISICAL study, all of the district councils in Leicestershire, Rutland and Derby City chose to continue to provide FaME using funds from elsewhere. These programmes have also been improved using the findings from the study. Additionally, the PhISICAL project team have held conversations with NHS England, The Royal Society for the Prevention of Accidents and Public Health England who are keen to disseminate the associated toolkit.



STRUCTURED EDUCATION FOR PEOPLE WITH TYPE 2 DIABETES

The Diabetes Education and Self-Management for Ongoing and Newly Diagnosed (DESMOND) programme for people with type 2 diabetes is used in 107 UK sites as well as in Ireland, Australia and other countries.

The CLAHRC-LNR project Walking Away from Diabetes was developed with learning from DESMOND and provides structured diabetes education for BME groups. This programme has informed the implementation of the National Diabetes prevention programme across England. The Leicester Diabetes Centre team are working with Ingeus as one of four national providers of the 'Healthier You' diabetes prevention framework and have seen over 75,000 referrals nationally.



THEMES AND PROJECTS





THEME LEAD: PROFESSOR KAMLESH KHUNTI

The Managing Multimorbidity (MM) theme will carry out research to improve the health, care and safety of the growing number of people with more than one long-term condition, by bringing together world class academics with patients and other community representatives, clinicians and managers from NHS services, CCGs, STPs, Local Authorities, Public Health, Social Care and commercial organisations, voluntary sector partners, NIHR infrastructure groups and East Midlands AHSN.

In our public consultation we identified the following priorities:

- the reduction in avoidable admissions;
- use of digital technology to improve care, screening and early detection and behavioural change programmes for management and prevention of chronic diseases; and
- promotion of self-care and independence.

Our initial projects are:

- Cardio-metabolic multi-morbidities screening in places of work and worship trained lay community health advocates: A cross sectional study
- Therapeutic Inertia Prevention (TIP) Study
- A Primary Care Based Physical Activity Intervention in 40-65 Year Olds with Multimorbidity.

CARDIO-METABOLIC MULTI-MORBIDITIES SCREENING IN PLACES OF WORK AND WORSHIP TRAINED LAY COMMUNITY HEALTH ADVOCATES: A CROSS SECTIONAL STUDY

THREE FACTS:

- ▶ Engaging with the community in delivering screening and health promotion
- ▶ Delivering an awareness training programme on type 2 Diabetes
- ▶ Working with faith and business leaders.

What we are doing:

The award winning Effective Diabetes Education Now (EDEN) team will deliver a training programme to 25 volunteers from local businesses and faith centres to equip them with an understanding of type 2 diabetes, including prevention strategies. We will provide these volunteers with resources to allow them to conduct screening for type 2 diabetes in their local communities. These volunteers will then support us to deliver a programme of forty screening events in local faith centres and workplaces across Leicester.

Why we are doing it:

10% of the NHS budget (£10 billion pounds) is spent dealing with the management of diabetes and its resulting complications. There has been increased funding spent within the NHS for activities aimed at preventing the onset of type 2 diabetes by encouraging physical activity and a healthy balanced diet. Despite this extra investment some communities at high risk of developing long term health conditions, including those from particularly vulnerable groups do not access these programmes. Development of new approaches which engage high risk groups are needed to improve screening uptake to ensure those at greatest need are referred to programmes that empower them to reduce their risk of diabetes and cardiovascular disease.

What the benefits will be:

We hope that by involving faith and business leaders, we will make more effective use of existing relationships to provide a screening programme that increases uptake and engagement at low cost. Measures of success will include uptake to screening.

Who we are working with:

We have links in Leicester with the local Interfaith Council, Faith Forum as well as national businesses with large offices in Leicester. A pharmacist with experience of providing community based diabetes screening is a member of the project team and will support the training and the proposed screening events. The study has support from Novo-Nordisk, a large diabetes pharmaceutical manufacturer, and is part of their global Cities Changing Diabetes Programme. We are also working with the East Midlands Academic Health Sciences Network. This project is supported by the cross cutting Ethnicity and Health Inequalities theme.

Study leads: Professors Azhar Farooqi and Kamlesh Khunti

Contact: Dr Andy Willis, aw187@leicester.ac.uk

THERAPEUTIC INERTIA PREVENTION (TIP) STUDY

THREE FACTS:

- ▶ Supporting effective diabetes prescription and management
- ▶ Working with General Practice throughout the East Midlands and beyond
- ▶ Will lead to a reduction in hypoglycaemic events, falls and unnecessary hospital admissions.

What we are doing:

We will recruit GP practices from locations across England to take part. Practices will be randomly allocated to one of two groups: a usual care group (this involves the practice continuing with the normal routine care for the management of older people with type 2 diabetes) or an enhanced care intervention group (this involves practices being trained on new guidelines, specifically targeting older people with type 2 diabetes, and being prompted and supported, with the help of digital technology, to stop, reduce or switch potentially inappropriate diabetes medications). We will compare the two groups, at the start of the study and at 12 months, to find out if the intervention makes a difference to the number of potentially inappropriate diabetes medications being prescribed in older patients.

Why we are doing it:

In the management of older people with type 2 diabetes, therapeutic inertia means that patients are potentially being prescribed inappropriate diabetes medications. This can lead to their blood sugar dropping to dangerous levels and increases the likelihood of falls, emergency hospital admissions and death. This therapeutic inertia is a growing problem, and research is now needed to develop and test interventions to tackle it.

