

RCNF report: Exploring the economic case for investing in advanced practice nurse training: an innovative nursing role to support the delivery of specialist coordinated neuro-rehabilitation services for young adults following a stroke

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Executive summary

At the launch of the report 'Time for Change: Acquired Brain Injury and Neurorehabilitation' Chris Bryant MP and Chair of the All-Party Parliamentary Group on Acquired Brain Injury highlighted that "Acquired Brain Injury (including stroke) is an invisible epidemic, and we need to ensure that the neurorehabilitation services required following a brain injury are 'fit for purpose' throughout the UK". It is a fact that the number of young adults (aged 18-50) having a stroke is growing. The effects of a stroke can be enormous. These individuals will often have to give up employment, or reduce their hours. They may have difficulty with some of their family responsibilities. They will need support from a range of health services, and possibly also some social care support. Their families may need to provide a lot of support, which may impact on their own employment and income.

The RCN Foundation is planning to introduce a new programme to train nurses so that they can coordinate delivery of a new specialist coordinated rehabilitation service within specialist coordinated rehabilitation services.

This study aimed to provide much-needed evidence on the impact of missed rehabilitation for young adults following stroke and the economic case for providing better specialist coordinated rehabilitation services coordinated by a newly trained advanced nurse practitioner working within a specialist coordinated rehabilitation service. We looked at the economic case for the training programme: does it generate economic benefits that are greater than the cost of setting up and delivering the training programme? In doing so, we looked at the effect of the training programme

on the rehabilitation care for young adults with stroke when possible, or evidence for (all) adults with stroke if necessary.

Three different interventions were considered as they were all delivered by a multidisciplinary care team that would involve a contribution from nurses with an advanced practice role. They included:

- 1- Emergency and critical care settings.** There is evidence to suggest that the implementation of advanced practice nursing (APN) roles in emergency and critical care settings improves outcomes. The transformation of healthcare delivery through effective utilization of the APN workforce may reduce demand for health services use and attached costs. Specialist rehabilitation with APN roles can be cost-saving, especially for high-dependency patients. The implementation of acute service reconfiguration (to include centralised specialist stroke care with APN roles as part of the multidisciplinary team) proved to be successful in different urban regions.

- 2- Rehabilitation and support in a community setting.** There is evidence that Early Supported Discharge (ESD) services for stroke patients with multidisciplinary team input (including APN roles) can reduce long-term dependency and admission to institutional care as well as reducing the length of hospital stay. Economic modelling comparing stroke unit care followed by ESD with stroke unit care without ESD (and with general medical ward care without ESD) found that stroke unit care followed by ESD offered the best value for money, well below the NICE threshold for cost-effectiveness.

- 3- Discharge to specialised rehabilitation centres.** A preliminary single-centre study identified a considerable gap in provision of specialised rehabilitation for neurosurgical patients (including stroke patients), which must be addressed if patients are to achieve recovery. Estimates of the potential cost implications and cost-benefits of meeting any unmet rehabilitation needs showed that each

additional bed year provided could ideally generate up to £3.6 million of annual net savings in on-going cost of care.

In addition, we provide preliminary calculations of **the money that would need to be invested by the NHS to deliver rehabilitation services in England** (with APNs working as part of the multidisciplinary care team) and their variation according to staff experience and length of service provision. For example, An APN in full-time employment would cost the NHS approximately £60,600 (with no previous experience as an APN) up to £67,000 (with accumulated 5 years (or more) of experience) for one year of rehabilitation service delivery (including both postgraduate training fees and salary costs). The same APNs would cost, respectively, about £224,450 and £253,500 for a 5-year service delivery period.

Our work has found that a great deal more could be done to secure NHS postgraduate training for registered nurses aspiring to become APNs and generate significant gains in health outcomes, patient satisfaction, and economic benefits. Published economic modelling reported that NHS costs invested for the provision of staff training (and service delivery to support APN roles as part of the rehabilitation team) would be offset by the NHS savings deriving from the additional bed-year provided.