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BRIEFING PAPER

Recommendations for Integrated Community Stroke Services:

Service design, workforce planning & clinical governance requirements for a high-quality service and rehabilitation outcomes

DoN PU, April 2023

This briefing paper outlines the British Psychological Society recommendations for the contribution of clinical neuropsychology to stroke care in order to maximise stroke rehabilitation outcomes.

This paper will build and expand on the guidance and recommendations disseminated within the RCP National Stroke Guideline, 2016; NICE Stroke guidance, 2013; and within prior BPS guidance (e.g. Briefing paper 19, DoN, 2010).

Neuropsychological care addresses essential post-stroke needs of stroke survivors (and their families) which, if not addressed, may result in clinical risks and negative long-term consequences as well as increased costs for health and social care.

The paper focuses on recommendations for community stroke rehabilitation, in recognition of the Integrated Community Stroke Service model (2022) and the National Stroke Model (2021). However, it also recognises that neuropsychological contributions to post-stroke needs-assessment and rehabilitation are requirements across the whole stroke care pathway (not just in community-based rehabilitation).

Neuropsychological rehabilitation in stroke covers a breadth of sequelae and utilises a variety of psychological and neuropsychological approaches and interventions. From assessment of needs to inform adequate care planning (e.g. informing differential diagnosis, mental capacity assessment and the elucidation of similarly complex clinical issues); to identifying areas for unidisciplinary and multidisciplinary neurorehabilitation; to delivering time-appropriate specialist interventions and treatments and providing guidance; and support for families (as well as for the stroke survivor). All these activities focus on supporting enhanced clinical care and outcomes. In addition, clinical neuropsychology provides leadership on the implementation of a biopsychosocial approach in rehabilitation planning and delivery, embedded within the context of our communities.

BRIEFING PAPER

NEUROPSYCHOLOGICAL REHABILITATION NEEDS FOLLOWING STROKE

Stroke is the second most common form of acquired brain injury, affecting over 100,000 people each year in the UK (Stroke Association) and the impact of a stroke on a person's life can be far reaching. Stroke can lead people to experience not only physical but also cognitive and emotional difficulties. This can either be through the direct acquired brain injury effects of the stroke or because of difficulties adjusting to symptoms and accessing appropriate rehabilitation¹.

Brain injury has the potential to affect cognitive, emotional, and behavioural functioning. Amongst the wide range of consequences of stroke, it is these cognitive and psychological issues that stroke survivors and their families have rated as needing greatest attention (Stroke Association, 2021).

The resulting difficulties can profoundly affect stroke survivors and their families and impede care and recovery outcomes, where the impact of stroke will have the most detrimental (and ongoing) impacts on those who have limited access to appropriate post-stroke care and rehabilitation.

Access to an appropriate stroke clinical neuropsychology team (which will include stroke specialist practitioner psychologists with suitable and established neuropsychology skills and expertise)² within the care pathway optimises the detection of neuropsychological and neurocognitive impairments which will improve treatment and care in a timely and cost-effective way. If neuropsychological conditions are not fully understood, recognised, or treated, this can lead to a range of clinical risks affecting all stages of recovery, significantly impeding the person's quality of life.

Virtually all stroke survivors can be expected to face a combination of neuropsychological challenges following stroke (involving an individual mixture of cognitive, behavioural, and emotional difficulties). These are commonly symptomatic or secondary to the fundamental neurocognitive and physical stroke symptoms. The complexity of neuropsychological and psychological needs can vary considerably across communities and between individuals, ranging from subtle cognitive changes and/or a mild adjustment disorder, to more complex patterns of difficulties. 90 per cent of stroke survivors experience a level of cognitive deficits that underpin post-stroke disability and 75 per cent experience at least one mental health problem post-stroke (Stroke Association Hidden Effects of Stroke Report) that can then be expected to affect recovery (if not mitigated by equitable access to appropriate treatment).

