

**Brain Injury
MedTech Co-operative**


**National Institute for
Health Research**

Neurocritical Care

MIC Theme 2

Professor David Menon

Background

Neurocritical Care



National Institute for
Health Research

1. Key Researchers
2. Exemplars

Description

Neurocritical Care



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Health Research

Aims and objectives: The aims of our research theme are to identify questions that are of critical relevance to patients, identify areas of research that address these based on evidence generation (through primary research), synthesis (through a process of rigorous systematic review), and implementation (through Guideline development and refinement). As part of the MIC we will seek to use novel applications of data science to both clinical care and research (by making use of our UK primacy in the use of hospital-wide electronic medical record (eMR) systems), developing new tools for neuroimaging processing and analysis, and developing and implementing novel applications for new technology at all stages

Strategy

Neurocritical Care



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Year 1

Short-term

Develop PPI portfolio further, and undertake rigorous systematic reviews of literature to identify and refine research questions.
Obtain the regulatory approvals and funding needed for technology application and validation in the areas of near-patient haemostasis testing, selective brain cooling, and eMR-based data science

Year 2-3

**Medium -
term**

This phase will involve conduct of clinical studies described in the subthemes below, and provide the first research outputs of eMR-based analysis

Year 4-5

Long-term

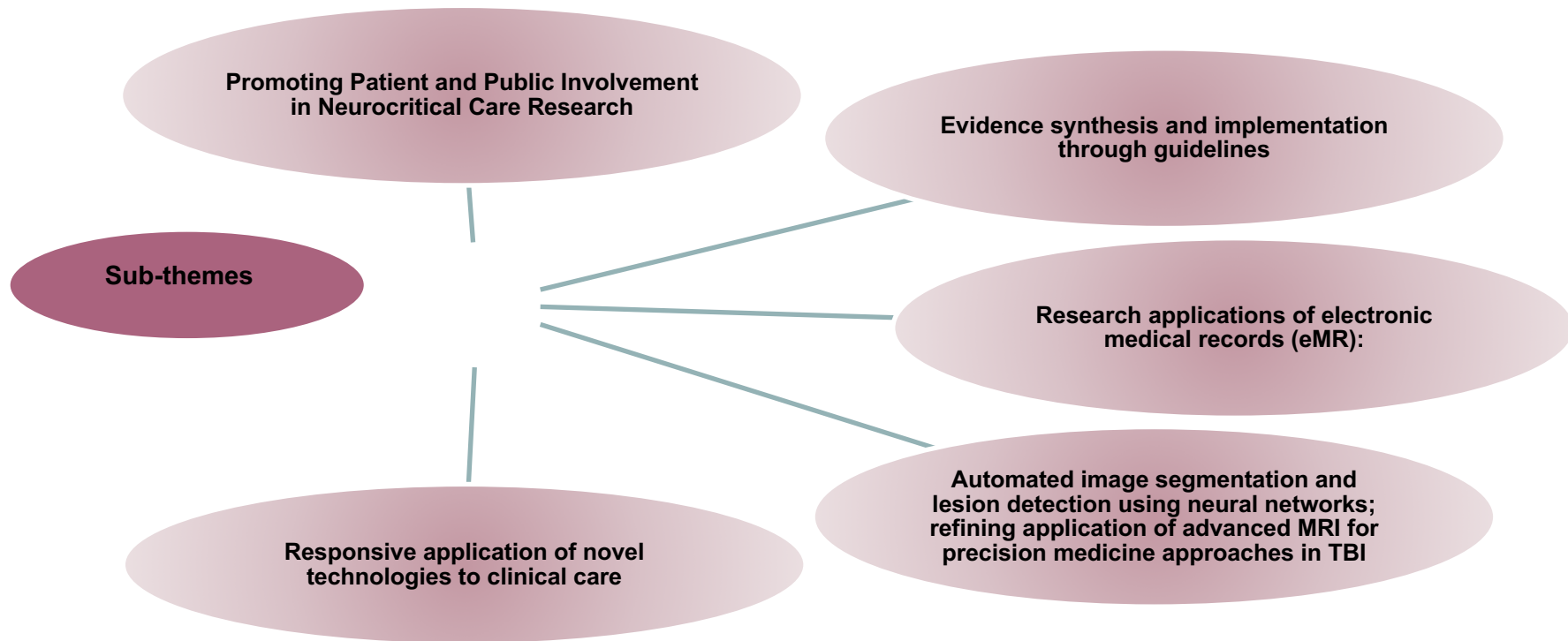
The longer term will see the identification of research questions that make use of new technologies, which will be refined for application in future cycles of the MIC.

