NIHR | National Institute for Health Research

COLLABORATIONS FOR LEADERSHIP IN APPLIED HEALTH RESEARCH AND CARE ANNUAL REPORT

Examples of the Value of NIHR CLAHRC Funding
2018/19 Financial Year (1 April 2018 – 31 March 2019)

Modelling revascularisation services after ischaemic stroke

OUTCOME, IMPACT, OR POTENTIAL IMPACT

PenCLAHRC continues to extend its computer modelling to support management in three ways.

1. ***Location of Thrombectomy Centres***

   Work described last year on optimal location of thrombectomy centres in England (funded by NHSE) is nearing completion. This research has been extended to thrombectomy centre location in Northern Ireland and, in collaboration with researchers in Calgary, to address a similar issue in Canada. Findings are being used to underpin decision-making by commissioners.

   Our computer modelling team (PenCHORD) have presented findings to service commissioners in Norther Ireland, Wales and England. Service commissioning development for England is driven by NHS Long Term Plan priority *"to reconfigure stroke services into specialist centres, improve the use of thrombolysis and further roll out mechanical thrombectomy"* A key insight from our work is the close link between services for the two kinds of "revascularisation": thrombolysis (clot-busting drugs) and mechanical thrombectomy (physical removal of the clot).

   There are currently more than 100 thrombolysis centres in the UK but are only 24 places offering thrombectomy. All patients must have a definitive diagnosis (CT scan) before *any* treatment, many people turn out not to have a stroke and thrombectomy is only appropriate in some specific circumstances. So, where people should go for their diagnosis and initial management is important. Since only 10% of people with a stroke need thrombectomy, and there is a strong relationship between timing of both thrombolysis and thrombectomy and outcome conveying all patients to the small number of thrombectomy centres may (a) overwhelm those centres and (b) reduce appropriate demand for thrombolysis, threatening viability.

   This work aims to inform NHSE (in specialist commissioning) and local commissioners and providers in reaching an optimal configuration for services to provide revascularisation after stroke.

   This research will continue in the first year of the ARC.

2. ***Implementation Science Research***
   Working with Oxford AHSN and Wessex CLAHRC, we are developing plans to study the process of implementation of thrombectomy. There are complex issues relating to workforce and coordination between trusts. There is significant pressure on the UK to increase thrombectomy uptake and this may require development of a new workforce to deliver the technique.

   Close coordination between ambulance trusts and hospitals will be critical to ensure balanced services. It has not thus far been possible to ensure appropriate carriage of patients to different "levels" of stroke care provision when thrombectomy is available in only some centres. The steps needed to change this will be the subject of collaborative implementation science research.

3. ***Machine Learning Audit of thrombolysis***

   The work we highlighted last year to develop feedback to stroke physicians on their thrombolysis management, working with the Royal College of Physicians' Sentinal Stroke Audit Programme (SSNAP), has now been funded by NIHR HSDR (£350k). We are developing a package which will be circulated to all stroke physicians in the UK and will inform physicians of cases in which a reference group of other clinicians would have taken a different course of action. Reflecting on this may influence clinician attitude to thrombolysis and increase appropriate use.