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## 1. Introduction

This strategy outlines the commitment of NIHR ARC East Midlands (ARC EM) in promoting a close collaboration between industry, research and healthcare to support high quality patient care above and beyond what may be delivered by any party in isolation. We know that industry is critical to delivering innovation in healthcare and that information received from healthcare is critical for industry to understand and support developments in clinical practice.

We recognise the unique contribution that ARC EM can make to the local healthcare economy. ARC EM has a range of internationally renowned leaders in the field of health science covering all of the major areas of chronic disease and public health. It is also at the hub of excellent networks that cross academia, industry, health and care. This places ARC EM in a unique position to facilitate effective cross sector working.

ARC EM will maintain and build on the positive relationships that predecessor, CLAHRC EM, had with industry. The organisation proactively engaged with commercial organisations across a range of clinical areas, particularly in diabetes, respiratory disease, mental health, cardiovascular disease and chronic kidney disease. ARC EM will work seamlessly with EMAHSN, universities, other NIHR infrastructure (BRUs, CTUs and Clinical Research Networks) and commercial collaborators across the innovation pipeline, from discovery to adoption.

We need a new relationship with industry based on partnership not just transactional. We will work with industry to develop a better 'value proposition' for health and care. Together, we will scope problems and develop solutions to key health challenges.

The NHS Long Term Plan (January 2019) and the Government's Industrial Strategy sets an ambition to treble industry contract and R&D collaborative research in the NHS over ten years, to nearly £1 billion.

The Government's 'Plan for Growth' 'Innovation, Health and Wealth, Accelerating Adoption and Diffusion in the NHS and 'Strategy for UK Life Sciences' (Department for Business, Innovation and Skills and the Office for Life Sciences, form a comprehensive strategy to transform the UK health innovation and life sciences sectors. These clearly defines the scale of the future challenge together with their vision of how the NHS and Industry should respond. This has been summarised below.

## 2. Background: The Challenge

Throughout its history the NHS has faced increasing demands: a growing population with an extending lifespan, an increase in its own capability fuelled by advances in knowledge, science and technology and ever-increasing expectations from the people it serves

We must meet these demands from within our current cost envelope whilst at the same time improving quality. This means that doing more of what we have always done is no longer an option. We need to radically transform the way in which we deliver services. Research and innovation must become core business to meet this challenge.

Searching for and applying innovative approaches to delivering healthcare must be an integral part of the way we do business (Strengthening Leadership and Accountability for Innovation, NHS England 2013). Doing this consistently and comprehensively will improve the quality of care and services for patients. It will deliver the productivity savings we need to meet the growing demand for services and will support the role of the NHS as a major investor and wealth creator in the UK.

NHS success in adopting innovation helps support growth in the life science industries. This, in turn, enables these industries to invest in developing the technology and services the NHS needs for its development. Our ambition is for an NHS defined by its commitment to innovation demonstrated both in its support for research and its success in the rapid adoption and diffusion of transformative, innovative ideas, products, services and clinical practice.

### **3. Setting the Context: Building for the Future**

The environment in which we operate is changing and we must adapt so that we can rise to the challenge. We must capitalise on its strengths: its world-class science and clinical research, talent base of pioneering life science researchers, and the NHS, where discovery can be translated into results for patients. In the future, the NHS will need to play a more active role in realising innovation. It will be the 'pull' behind the industry "push" for new therapeutic interventions. At the heart of this will be the patient. Patients will be offered new choices to participate in the development of novel treatments, with the support of their clinicians. This will mean they gain earlier access to new treatments and improve their chances of recovery. (Strategy for UK Life Sciences).

The Government recognises these opportunities and challenges and is determined that industry and healthcare/research charities thrive in the UK; researchers and clinicians have a vibrant, exciting and world-class environment in which to work; and patients have access to leading-edge treatments early.

### **4. Mission, Vision, Values and Strategic Objectives**

This strategy has been developed in line with ARC EM's Mission, Vision, Values and Strategic Objectives as detailed below:

#### **4.1 Mission**

Our mission is to improve the health and wellbeing of people by working collaboratively with our partners to tackle health and care priorities through research and by translating research findings into everyday practice.