What the benefits will be:

This research will potentially reduce therapeutic inertia lead to improvements in the management of older people with type 2 diabetes. This will result in a reduction in hypoglycemic events, falls and unnecessary hospital admissions.

Who we are working with:

We are working with local GPs and practice nurses to help us with the design and delivery of our intervention. We are also working with a software company (PRIMIS) to produce a digital solution for our intervention to improve the process of stopping diabetes treatments promptly and effectively.

Study leads: Professor Kamlesh Khunti and Dr Sam Seidu, Clinical Research Fellow, University of Leicester

Contact: Helen Dallosso, Helen.Dallosso@uhl-tr.nhs.uk

TEXT MESSAGING AND EDUCATION IN STATIN ADHERENCE

THREE FACTS:

- ▶ Supporting clinicians and patients to improve statin prescribing and increase patients' adherence to statins
- ▶ Using routine text-message reminder systems already available within GP practices
- ▶ Could lead to a reduction in cholesterol levels and cardiovascular risk

What are we doing:

We will recruit GP practices from locations across the country to take part in the study. Practices will be randomly allocated to one of two groups: a usual care group, in which there will be no change to routine practice or disease management, and an intervention group. The intervention group will receive educational sessions for healthcare staff, designed to improve statin prescribing, and eligible patients attending these practices (patients aged 18-75 with cardio metabolic disease, elevated cholesterol results and prescribed statins) will receive regular text messages for 12 months, designed to increase their ability to take their statin regularly. These text messages will be sent using the same systems that are routinely used in GP practices to send appointment reminder messages. We will compare the two groups of practices after 12 months, to find out if the intervention increases statin adherence and improves cholesterol results.

Why are we doing it:

Patients who have or are at risk for cardiovascular disease are prescribed statins in order to reduce their cholesterol levels. However, patients are often not prescribed the correct type or dose, or not prescribed at all. Also, patients often do not take their statins regularly for a variety of reasons, which include forgetfulness or disorganisation. This leads to an avoidable increase in cardiovascular disease risk in these patients.

What the benefits will be:

This research will support doctors to prescribe statins correctly, and help patients who receive statin prescriptions to take them regularly. This will result in a reduction in cholesterol levels in these patients and therefore reduce their risk of cardiovascular events and death.

Who we are working with:

We are working with local GP practice staff and patients to design the content and delivery of our intervention. We are also working with a software company (PRIMIS) to enable text messages to be sent easily by each participating practice. PRIMIS will also organise remote export of anonymised routine healthcare records to assess the effect of our intervention.

Study lead: Professor Kamlesh Khunti

Contact: Dr Patrick Highton, ph204@leicester.ac.uk

ATRIAL FIBRILLATION (AF) STUDY

THREE FACTS:

- ▶ Supporting management and detection of Atrial fibrillation
- ▶ Working with general practices throughout the East Midlands
- ▶ Could improve patient care, reduce stroke risk and consequentially reduce hospital admissions in AF patients

What we are doing:

We will recruit GP practices from across the East Midlands to take part. Practices will be randomly allocated to either the intervention arm (this will involve practices receiving: an audit tool to support the review of their current AF diagnosis and management; a clinician training session; and mobile AF detection technology) or the usual care arm where practices continue with routine AF detection and management services. We will compare the two groups at the start of the study and 12 months later, to determine if the intervention has changed the number of AF patients detected by practices, and the prescription of appropriate medication.

Why we are doing it:

Atrial fibrillation (AF) is an abnormality of the hearts rhythm that can increase the risk of stroke by up to five times. The number of people with AF in the UK is increasing at all ages and in both sexes. However, many people still go undiagnosed, and for those who are diagnosed and at high risk, prescription of stroke preventing anticoagulant medication is often suboptimal, particularly in some areas of the East Midlands.

What the benefits will be:

This research could potentially improve patient care, reduce stroke risk and therefore reduce hospital admissions in AF patients, as well as reducing numbers of people living with undiagnosed AF.

Who we are working with:

We are working with local GP's to help inform the delivery of the intervention.

Study lead: Prof Andre Ng – University of Leicester

Contact: Dr Ash Routen, ar508@le.ac.uk

ADDITIONAL PROJECTS

- As well as these projects, starting in the Autumn 2019, we are also planning to run projects on Atrial Fibrillation, Renal disease, and Adherence that we anticipate commencing sometime in 2020.



THEME LEAD: PROFESSOR RICHARD MORRISS

The Mental Health and Wellbeing (MHW) theme will carry out research to improve the mental health and wellbeing of our population and to increase access to effective therapies and treatments.

Our overall approach will be to co-produce with our patients, public, industry, health and social care partners, research of high local need, national relevance and international quality. Amongst the areas that we have a specialism in are digital health, mental and physical multi-morbidity, drug safety, suicidality, reduction in urgent and frequent health care use, dementia prevention and carers, and on ADHD and neurodevelopmental disorder with parents and schools.

In our public consultation we identified the following priorities:

- primary care and community depression
- self-management of dementia
- suicidality.

