

HEALTHCARE TECHNOLOGY CO-OPERATIVES

Introduction

The vision of the National Institute for Health Research (NIHR) is to improve the health and wealth of the nation through research.

This document sets out how the NIHR Healthcare Technology Co-operatives (HTCs) are contributing to this vision. Information about other elements of the NIHR clinical research infrastructure can be found in companion documents.

Overview

Two pilot HTCs were funded in 2008 by the NIHR, through the Invention for Innovation funding programme, in partnership with the Technology Strategy Board, the Engineering and Physical Sciences Research Council, and the Medical Research Council:

- [The Devices for Dignity \(D4D\) HTC](#) – developed new healthcare products to empower people with long-term debilitating conditions that affect their dignity and independence.
- [The Bowel Function HTC](#) – identified and developed new devices and procedures to improve the lives of people with Crohn's disease, ulcerative colitis, bowel cancer and other disorders affecting the way the bowels work.

Building on the pilot scheme, the Department of Health announced the designation and funding of eight new HTCs on 13 December 2012 following an open competition. Contracts run from January 2013 for four years but were subsequently extended until December 2017. This initiative supports the Government's Strategy for the UK Life Sciences, which aims to provide a better environment for life sciences, improve the lives of patients and contribute to the UK's economic growth, enabling patients to access novel treatments earlier.

Aims

The eight NIHR HTCs address clinical areas or themes of high morbidity and unmet need for NHS patients and healthcare technology users, which have not benefited from a high degree of innovation. Led by a Clinical Director, and involving multidisciplinary teams working collaboratively with industry, they support

collaborative working with patient groups, industry, charities, and academic researchers, and build networks with a broad range of stakeholders including other NIHR-funded research infrastructure.

The scheme provides NIHR infrastructure funding for NHS Organisations to act as centres of expertise to develop new concepts, demonstrate proof of principle and devise research protocols for new medical devices, healthcare technologies or technology-dependent interventions that are applicable across the NHS.

The aims of the NIHR HTC are to:

- **Act as a catalyst** for NHS “pull” for the development of new medical devices, healthcare technologies and technology-dependent interventions.
- **Focus on clinical areas and/or themes** of high morbidity, which have high potential for improving quality of life of NHS patients and improving the effectiveness of healthcare services that support them.
- **Work collaboratively** with patients and patient groups, charities, industry and academics.

NIHR HTCs play a key role in:

- The integration of clinical and patient need into the definition of technology and product concepts.
- Bringing partners together in close collaboration to develop, test and improve product concepts leading to clinical evaluation and demonstration of care pathway benefits.
- Reaching across primary and secondary care and care services, professional bodies and national networks of clinical champions.

Designation and Funding

The NIHR HTCs were selected by open competition in 2012. Applications were assessed by an independent selection panel using the following criteria:

- **The evidence** that the proposed clinical area(s) or theme(s) has/have the following characteristics:
 - a high burden of disease
 - unmet need
 - the potential to lead to improvements in quality of life of NHS patients, and improving the effectiveness of healthcare services
 - has/have not benefited from a high degree of innovation.
- The **track record of developing** medical devices, healthcare technologies and technology-dependent interventions.
- The strength of the **strategic plan**.
- The strength of **strategic partnerships**.

- The **track record** in conducting high quality research in areas relevant to the proposal.
- **Value for money.**

Funding commenced in January 2013 for a four-year period.

- The amount of funding allocated to each HTC has been determined by the scale, nature and quality of the research activity to be conducted by that HTC.
- In order to ensure critical mass, funding was awarded to a single NHS Organisation to meet the NHS research infrastructure costs incurred by the NHS in facilitating collaboration, including the funding of core staff (e.g. project management, relationship management, clinical contributors, research leads, administration). However, a number of HTCs are working with other NHS Trusts as partners, to which some funding flows, to deliver their work programmes.

The performance of each HTC is monitored and reviewed by the NIHR Central Commissioning Facility. Collaborations, which are not performing at the required standard, will first be put on notice, and if the required standard is not achieved within a defined time-scale, funding will be withdrawn.

NIHR HTCs Clinical Areas and Themes

HTCs will focus on the following clinical areas and themes as detailed on the table below.