Sub-themes

Neurocritical Care

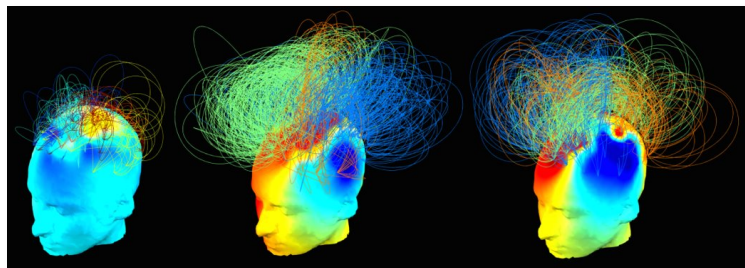


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Brain network visualisation and assessment at the bedside in disorders of consciousness

Dr Srivas Chennu



VS Patient

VS Patient

Healthy adult



Healthy adults



MCS

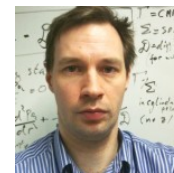
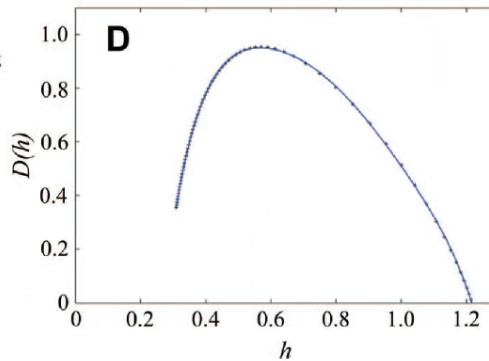
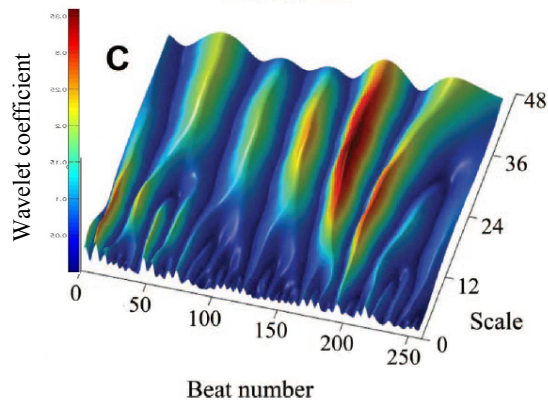
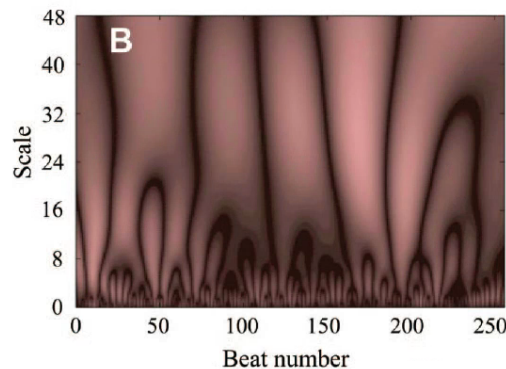
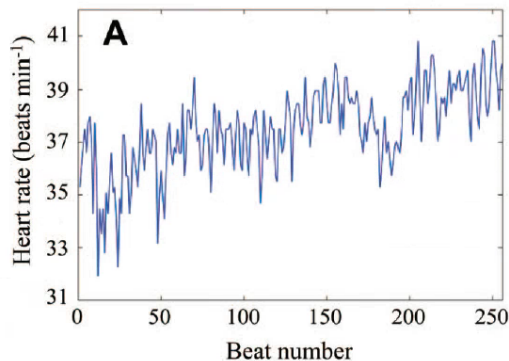


VS

Multifractal Analysis of Hemodynamic Behavior



Institute for
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Ari Ercole



National Institute for
Health Research

email: dkm13@cam.ac.uk

 @Menon_Cambridge

FIND

Identify areas of unmet need throughout the brain injury pathway that might be amenable to a technology-based innovation.