Our initial projects are:

- The Alpha-Stim-D trial
- Promoting Independence in Dementia: the PRIDE self-management app (PRIDE-app).
- CAMHS Admissions Far Away from Home or to Adult Wards
- Facilitated self-management of severe health anxiety in repeat utilisers of same day care (PhD)

THE ALPHA-STIM-D TRIAL

THREE FACTS:

- ▶ Supporting people with mild or moderate depression
- ▶ Testing the viability of an innovative treatment
- ▶ Working with a range of industry and NHS partners

What we are doing:

Our aim is to test the viability of Alpha Stim treatment on patients with mild or moderate depression. Alpha Stim is an alternative safe, inexpensive and convenient electrical treatment that takes a health professional 10 minutes to show how to use. The person can then use it at home for one hour per day doing light activity or at rest over 8 weeks. The current is so small it is impossible to tell if it is a sham or not. We will measure depression symptoms, anxiety, side-effects, how the depression affects the patient's life and what other services and treatments they receive.

Why we are doing it:

Depression affects 1 person in every 6 in a year. It can lead to suicide and premature death from medical illness. Research shows Alpha Stim improves anxiety and depression symptoms in people with anxiety disorders. They can have it even if they are physically unwell. It is safe and has few side effects. It changes the electrical activity of the brain from more stressful delta and beta rhythms to more relaxing alpha rhythms.

What the benefits will be:

We will find out if Alpha-Stim reduces depression symptoms and keeps people well for 2 months afterwards. We will know if it is good value for money for the NHS to loan people this device. If alpha stim is clinically and cost effective in this trial we will provide the data for a NICE Technology Appraisal for Depression and work with the Alpha-Stim company and AHSN East Midlands for regional and national dissemination.

Who we are working with:

The study will be working with the two companies (Electromedical Products International and The Micro Current Site) involved in making and distributing alpha-stim CES. It will also be working with NICE, NHS primary care and mental health services in Northants, Nottinghamshire and Derbyshire, NIHR MindTech MTC in relation to its technology and health economics experts, CRN East Midlands through their experience of our published alpha-stim study in generalised anxiety disorder, and MindTech PPI (lead Debbie Butler) and ARC EM PPI.

Study lead: Professor Richard Morriss, Professor of Psychiatry, University of Nottingham

Contact: Shireen Patel, Shireen.Patel@nottingham.ac.uk



PROMOTING INDEPENDENCE IN DEMENTIA: THE PRIDE SELF-MANAGEMENT APP (PRIDE-APP)

THREE FACTS:

- ▶ Maintaining Quality of Life of people suffering from early dementia
- ▶ Working with a range of partners, the Alzheimer's Society and sufferers of dementia
- ▶ Helping promote independence in early dementia.

What we are doing:

The Promoting Independence in Dementia (PRIDE research programme) has built up evidence on how social and lifestyle approaches may help to reduce the risk of dementia and enhance independence in people with early dementia helping them to manage better and enjoy life more. We have developed and field tested the PRIDE app, which now needs to be evaluated as part of a low-cost clinical trial. For the proposed study we will be looking at the potential benefits of the PRIDE app used on tablet computers for people with dementia and their family carers.

Why we are doing it:

In the UK over 800,000 older people have dementia, which often leads to social exclusion, loss of identity and loss of independence due to deterioration in cognition and activities of daily living. In the UK the provision of health and social care services for people with dementia costs the nation over £17 billion a year.

What the benefits will be:

We have developed an easy-to-use app which we would hope to be able to implement effectively across the memory services in the UK via the Memory Services National Accreditation Programme, which includes almost 100 services. We expect the findings to be available by 2023 and they will support the app's implementation.

Who we are working with:

We will be working with people with dementia and their family carers, linking up with memory services and community services across the UK. We will also work with the Join Dementia Research (JDR) database to help recruit people into the study. In addition, we will be working with researchers and clinicians with expertise in dementia care as well as organisations such as the Alzheimer's Society. Lastly, we will be working with Ayup a technology company to ensure that the Promoting Independence in Dementia web application (PRIDE app) is relevant and easy to use for people with dementia and their family carers.

Study lead: Professor Martin Orrell

Contact: Dr James Roe, James.Roe@nottingham.ac.uk

CAMHS ADMISSIONS FAR AWAY FROM HOME OR TO ADULT WARDS

THREE FACTS:

- ▶ Children and young people may require mental health admission
- ▶ Many are admitted more than 50 miles away or in adult wards
- ▶ Such admissions might be damaging but avoidable

What we are doing?

We will find out how many young people in the UK are admitted to adolescent units further than 50 miles from their home or to adult wards. Over a twelve month period, we will ask doctors to complete questionnaires about how many young people are admitted to different types of inpatient care, how long they spent there, and how they got on.

We will explore the views and experiences of young people, their parents, doctors and other health professionals, and NHS commissioners (who decide how services should be provided for different groups of patients). Across four different areas in England, this will involve in-depth interviews with young people, their parents/carers and health professionals. It will reflect participants who have experienced different types of admission – to a distant adolescent unit, a unit near home, or an adult ward.

Why we are doing it?

National policy specifies that young people requiring admission should be cared for in units appropriate to their age. Unfortunately, places are limited and many young people are either admitted to adult wards or units located far away from their home. This means separation from family and friends, or receiving care that is not specifically tailored for their age. At an already difficult time, such admissions may worsen the distress that young people and their families experience. Negative experiences may lead to rejection of help from services after discharge. At present, we know little about the young people who are admitted far away from home or to adult wards, what they and their families feel about this and the impact it has, or how many are affected.