#### **4.2 Vision**

To help people live "healthier living for longer independently"

#### **4.3 Values**

ARC EM operates in line with an agreed set of values, 'PARTNERS'

- **P** - Patient focused
- **A** - Accountable
- **R** - Responsive
- **T** - Transparent
- **N** - Novel and Innovative
- **E** - Excellence
- **R** - Respect Diversity
- **S** - Sustainable



## 4.4 Strategic Objectives

ARC EM has developed the following objectives:

- i. Improving patient outcomes and supporting the delivery of positive service change through the conduct and application of relevant research
- ii. Co-producing and delivering a programme of high-quality, cost effective applied health and care research
- iii. Providing opportunities for engagement and participation to enable end-users of research and other stakeholders to shape its selection, design, delivery, dissemination, implementation and impact
- iv. Developing and sustaining successful partnerships across health, care, industry, academia, the voluntary sector and public/patient groups to support the health and social care partners to meet locally identified priorities
- v. Engaging with our stakeholders and the East Midlands Academic Health Science Network to ensure the evidence we produce is implementation ready
- vi. Increasing capacity and capability in the East Midlands to conduct high quality health research, apply research evidence and evaluate its use

## 5. National Institute of Health Research (NIHR)

Through the NIHR, the government has committed to working with the life sciences industry to deliver first class clinical research in the NHS. To achieve this, the NIHR is funded to manage a broad research infrastructure including expert individuals, research facilities and technology platforms. In support of the life sciences industry, the NIHR provides dedicated teams through which companies have a direct route to work with the country's leading investigators, research facilities and technology platforms, and the NHS.

### 5.1 Industry Sectors

ARC EM is required by NIHR to report progress against its strategy for engaging with industry in the following sectors with:

- i. pharma
- ii. biotech
- iii. medtech/devices
- iv. diagnostics
- v. CROs
- vi. non-life sciences companies.

Industry sectors are described as follows:

- **Pharma** - a company which develops, produces, and/or markets drugs or pharmaceuticals licensed for use as medicinal products
- **Biotech** - a company which is primarily concerned with the development, production and/or marketing of biological products
- **Medtech/Device** - a company that makes and/or sells medical devices or other healthcare technology products. The term medical devices covers products used in healthcare for the diagnosis, prevention, monitoring or treatment of illness or disability excluding in-vitro diagnostics and software as well as licensed medicinal products
- **Diagnostic** - a company which develops, produces and markets in-vitro diagnostics. In-vitro Diagnostics are defined as diagnostic tests which are used to analyse a sample taken from the body e.g. blood, urine, sputum
- **CRO (Contract Research Organisation)** - a commercial organisation contracted by the sponsor to perform one or more of a sponsor's trial-related duties and functions
- **Non-life sciences company** - a company that is not defined as pharma, biotech, medtech/device or diagnostic according to this guidance e.g. software companies, design companies

## 5.2 Small and Medium Enterprises (SMEs)

ARC EM is required to report the total number of UK SMEs we work with. This includes contract commercial trials, industry collaborative research studies, other academic commercial research and studies which are under discussion with UK SMEs where a non-disclosure agreement has been signed. SMEs are defined as follows: Headcount<250, Turnover<41m and Balance Sheet Total <£35.2m.

## 5.3 Other

ARC EM is required to report key examples of studies including Contract commercial trials, Industry collaborative research studies and other academic commercial research. We are committed to developing partnerships or studies with industry which lead to further industry, public or charity research funding, including as part of consortia. We will strive to increase the number of agreements we hold with Industry.