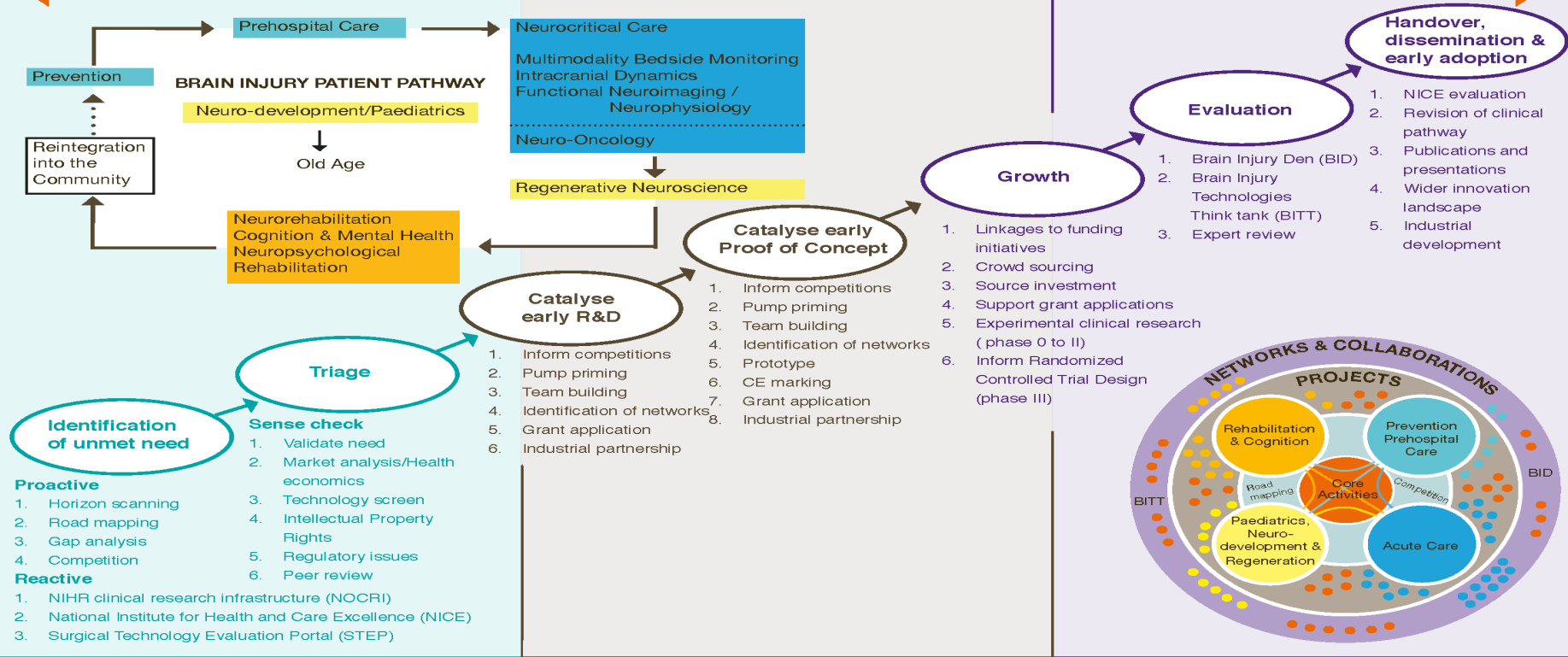
FACILITATE

Promote the generation of innovative solutions through the facilitation of interdisciplinary communication and collaboration between the NHS, academia, industry and public organisations.