What the benefits will be?

The study will help us to assess the impacts of admission far away from home and make recommendations on how best to improve access to local inpatient services. We will also learn more about how community services might be used differently to reduce the need for admission.

Who we are working with:

Young people with severe mental health difficulties, their families, mental health professionals, and NHS service commissioners (who allocate NHS funding), in the East Midlands and nationally.

Study lead: Professor Kapil Sayal

Contact: Dr James Roe, james.roe@nottingham.ac.uk

FACILITATED SELF-MANAGEMENT OF SEVERE HEALTH ANXIETY IN REPEAT UTILISERS OF SAME DAY CARE (PhD)

THREE facts:

- ▶ Reducing unnecessary same day use of primary care, accident and emergency, ambulance calls, hospital in-patient and out-patient attendance is a national priority
- ▶ Severe health anxiety drives health care seeking and persists for many years once it is established
- ▶ In CLAHRC East Midlands, we carried out a randomised controlled trial of videoconference or telephone delivered cognitive behaviour therapy to reduce health anxiety, depression, generalised anxiety and overall health over 12 months with a saving of £1,000 per patient per year compared to usual care.

What are we doing?

We are developing an on-line self-management package requiring minimal facilitation by a health professional, testing its feasibility, acceptability and obtaining preliminary evidence of its effectiveness in reducing health anxiety and improving overall health.

Why are we doing it?

We believe that up to 50% of participants who took part in the trial could successfully achieve the same benefits clinically and to services through minimally supported self-management. This is based on information needs, patient activation data and patient and public involvement preference to try self-management first. Such a programme would be easier to implement than videoconferencing which could be utilised by those who do not have patient activation, wish for more support or did not improve with self-management alone.

What the benefits will be?

Persistent high utilisers of care account for 1-2% of the practice population but 9% of practice consultations and five times the use of all primary care emergency and hospital use. This intervention would relieve a considerable amount of distress for patients who have severe health anxiety, and has the potential to substantially reduce usage of primary care, urgent and secondary care services allowing more capacity to help other patients.

Who we are working with:

We are working with the University of Nottingham Institute of Mental Health, NIHR MindTech Medical Technology and in Vitro Collaboration, Nottinghamshire Healthcare NHS Foundation Trust, primary care, urgent care and acute care services across the region.

Study lead: Professor Richard Morriss

Contact: Ashley Duncan, Ashley.Duncan@nottingham.ac.uk

Building Community Resilience and Enabling Independence



THEME LEAD: PROFESSOR MARION WALKER

The Building Community Resilience and Enabling Independence (BCREI) theme will undertake research to support independent living, improved care for stroke survivors and coordinated multi-service care, particularly for older people.

Our research will take into account the diverse needs of different populations, especially those in under-served communities. We will evaluate a range of health and social care service models, addressing integration and the need for patient-centred treatment; evaluate and implement complex interventions to promote independence and recovery whilst reducing costs; develop optimal approaches to reduce delays in treatment, readmission or the need for institutional care; and make best use of routinely collected data to inform optimal treatment and the sustainability of services.

In our public consultation we identified four key areas of priority which are:

- Stroke Rehabilitation
- Care Homes
- Frailty
- Ambulance Services

Our initial projects are:

- Ambulance “Hypos can Strike Twice” (Ambu-HS2) study
- Home-based stroke rehabilitation for survivors of severe stroke (HoRSS study)
- What is the impact of community stroke rehabilitation and which service models are effective? (WISCR study)
- Working with unheard care home staff to improve care



AMBULANCE 'HYPOS CAN STRIKE TWICE' (AMBU-HS2) STUDY

THREE FACTS:

- ▶ Study redesigning urgent and emergency care to improve patient care
- ▶ Supporting people with diabetes
- ▶ Working closely with the East Midlands Ambulance Service.

What we are doing:

We will analyse routine data from a regional ambulance service before, during and after the introduction of the 'Hypos can strike twice' leaflet and advice given to patients by ambulance staff with additional information provided to ambulance staff to improve their care of people with hypoglycaemia. We will also interview and survey ambulance staff who are providing the leaflet and patients who receive it to understand how and why it works or does not and how, if it works, this could be spread more widely.

Why we are doing it:

The research is needed to find out the effect of ambulance staff handing out a leaflet "Hypos can strike twice" and providing advice to people with diabetes experiencing hypoglycaemia (or "hypo", meaning low blood sugar) to help prevent further "hypos" and negative impacts on future patient health. The study addresses NHS priorities around diabetes, redesigning urgent and emergency care to improve patient care and strengthen primary and community care.

What the benefits will be:

If the new process of care is found to work, this will help prevent recurrence of "hypo", improve patients' future health, reduce unnecessary calls to ambulance services and transport of patients to the Emergency Department, thus reducing pressures and costs for ambulance services and hospitals nationally by over £1 million.

Who we are working with:

Academics from the Universities of Lincoln and Leicester are working with East Midlands Ambulance Service NHS Trust and patient groups to conduct this study.

Study lead: Professor A. Niroshan Siriwardena

Contact: nsiriwardena@lincoln.ac.uk

HOME-BASED STROKE REHABILITATION FOR SURVIVORS OF SEVERE STROKE (HORSS STUDY)

THREE FACTS:

- ▶ Severely disabled stroke survivors have high levels of rehabilitation need on discharge from hospital
- ▶ Specialist community rehabilitation could meet the needs of severe stroke survivors, reducing the burden of inappropriate health and social care resource use
- ▶ This study addresses inequality in stroke care provision and recommendations in the NHS Long Term Plan.

