NIHR CLAHRC
South West Peninsula

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National Institute for
Health Research

NIHR Collaboration for Leadership in Applied Health Research and Care South West Peninsula (PenCLAHRC)

Case Study Example of the Value of NIHR CLAHRC Funding

1st April 2015 – 31st March 2016

STROKE PROGRAMME - ACHIEVING IMPACT ON STROKE

PenCLAHRC has developed a suite of projects in the area of stroke care. These comprise projects to develop new interventions for rehabilitation after stroke, projects which use computer simulation to explore pathways for patients to receive "clot busting" drugs after a stroke and an ethnographic investigation of the processes by which organisational change in acute stroke care takes place.

In 2011 we carried out a pilot pathway modelling project in one hospital in our region. This led to changes in the way people with stroke were managed so that it was possible for more people to receive effective treatment which can prevent disability after stroke. We reported last year that this project, with support from the Regional Strategic Clinical Network and Academic Health Science Network, was to extend to all hospitals across the region, and incorporate a Stroke Quality Improvement Manager to help achieve timely service change. This project is now nearing completion and the acute stroke pathways of most of the hospitals in the region have been modelled (Exeter, Plymouth, Torbay, North Devon, Truro and Yeovil). The work has exceeded the expectations in our last report, which was to extend to only two further hospitals.

In each hospital a team of managers, clinicians and operational modellers developed simulations of the patient pathways leading to thrombolysis, using nationally available data on thrombolysis (the SSNAP database). A standardised approach has been developed to consider the influences on the use of thrombolysis and revealed the principle factors which influence this important quality indicator. These factors differ between trusts and this variation is a new finding which the team is developing into academic publications. More importantly, the project is bringing together professionals involved in stroke care to disseminate the findings and share experience between units.

The key factors which influence the proportion of people who receive thrombolysis, for which there is a national target of 10% of all strokes include (1) speed of processing through hospital systems (A&E and radiology) (2) clinical thresholds for treatment after apparently mild or resolving stroke and (3) knowing the time of onset of the stroke. Modelling allowed teams to consider what impact changing these factors could have on the proportion of people thrombolysed after stroke. Across the CLAHRC footprint modelling suggests that a maximum thrombolysis rate of 25% is a realistic upper target. This would exceed the rates delivered in most hyperacute stroke units in the UK.

In each trust, the Stroke Quality Improvement Manager, funded by the Strategic Clinical Network developed bespoke action plans with staff in each trust which has supported changes in each

hospital. For example, in one hospital very fast processing times were achieved through A&E and radiology but since onset times were not known in the majority of patients thrombolysis rates were relatively low. This trust is now working on identifying onset times, particularly working with ambulance trust staff, and if the national average of 67% of stroke onset times can be achieved, the trust will increase the proportion of people receiving thrombolysis by 4%.

It is too early to evaluate changes in the proportion of people who receive thrombolysis after stroke across the region, but such before-after analyses are planned for later in 2016. The economic impact of the work in the first trust whose stroke pathway was modelled has been evaluated. The thrombolysis rate increased from 4% to 14% after the project. This 10% margin involved an additional 66 patients receiving thrombolysis, each of whom can be expected to gain 0.33 QALYs (from NICE Guidance). Moreover, savings in hospital and community services are expected to be around £225 per patient, meaning that savings of around £15,000 have been made per year alongside the QALY gains for patients and their carers.

Our ethnographic work exploring the processes of change after pathways modelling is demonstrating the importance of clinical leadership, organisational culture, collaboration and competing organisational priorities. This work, match funded by the AHSN is producing a toolkit to inform implementation of change.

PenCLAHRC has developed two new interventions for rehabilitation after stroke. ReTRAIN is an intervention for use more than a year after stroke, when there are almost no other well defined interventions. The intervention in ReTRAIN has been carefully developed with patients and has worked through the necessary steps for the development of a complex intervention. Alongside a patient as a Co-Ap, the project has now attracted over £160,000 in funding from the Stroke Association for a randomised controlled trial. PenCLAHRC is in the early stages of developing a standardised singing intervention for people with aphasia, for which the commonest cause is stroke (SPA project). Evaluation of this group-based intervention is being considered for funding of a definitive RCT by the stroke association.

A large project has been carried out by PenCLAHRC's modelling group (PenCHORD) to consider the implications of changing the number of units which provide acute thrombolysis after stroke. This has been co-funded by the Strategic Clinical Network and considers the geography of both PenCLAHRC and CLAHRC West, with whom we are working, and is part of a wider review of acute services for cardiac conditions and stroke. The project is now nearing completion and its findings, which demonstrate the trade-offs for the population of reducing the number of units providing thrombolysis, are being considered by NHS Commissioners. The implications of changing the configuration of services across a region are complex and cannot be considered without careful analysis. This is further complicated by interdependencies between services e.g. need for thrombolysis services alongside primary angioplasty services. PenCLAHRC's modelling work identifies the implications for small geographical areas and allows understanding of how improved management within hospitals could more than mitigate the impacts of reducing the number of units which offer thrombolysis. A similar project, with associated match funding, has been carried out to examine the configuration of acute stroke services in Wales.

CONTRIBUTION OF NIHR CLAHRC

PenCLAHRC staff developed both the interventions mentioned above – ReTRAIN and SPA. In both cases, this involved patients and, in the case of SPA, a collaboration with a community music group (Plymouth Music Zone). The modelling work described here was carried out in PenCHORD, the OR group within PenCLAHRC, and involved collaboration with the Strategic Clinical Network and AHSN.

The ethnographic work on implementation is co-funded by the AHSN and PenCLAHRC (as part of CLAHRC's programme on implementation). Without the input of the CLAHRC modelling team, it would not have been possible for the SCN to consider the implications of changing the number of acute thrombolysis units in the South West. The CLAHRC has been deeply involved in all aspects of this work, including engagement with the clinical teams working in each Trust.

WHAT HAPPENED NEXT?

We are continuing to finalise the pathway modelling work which has been challenging to complete within the intended timelines. The CLAHRC has extended the involvement of staff to ensure that the work is completed and this is clearly valued by collaboration partners, notably the AHSN. NHS Commissioners will consider the geographical analyses of thrombolysis in mid 2016 and any changes will be directly consequent on PenCLAHRC's work.

ReTRAIN evaluation is underway and a bid to evaluate SPA is being considered in summer 2016.

CLAHRC is now moving into considering pathways for thrombectomy, and increasing priority in stroke care. Thrombectomy is highly specialised and could be carried out using several approaches, including the use of different medical speciality staff. CLAHRC is working in support of an academic team in Newcastle to help model the national picture for thrombectomy as part of an extension to an NIHR funded Programme grant.