## 6. What can ARC EM offer Industry?

We recognise that industry is critical to delivering innovation in healthcare and that information received from healthcare is critical for industry to understand and support developments in health and care. Our industry strategy has been developed to outline our commitment to promoting a close collaboration between industry and research to improve health and care outcomes, secure cost efficiencies and enhance experience above and beyond what may be delivered by any party in isolation. We have extensive experience of successful collaboration with industry. Our offer to industry includes:

- An effective gateway to NHS, academic groups, stakeholder groups including patients and public for the implementation and dissemination of products and services
- Access to world class researchers who can provide the evidence to assist in the development of strategies for management of people with chronic disease and the adoption of 'technology enabled care services' (TECS refers to technologies (such as telecare, telehealth, telemedicine/teleconsultation and self-care applications) that help people to manage and control chronic illness and sustain independence
- A comprehensive directory of key contacts to support industry partners effectively navigate the health and care landscape
- Facilitation of exchange placements for researchers and industry partners. Promoting a greater understanding of respective environments will support the deployment and sustainability of new technologies in practice
- Expertise in education, training and public involvement which we can offer to industry partners
- Support to industry in identifying and applying for funding
- Introductions to other research and innovation organisations through our alliances with East Midlands Partner Organisations (EMPO), including the Clinical Research Network, Clinical Network, Clinical Senate, Public Health, Health Education England, the Leadership Academy and the Academic Health Science Network

## 7. What can Industry Partners offer ARC EM?

ARC EM understands the benefit that industry partners can bring to our work.

The Life Sciences industry is a crucial element of the broader UK health research framework that includes the NHS, government bodies (such as the NIHR that fund research), academia, NHS partners and public and patient involvement groups. The Life Sciences industry employs over 150,000 people in the UK and invests approximately £5 billion in research and development each year.

Industry partners provide invaluable resources, intelligence and an in-depth understanding of the overall markets for our innovative research. They often have access to revenue outside of that available to a health research centre as well as commercial expertise from which ARC EM can benefit.

Industry also plays a crucial role in developing innovative solutions for patient management. Collaboration between industry and the ARC will enable suitable technologies to be brought into the NHS.

Finally, we understand the benefits offered by joint applications for public funding with industry partners where we can carry out mutually beneficial research in line with our strategic aims. We know that some potential industry partners, particularly within the SME, Device and Diagnostics sectors may have limited funds for companies to access through their existing businesses. ARC EM can help with joint applications to funding streams such as NIHR, Horizon 2020 and the Technology Strategy Board to support the development of cutting edge solutions to current and future health care problems and priorities.





## 8. How has ARC EM Engaged with Industry to Date?

Over the past 10 years ARC EM's predecessors CLAHRC EM, CLAHRC LNR and CLAHRC NDL have had a range of successful collaborations with all types of industry partners for mutual benefit. We pride ourselves on our positive working relations with our industry partners.

Examples of these collaborations include:

- We worked with QbTech Ltd on the AQUA project which tested and evaluated the QbTest tool to show that it was effective in diagnosing ADHD in children. QbTech Ltd provided in-kind support, including test equipment and licenses and later paid for the health economics evaluation. 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. It is now in use in over 65 Trusts nationally and is currently being considered for the AHSN's national roll-out programme.
- We are working with Wavelet Health on the identification and management of people with multimorbidity and atrial fibrillation.
- We have received substantial donations from Astra Zeneca and Boehringer Ingelheim to support the establishment of the Leicester Real World Evidence Unit.
- We receive annual co-funding from Novo Nordisk to support our work.
- We are working in partnership with Novo Nordisk on the global 'Cities Changing Diabetes Initiative' to tackle urban diabetes (Leicester is the first UK City member).
- We are working with Janssen, Merck, Biogen, UCB and Intel on a €22m award to develop and evaluate remote monitoring technologies for depression, epilepsy and multiple sclerosis.
- We continue to work with P1vital on a European Union Horizon Grant 2020 on early response to antidepressant treatment in primary care.
- We worked with the Big White Wall Ltd on our REBOOT Nottinghamshire project which tested their remote depression support tool.
- As a result of our CLAHRC LNR study, 'A Safer Ramadan', Janssen funded a follow-on study on Ramadan.
- Our CLASS PAL study was a collaboration with the "Designed to MOVE" initiative run by the corporate social responsibility arm of Nike in partnership with Lumo BodyTech Ltd.
- We are working with Alpha-stim on a NIHR CRN adopted study of patients with generalised anxiety disorder.
- We are working with PRIMIS on a CLAHRC-EM GP PROMPT randomised controlled trial and CLAHRC EMH PhD on an electronic notes guide to suicide risk assessment.
- Our Mental Health and Wellbeing theme are part of a consortium with Johnson and Johnson, Biogen, CTMM-Ti Pharma, GABO-Mi, Intel, Livassured, Simbiotica, Software AG and Tenacta looking at new digital approaches to managing depression on its own or with epilepsy or multiple sclerosis.