NHS Organisation	Clinical Area or Theme
Barts Health NHS Trust	<p>Chronic gastrointestinal (GI) disease</p> <p>Including prevention of stoma complications, neuromodulation for faecal incontinence, novel diagnostics to stratify chronic GI disease, improved safety and effectiveness of GI surgery.</p>
Cambridge University Hospitals NHS Foundation Trust	<p>Brain Injury</p> <p>Several theme areas around brain injury of acquired and developmental origin across the acute care pathway: acute care including bedside monitoring, imaging, stem cells, genomic profiling and biomarkers. Additionally funded to develop a Paediatric theme.</p>
Guy's and St Thomas' NHS Foundation Trust	<p>Cardiovascular Disease</p> <p>Four themes: Artherosclerosis, Cardiac arrhythmias, Heart failure and structural heart disease. Additionally funded to develop a paediatric theme.</p>
Sheffield Teaching Hospitals NHS Foundation Trust	<p>Devices for Dignity</p> <p>Urinary incontinence and management, renal technologies, assistive and rehabilitative technologies. Additionally funded to develop a Paediatric theme.</p>
Bradford Teaching Hospitals NHS Foundation Trust	<p>Wound Prevention and Treatment</p> <p>Wound management - patient led centralised wound research strategy. Additionally funded to develop a Paediatric theme.</p>
Leeds Teaching Hospitals NHS Trust	<p>Colorectal Therapies</p> <p>Minimally invasive therapies for colorectal disease with three themes: Engineering, nanotechnology, biosensing.</p>
Nottinghamshire Healthcare NHS Trust, Institute of Mental Health	<p>Mental Health and Neurodevelopmental Disorders</p> <p>Attention Deficit Hyperactivity Disorder, Tourette's Syndrome and autism, depression and bipolar disorder, dementia. Additionally funded to develop a Paediatric theme.</p>
University Hospitals of Birmingham NHS Foundation Trust	<p>Trauma Management</p> <p>Four clinical themes, which mirror the patient journey: Immediate Care, Secondary Care, Regeneration, Rehabilitation.</p>

Future funding for Healthcare Technology Co-operatives

A new, open competition to designate and fund **NIHR MedTech and In Vitro Diagnostic Co-operatives (NIHR MICs)** was announced in September 2016.

The scheme will aim to provide NIHR research infrastructure funding for leading NHS Organisations to act as centres of expertise

- I) to develop new concepts, demonstrate proof of principle studies and devise research protocols for new medical devices, healthcare technologies or technology-dependent interventions that are applicable across the NHS. This will address clinical areas or themes of high morbidity and unmet need for NHS patients and healthcare technology users, which have not benefited from a high degree of innovation; **and/or**

- II) to catalyse the generation of evidence on commercially-supplied IVDs that is required by the NHS and by industry. This will be developed through follow-on research funded from other sources and includes evidence which demonstrates the benefit to patients and the healthcare service. The focus here will be on clinical areas or themes where evidence of the clinical validity, clinical utility, cost-effectiveness and care pathway benefits of IVDs has the potential to lead to improvements in healthcare services and the quality of life of NHS patients.

NIHR MICs will replace the current NIHR HTC and NIHR Diagnostic Evidence Co-operatives, but will incorporate and retain the remits of both schemes.

Funding of £14.25m will be available for the NIHR MICs from 1 January 2018 for five years. The outcome of the competition will be announced in summer 2017.

Paediatric theme

From 1 February 2015, additional funding was awarded to five of the existing HTCs for the remaining duration of their award to stimulate research activity in paediatric healthcare technologies within their approved clinical areas.

EPSRC-HTC Partnership Awards

On 30 September 2013, the Engineering and Physical Sciences Research Council (EPSRC) announced an investment of up to £1.2 million of EPSRC funding for up to 8 EPSRC-NIHR HTC partnership awards for a duration of three years. Further details can be found on the [EPSRC's website](#).

Further information

Further details about HTCs are available on the [NIHR website](#) or contact the NIHR Office for Clinical Research Infrastructure at nocri@nihr.ac.uk

Department of Health Lead:

Dr Tony Soteriou

Deputy Director, Research Faculty, Infrastructure and Growth
Science, Research and Evidence Directorate

Department of Health

Email: R&D@dh.gsi.gov.uk