What we are doing:

We will run a study to test the feasibility of conducting a randomised controlled trial of an intervention providing home-based rehabilitation for severe stroke survivors. The intervention will be delivered by therapists (a physiotherapist and an occupational therapist) attached to a community stroke team. In the treatment group, stroke survivors with severe disability will receive tailored and extended home-based rehabilitation, with therapists working closely with social care staff and equipment providers to address the patient's needs. The control group will receive usual care. Outcome measures will include aspects of feasibility e.g. eligibility, recruitment, intervention delivery, attrition and suitability and sensitivity of outcome measures. Participant outcomes will include a measure of activities of daily living, quality of life, postural assessment for stroke, transfer dependence and use of health and social care services (including length of hospital stay).

Why we are doing it:

Stroke is the largest cause of adult disability in the UK, resulting in moderate to severe disability for 300,000 people. As stroke mortality falls in an aging population with increasing comorbidities, many survivors are left with significant long-term health and social needs.

Provision of rehabilitation for stroke survivors following hospital discharge has been highlighted as a national priority in the NHS Long Term Plan, with a focus on community-based healthcare. Whereas there is strong clinical trial evidence for the effectiveness of stroke Early Supported Discharge (ESD) for mild to moderate stroke survivors, there is a lack of evidence to inform the commissioning of rehabilitation for survivors of severe stroke. This has led to inequality in the provision of community rehabilitation, based on an individual's level of disability.

What the benefits will be:

This research will benefit patients affected by stroke because it will investigate a home-based rehabilitation intervention specifically for survivors with more complex needs. This will provide much needed data about the type of care that is required for approximately 20% of all stroke survivors who leave hospital severely disabled. The health and social care demand of this population are considerable so it is important that interventions are evaluated to maximise the quality of life of these patients, whilst informing how best to deliver cost effective care.

Who we are working with:

Academics from University of Nottingham and Leeds; Nottingham Stroke Partnership Group; Nottinghamshire Integrated Care System; County Health Partnership stroke team lead, Nottingham University Hospital Trust stroke therapy leads.

Academic Study team: Dr Rebecca Fisher, Professor Marion Walker

Clinical lead: Elizabeth Russell (Nottingham University Hospitals NHS Trust) & Claire Lee (County Health Partnerships, Nottinghamshire Healthcare Trust)

Contacts: Rebecca.Fisher@nottingham.ac.uk; Marion.Walker@nottingham.ac.uk

WHAT IS THE IMPACT OF COMMUNITY STROKE REHABILITATION AND WHICH SERVICE MODELS ARE EFFECTIVE? (WISCR STUDY)

THREE FACTS:

- ▶ Study addressing NHS Long Term Plan recommendations relating to stroke rehabilitation
- ▶ Supporting stroke survivors when they leave hospital
- ▶ Robust measurement of the effectiveness of community stroke services.

What we are doing:

We will investigate provision of care for stroke survivors when they leave hospital by analysing routinely collected data from hospital and community stroke services. The aim will be to explore the impact of different models of service provision on intensity of rehabilitation provided and stroke survivor recovery. Of interest will be how services operate in rural settings, and how multidisciplinary team organisation (e.g. team base/timetabling) influences provision of rehabilitation in stroke survivors' homes.

Details of models of service will be obtained through stakeholder interviews, audit completion and collation of documentary evidence (e.g. service specifications). Statistical analysis (e.g. regression analysis/multilevel modelling/capacity and demand modelling) using patient level data to investigate how components of service model adopted (e.g. team composition, stroke specificity, integration with social care), relate to process (rehabilitation provided) and patient outcome measures (taking into account patient characteristics).

Why we are doing it:

The National Health Service (NHS) Long Term Plan makes recommendations for increased investment in community healthcare services. Provision of rehabilitation for stroke survivors following hospital discharge has also been highlighted as national priority. Stroke is the largest cause of adult disability in England with over one million people living with longer-term disability.

NIHR funded implementation research led by this research team, has driven evidence based improvements relating to Early Supported Discharge (ESD) across the country. However, there is increasing pressure on the NHS to provide rehabilitation for all stroke survivors, not just mild to moderate stroke survivors who can access ESD. There is also on-going debate as to how health and social care can work better together to provide longer term care for stroke survivors in the community – particularly those with more complex needs. In order for the recommendations in the Long Term Plan to be met, evaluation of services in real world conditions is crucial.

What the benefits will be:

This research will benefit patients affected by stroke because it will investigate the effectiveness of services they experience and identify ways to improve provision of care. The research focuses on provision of care at a particularly distressing time, when stroke survivors leave hospital and face the consequences of stroke back at home. The aim is to investigate different models of community service in practice and how these impact on the care patients receive.