## **9. How will ARC EM Engage with Industry going Forward?**

ARC EM has already shown that it views developing positive and successful partner relations seriously by appointing a high profile and senior Director of Partner Relations to build partnerships with industry. The Director of Partner Relations has responsibility for the delivery of this strategy and will act as a central point of contact for information exchange. This will include access to model agreements, costing templates and directories of expertise. Our Theme Managers will act as a conduit between the Director of Partner Relations and individual research teams.

ARC EM makes the following commitments to ensure the delivery of our Industry strategy:

- We will establish a 'single point of contact' for each industry partner. ARC EM will work closely with named contacts to determine how ARC EM can most effectively engage with and involve our partners in our programmes of work
- We will review our existing and proposed projects to ensure that we are maximising potential partnerships, actively seeking new opportunities where there are perceived gaps
- We will outline the NIHR ARC EM 'offer' in our Industry Strategy in terms of our academic specialisms and experience and our ability to act as a 'gateway to the East Midlands health economy. This offer will be available for all existing and potential industry partners as well as NOCRI and any other organisation that can assist us in developing and extending positive working relations with industry
- We will evaluate all partnership arrangements with industry partners as part of the general evaluation of our implementation and partnership model which is based on co-production

## **10. Intellectual Property**

The NHS Trusts and Universities involved in the ARC have arrangements in place to access appropriate support for IP exploitation. ARC EM will work with IP specialists and commercial partners to maximise the IP opportunities available. All relations with industry in this area will be conducted in an open and fair manner to ensure mutual benefit which the ARC believes is the basis for all collaborative working.

However, we understand that our industry partners will also have considerable IP expertise which we may be of mutual benefit.

## **11. Collaborative Working with EMAHSN**

ARC EM will build on existing industry relationships and develop new ones across its research themes. An important component of the ARC's industry engagement strategy will be its relationship with the EMAHSN. The AHSN has established links with ABPI, ABHI, Medilink East Midlands, BIVDA and local SMEs. The EMAHSN Industry Team will work closely with ARC EMARCTo develop ARC commercial partnerships. This joint working will ensure effective and rapid spread of innovative practice.

The AHSN and ARC will work in partnership to identify unmet needs, develop new commercially relevant research questions and test and apply commercially developed innovations.

The Director of Partner Relations will lead this cross co-ordination of joint working in this area with EMAHSN.

## **12. Monitoring and Reporting**

Progress against this strategy will be reported to the ARC EM Governance Board on a quarterly basis as well as forming part of our Annual Report.

## 13. Glossary of Terms

ABHI	Association of British Healthcare Industries
ABPI	Association of the British Pharmaceutical Industry
ARC EM	Applied Research Collaboration East Midlands
AHSN	Academic Health Science Network
BIVDA	The British In Vitro Diagnostics Association
BRC	NIHR Biomedical Research Centre
BRU	NIHR Biomedical Research Unit
CLAHRC	Collaboration for Leadership in Applied Health Research and Care
CRO	Contract Research Organisation
CTU	Clinical Trials Unit
DEC	NIHR Diagnostic Evidence Cooperative
EM	East Midlands
EMAHSN	East Midlands Academic Health Science Network
HTC	NIHR Healthcare Technology Cooperative
IP	Intellectual Property
NOCRI	NIHR Office for Clinical Research Infrastructure (NOCRI)
NIHR	National Institute for Health Research
SME	Small and Medium Enterprises



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.

[www.arc-em.nihr.ac.uk](http://www.arc-em.nihr.ac.uk) [@arc\\_em](https://twitter.com/arc_em) [arc-em@le.ac.uk](mailto:arc-em@le.ac.uk)