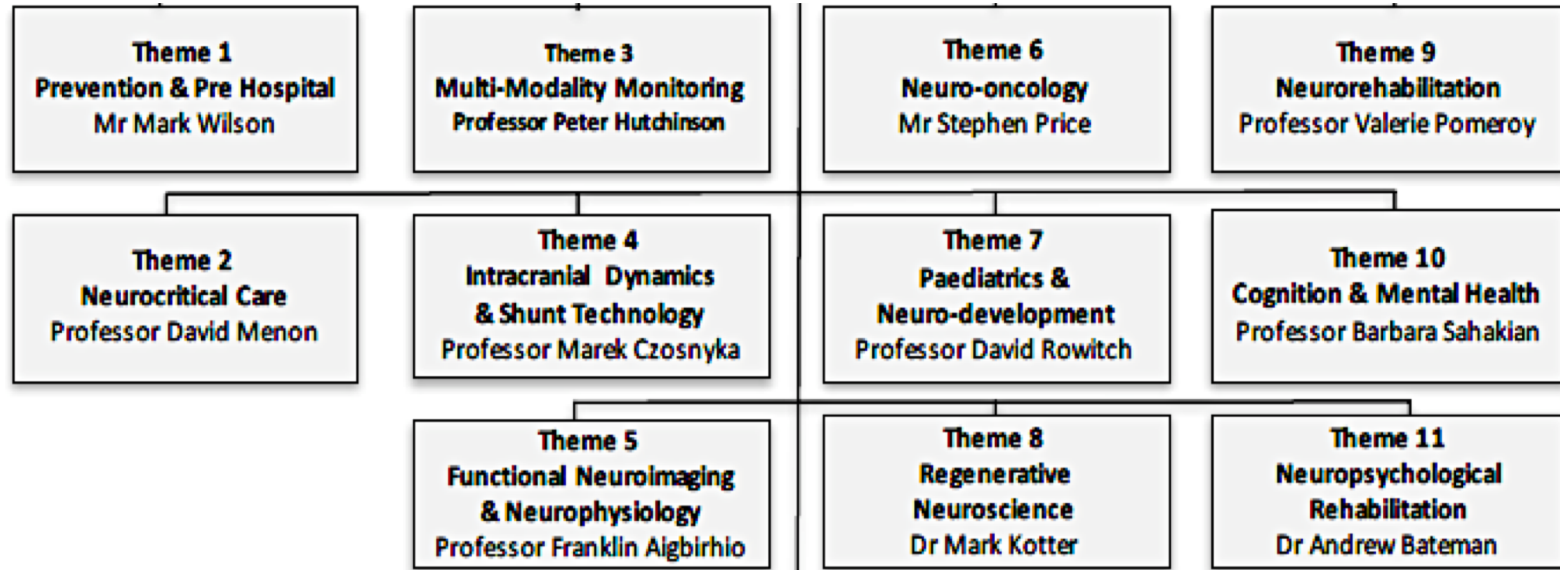
FOSTER

Support the translational pathway of viable solutions from initial concept to successful market adoption and sustainable clinical impact.

CORE ACTIVITIES: Patient & Public Involvement, MedTech Regulation & Developmental Support, Clinical Informatics, Health Economics



Clinical Themes



Healthcare Technology Co-operative (2013-2017)



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The NIHR Brain Injury Healthcare Technology Co-operative (HTC) in numbers

UNMET NEEDS

Since 2014, the NIHR Brain Injury HTC ran **8 strategic roadmapping workshops** and **10 patient and carer workshops**

70 unmet needs have been prioritised through the various structured initiatives facilitated by the HTC to create an 'Unmet Needs Directory'

PATIENT CENTRED



7031

participants recruited to NIHR HTC studies



The Register for Healthcare Involvement and Technology Evaluation (RHITE) has transitioned to an online platform, and has noted a

100%

increase since its launch



FUNDING COMPETITIONS 2013-2017

The NIHR Brain Injury HTC 'Innovations Small Funding Competition 2014-15' and the 'Seedcorn Funding Competition 2016-17' have seed funded 38 national projects that address the unmet needs that have been identified.



200 expressions of interest

75 applications

38 projects have been awarded for a total of **£330,335**



with a return of **£7,890,803**



External Funding Leveraged with partners

£59,562,367

FOSTER

SUPPORTED PROJECTS & BRAIN INJURY DEN

Over 5 years,

101 peer reviews have been conducted

30 projects have received feedback from experts and leaders in healthcare innovation as part of the Brain Injury Den



Supported-projects generated **272** publications



BRAIN INJURY TECHNOLOGIES THINK (BITT) TANK

Over 4 years, the HTC ran 5 BITT tanks, which have been attended by **103** companies

54 SMEs, start-ups and project teams showcased technological innovations to a panel of patients, carers, clinical and academic experts

49 new collaborations formed following the BITT tanks



Since 2013, the HTC has worked with **182** SMEs

NIHR Brain Injury MedTech Co-operative

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The Next Generation

Launch Event

Wednesday 25 April 2018: Homerton College, CB2