Who we are working with:

Academics from University of Nottingham, Leicester and Glasgow; Nottingham Stroke Partnership Group; East Midlands Stroke Clinical Advisory Group members; Northampton Stroke service leads; Integrated Care systems

Academic Study team: Dr Rebecca Fisher, Dr Adrian Byrne

Clinical lead: Jan Matthew (Community Stroke Team Lead, Northampton General Hospital NHS Trust)

Contact: Rebecca.Fisher@nottingham.ac.uk

WORKING WITH UNHEARD CARE HOME STAFF TO IMPROVE CARE

THREE FACTS:

- ▶ Study working with care home staff who are not routinely in touch with healthcare providers to work out how to work with them to improve care
- ▶ The focus will be on understanding issues around providing safe care to care home residents
- ▶ We will be working with care home staff to make existing safety benchmarking initiatives in long-term care work for them and their residents.

What we are doing:

We will conduct interviews and focus groups with care home staff who have important expertise in how to improve care for their residents and who have not historically worked closely with the NHS. We will understand their priorities, and how they want to work with the NHS to improve care for their residents. We will focus on an existing patient safety benchmarking initiative for care homes, led by the East Midlands Academic Health Science Network, to use our insights to make this initiative more relevant to care home staff and the residents they support.

Why we are doing it:

Some care home staff and managers work closely with the NHS. But there are a significant number of professionals working in the care home sector whose voices go unheard. We know that these staff are experts on their residents and how to meet their needs. We believe that the NHS will be able to work more constructively with care homes if we can understand the views of these staff and how they can work with us.

What the benefits will be:

We will develop generalisable approaches to working with unheard care home staff. We will use these insights to optimise how the East Midlands Academic Health Science Network engages care home staff in its patient safety initiative. Improved engagement will have immediate effects on the care provided to care home residents around areas such as pressure ulcers, continence, falls and nutrition. The insights gained will allow us to ensure that future initiatives harness the broad expertise of the widest possible range of care home staff to improve care for residents.

Who we are working with:

East Midlands Academic Health Sciences Network Patient Safety Collaborative, NHS Nottingham City Care Partnership

Study lead: Prof Adam Gordon (Academic Lead); Laura Hailes (NHS and Patient Safety Lead)

Contact: Adam.Gordon@nottingham.ac.uk

ADDITIONAL PROJECTS

- As well as our three research themes we also have three cross cutting themes. Cross-cutting themes facilitate and bring additional strength and depth to the NIHR ARC research themes both within the East Midlands and to our fellow ARCs. For us, our cross-cutting themes reflect our expertise in ethnic health and inequalities, the use of data in health and implementation of findings and the science behind it.



THEME LEAD: PROFESSOR KEITH ABRAMS

The Data2Health (D2H) theme will ensure the maximum use of existing large-scale linked data resources to address important questions for patients, the public and care services, both locally and nationally by conducting and supporting research that uses the most efficient designs and appropriate sources of information about patients and services. It will develop new ways to understand this information for the benefit of patients and communities locally, regionally and nationally.

Our Data2Health theme will work closely with the Leicester Real World Evidence (LRWE) Unit which is overseen by ARC EM. The Unit, headed by Professor Khunti, works with clinical, academic and industrial investigators to design and deliver world class real world evidence studies and trials. The Unit is currently working on 35 projects, funded from a mixture of sources. The Unit was described in the recent Department of Business and Skills policy report Life Sciences Sector Deal 2 as an exemplar of the Midlands “cutting-edge, data-science-enabled ecosystem that is delivering large, collaborative, NHS partnering innovation platforms”.

It is anticipated that the LRWE Unit will continue to go from strength to strength and will develop as an international centre of excellence as well as providing crucial data science learning that has a positive impact on the health economy both in the East Midlands and beyond.



THEME LEAD: PROFESSOR AZHAR FAROOQI

The Ethnicity and Health Inequalities (EHI) theme will carry out research that considers health gaps between population groups, including those related to ethnicity, culture, wealth, disability, geography and education, so that our research is fully inclusive.

Focusing on ethnic health and diversity, we will effectively involve and engage with community groups and representatives to identify and co-produce research projects aligned with our themes and the priorities of our health and care partners. Research will prioritise the needs of communities experiencing barriers to accessing health and care, those experiencing poorer health outcomes and those often under-represented in research, including ethnic minority and migrant communities, prisoners, and gypsies and travellers.

We will lead a national research programme to inspire research in health inequalities and to increase diversity in participation. We will lead the development and roll-out of resources and training for researchers to promote effective community engagement and cultural competence and to widen research opportunities.

Our initial project is:

- Improving the Involvement of Seldom Heard Groups in Health Research



IMPROVING THE INVOLVEMENT OF SELDOM HEARD GROUPS IN HEALTH RESEARCH

THREE FACTS:

- ▶ Supporting research into minority and often marginalised groups
- ▶ Working with leading health researchers across the East Midlands
- ▶ Findings to be turned into a video and infographic for distribution.

What we are doing:

One of the greatest challenges in Patient and Public Involvement and Engagement (PPIE) is ensuring that public and patient representatives represent all sections of society including the most marginalised groups. We plan to use a range of innovative approaches to develop a visual representation of a range of diversity characteristics. We will also interview and survey senior researchers from ARC-EM studies as well as monitoring the studies to look at their recruitment practices.

From this work we will be able to identify good practice as well as any areas of improvement.

Why we are doing it:

There is a clear need to reduce health inequalities with some groups far more likely to suffer from poor health than others. As health services are informed by research it is important that research studies represent all in society to ensure all receive the best healthcare.

What the benefits will be:

An increased understanding of how to get the most effective representation on applied health research studies. Findings will be presented to the public and workshops used to generate recommendations. This information will be used to change research practice to make it more representative.

Who we are working with:

Members of the public, and researchers leading on health research projects across the East Midlands. Stakeholders include Centre for BME Health, Community Partner's Panel, the South Asian Health Foundation, The Carers Network, The Inter Faith Network, and Black Churches.

Study lead: Professor Azhar Farooqi

Contact: Dr Natalie Darko, nd165@leicester.ac.uk

Translating and Implementing Sustainable Service Improvement



THEME LEAD: PROFESSOR NATALIE ARMSTRONG

The Translating and Implementing Sustainable Service Improvement (TISSI) theme will work to ensure that our research findings are widely shared with our public and partner organisations to improve health and social care. It will support education so that more of our collaborators have the skills necessary to do high quality research. Our research will focus on exploring how evidence-based interventions become sufficiently embedded and sustained, especially at the health system level.

The TISSI theme will advance implementation science through understanding how new evidence and interventions can be spread and sustained in a pressured health and care landscape. This will ensure that patients and communities are more likely to receive interventions with less delay and that services operate safely and efficiently.

The TISSI theme work closely with our Implementation Hub to support the dissemination and implementation of our project findings. They will continue to research the factors that help our project findings have the most profound impact on practice.

Our initial project is:

- Mapping the Innovation Landscape



MAPPING THE INNOVATION LANDSCAPE

THREE FACTS:

- ▶ Helping to get findings into practice
- ▶ Working with a range of partners across the East Midlands
- ▶ Findings ways to build relationships between ARC EM researchers and the people who can use their findings.

What we are doing:

The study will be in three stages. First, we will bring together details of all the different contacts and partners already known to ARC EM staff. We will use this information to identify any areas where we do not already have well established links with local communities. Second, the study will then attempt to find people and organisations who can benefit from the medical advances the ARC EM is producing. Third, we will consult with local organisations who use medical research evidence: - interviewing members of their staff to find out how the ARC EM can support them to provide better healthcare across the region.

Why we are doing it:

It takes too long for medical research findings to begin to improve healthcare. This is known as a “translation gap”. It means there is a lack of contact between the people making medical advances and the people who use them, such as doctors and other care givers. As a result of this gap, new treatments may not be available as quickly as they could be. This is a problem because it means patients might not be receiving care based on the best available evidence. The National Institute for Health Research has funded the ARC programme with the aim of closing the gap between medical research and medical practice. This study is designed to support the ARC in the East Midlands, referred to here as ARC EM, to achieve this locally. It will do this by looking for partners who can help to get new medical evidence and treatments used more widely.

What the benefits will be:

The main aim of the study is to get research evidence into the hands of more medical professionals so they can improve patient care. There will also be several other benefits including:

- Making it more obvious who the ARC EM should be working with locally to spread the innovations it develops.
- Findings ways to build relationships between ARC EM researchers and the people who can use research.
- Creating resources to help to make research findings more useful to people working in healthcare.

Who we are working with:

The ARC EM already has good relationships with a range of partners, including local hospitals, charities, councils and universities. We are going to work with them to find new partners who can use our research-based evidence to improve the health of local people. These will be trusted organisations and groups who have established good connections with our local communities.

Study lead: Dr Simon Bishop

Contact: Rob Vickers, Robert.Vickers@nottingham.ac.uk

National ARCs

We are proud to be part of a network of 15 ARCs that cover the country all of which have their own expertise. One of our aims is to support the dissemination and implementation of the key findings of the national group of ARCs within the East Midlands.

Therefore, we are able to support communication between other ARCs and our partners to help them access information and expertise wherever possible.

The NIHR have designated which ARC will specialise in which area. ARC East Midlands has been designated as the lead ARC for Equality, Diversity & Inclusion of Underrepresented Groups and Multi-Morbidity. We will be leading cross-ARC studies in this area which we anticipate all of our partners having the opportunity to benefit from.

The full list of national ARCs and their specialisms are:

THEME	NATIONAL LEAD ARC
Ageing and Dementia	Wessex
Applied Health Informatics	West
Behavioural Science	Oxford and Thames Valley
Cardiovascular Issues	North West London
Child Health	South West Peninsula
Equality, Diversity & Inclusion of Underrepresented Groups	East Midlands
Health Economics	Greater Manchester
Inequalities	North East and Cumbria
Mental Health	East of England/South London
Multimorbidity	East Midlands
Operational Research	Wessex
Palliative End of Life Care	East of England/South London
Prevention	North East and Cumbria
Urgent and Emergency Care	Yorkshire and Humber

Networks

THE CENTRE FOR BME HEALTH

We are proud to have the largest centre dedicated to the study of Black and Minority Ethnic Health in the country. It continues to grow and forms an essential part of our identity moving forwards becoming a hub in training and supporting researchers to carry out research that is sensitive to health inequalities and the factors behind them.



The Centre is involved in a range of activities and supports a number of partners and other health research both within and beyond the East Midlands.

A key highlight is the development of our Cultural Competence course which will expand our training on what constitutes cultural competence, why it is important, how it works and what information is needed to be effective and competent in this area. The course includes four components: Self-awareness; cultural knowledge; cross-cultural skills and practice and is accompanied with a guidance toolkit. The course is being offered to all ARCs as part of our cross-ARC health inequalities specialism and is also available to all of our partners.

The Centre has created a Community Partners Panel to support research and give researchers the opportunity to consult with the recipients of their work. Panel members were recruited through a well-managed process that ensures Panel members are reflective of the wider community as well as bringing a range of experiences and expertise to their role.

The Centre runs a Healthy Goals activity programme which is a 12 week timetable of education and physical activity aimed at the older South Asian population and delivered in partnership with Leicester City Football Club. These are being run regularly.

In collaboration with ProstAid and Prostate UK, the Centre for BME Health has established a community-run prostate cancer awareness group 'Play Domino – Talk Prostate' targeting Black African and Black African-Caribbean men.

The Centre has established collaborations with clinical commissioning groups across the East Midlands, other academic institutions via the Midlands Innovation Hub, charitable, third sector community and voluntary organisations and with industry partners, and the South Asian Health Foundation.

The Centre has led the translation and dissemination of the LSA risk score. The Leicester Self-Assessment (LSA) risk score developed by CLAHRC LNR in partnership with Diabetes UK is a short questionnaire of seven questions to assess level of risk of having and/or developing type 2 diabetes. The questionnaire can be found on the Diabetes UK website where it has been taken by more than 1.7m people. The Centre for BME Health has translated it into four South Asian languages: Bengali, Punjabi, Gujarati and Urdu and have hosted a series of community events where we have shared the tool with local groups encouraging its wider dissemination. Our research has shown that the translated versions have been well received by South Asian Communities, especially by those that are unable to read, write and understand English.

REAL WORLD EVIDENCE UNIT

Our Real World Evidence Unit team use routinely collected 'big' real-world data to deliver robust studies and conduct pragmatic trials including work exploring:

- Effectiveness and safety of different drugs, in different patient groups, in particular different ethnic groups
- Phenotype, trajectories, trends, outcomes, complications and prognosis for different diseases
- Development and validation of prediction models for health outcomes
- Costs and cost-effectiveness of different preventive and management interventions



Find out more: <https://www.lrwe.org.uk/index>

IMPLEMENTATION HUB

ARC EM is committed wherever possible to disseminate and support the implementation of our projects' findings. Our record in the CLAHRCs is evidence of this as is our close working relationship with the EMAHSN.

To support this aim we have created the Implementation Hub which is led by Dr Emma Rowley and comprises a number of key ARC staff. It meets regularly to review and monitor project dissemination plans, oversee ARC EM's communications and public relations functions, and liaise with others such as EMAHSN.

Each project in ARC EM is supported to develop a knowledge translation and dissemination plan that will set out why the research is needed, what it is expected to achieve, who the research findings are intended to influence and in what ways, and how service users and communities will be engaged and involved. These plans will be monitored by the Implementation Hub and adjusted as necessary throughout and beyond the lifetime of the project.

Where projects are shown to have a significant positive impact on practice, a health economics evaluation will be carried out on the project in practice and the evidence used to support its dissemination and implementation. Our Director of Partner Relations Karen Glover identifies and connects with partners who can champion the Collaboration's research and accelerate adoption of findings into practice.

We also harness digital technologies and social media and make imaginative use of infographics, podcasts, and web and paper-based resources to ensure widespread dissemination. We engage closely with other groups to augment our dissemination capacity, for example, the press offices of collaborator organisations.

Our hub provides a powerful support tool in providing the evidence that allows partners to decide to implement our projects and make positive change to the services our partners provide.

CAPACITY DEVELOPMENT

Since 2008, CLAHRC-EM has:

- Delivered over 360 short courses in research methodologies, evidence-based care, service evaluation and implementation methods
- Hosted learning events attended by over 12,600 people
- Full or part-funded over 80 PhDs and 7 postdoctoral fellowships
- Supported over 150 other people to study for other postgraduate programmes.

ARC EM will build on this activity by offering an enhanced suite of learning opportunities in applied health and social care research, including support for doctoral studentships, postdoctoral fellowships, short-course training and research placements. We will also offer a broad and varied programme of other learning and development opportunities for researchers across our member organisations. Capacity and staff development activities within ARC EM will be overseen by our Capacity Development and Training Lead, Dr Emma Rowley.

We will support talented individuals to undertake full- and part-time PhDs and other educational programmes with our academic partners. This may include a new PGCert/MSc in Implementation Science.

We will work with and support Health Education England GP Fellows and holders of NIHR Academic Clinical Fellowships and Lectureships.

ARC EM will support approximately 40 full- and part-time PhD studentships for clinical and non-clinical researchers in areas aligned to our research and cross-cutting themes. These will be 50% ARC EM funded and 50% co-funded by our health, social care and academic partners. It is our intention that half of these studentships will be filled by health and care practitioners.

EAST MIDLANDS CLINICAL ACADEMIC PRACTITIONER NETWORK

ARC EM supports the East Midlands Clinical Academic Practitioner Network, a peer-support and development forum for nurses, midwives and allied health professions on a clinical academic pathway, working across the East Midlands. Founded in 2017, the network has over 300 members, and meets twice yearly to provide a forum to network, share, learn and develop in relation to establishing and growing clinical academic careers for the non-medical workforce.

Free to join; email: emcapn@nottingham.ac.uk





The National Institute for Health Research (NIHR) Applied Research Collaboration East Midlands (ARC EM) is a partnership between Nottinghamshire Healthcare NHS Foundation Trust and the Universities of Leicester and Nottingham.

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