Common psychological and neuropsychological problems include anxiety, frustration, depression, hopelessness, anger, and emotional lability; and impaired memory, communication difficulties, visuo-spatial/perceptual disorders, apathy, impaired processing speeds and executive functioning problems, which can all – individually or in combination – create many, often insurmountable challenges for patients. High rates of post-stroke fatigue are also common, due to the impact of brain injury effects or of high levels of stress experienced, post-stroke (or through a combination of these effects), further adding to patients' burdens. Such difficulties significantly impact on personal independence, social function, return to work potential and participation in family life (even in the absence of post-stroke physical disability). Individuals with such problems, and particularly those in marginalised groups, often find that their neuropsychological and psychological

¹ Equity of access to diagnosis and appropriate treatment is of particular importance given that risk factors for incidence of stroke are not uniform across marginalised communities and socioeconomic groups.

² References to the 'stroke clinical neuropsychology team' and 'practitioner psychologists with suitable and established neuropsychology skills and expertise' refer to applied/ practitioner psychologists with established neuropsychological skills and expertise, as demonstrable by BPS SRCN status or demonstrable by job description measurement at interview.

problems are ‘hidden’ or ‘invisible’; unseen and not acknowledged or understood. There is also a wider impact beyond individuals, on relationships, financial security, family functioning and social exclusion. Since others may not perceive the changes and difficulties, stroke survivors and their families experience increased distress when such neuropsychological problems are either misunderstood or dismissed. Such misunderstandings further amplify the lack of appropriate support being offered or sought (driving secondary cycles of emotional disturbance and marginalisation).

Such patterns of neuropsychological and psychological impairment can profoundly affect stroke survivors and their families over the immediate and longer-term, reducing recovery outcomes at all stages of life after stroke; driving onward cycles of disability if left un-recognised and un-treated.

Neuropsychological (and neuropsychologically informed) care focuses on understanding the integral relationships that will commonly exist between neuro-cognitive, psychological, and emotional changes following stroke and which must then be catered for within a rehabilitation approach, for best clinical outcomes to be achieved. As experienced post-doctoral clinicians, stroke specialist practitioner psychologists (clinical neuropsychologists, clinical psychologists or other practitioner psychologists with suitable training and established expertise) are best placed to provide neuropsychologically informed care which will optimise the understanding of the dynamics between all post-stroke symptoms from a biopsychosocial point of view, whilst also considering the pre-morbid lifestyle and history of the individual. This approach, when placed at the core of stroke care, will optimise the clinical and cost-effectiveness of MDT rehabilitation, which addresses stroke survivors’ quality of life, losses, disability, and risk management needs.

COMMUNITY STROKE SERVICE REQUIREMENTS & RECOMMENDATIONS

As part of an integrated, community-based, and holistic care approach, people who have had a stroke should have access to specialist assessments and treatments of their psychological and neuropsychological needs (i.e. changes in cognitive function, behaviour, emotional state, and mental health) as part of their stroke care pathway, to support delivery of their rehabilitation potential³. Effective governance for psychological care indicates this must be provided by appropriately trained and skilled stroke specialist practitioner psychologists.

For this aspect of care delivery, clinical pathways require a ‘matched care’ approach to maximise clinical and recovery outcomes. Matched care means that the form and intensity of support is directed by the characteristics of the client and his or her problems, bypassing less intensive types of help that may not to be effective or sufficient. In order to deliver such care, it is therefore essential that stroke practitioner psychologists (with suitably established neuropsychological skills and expertise) are core members of the multidisciplinary teams. Resourcing of neuropsychology care input must be at a sufficient level to ensure that the standards of care are met. These include effective multidisciplinary needs-assessment, multidisciplinary team support, rehabilitation planning and the availability of specialist neuropsychological assessments, clinical formulation, and treatments.

The NHS England National Stroke Programme triggered a formal Task & Finish group in 2018, to review national best practice in terms of service models of stroke rehabilitation including neuropsychological contributions to rehabilitative care and recommendations on workforce planning and service design. This group comprised of clinical psychologists and clinical neuropsychologist stroke specialists, working in stroke rehabilitation (at established sites of best practice), together

³ National Stroke Model (2021).

with contributors from the Stroke Association, who had supported the planning and delivery of stroke emotional support pathways, outside of clinical pathways.

The consensus recommendations made by the group were:

- 1 All people who have had a stroke should have their neuropsychological needs (i.e. changes in cognition, behaviour, and emotional state/ mental health) assessed routinely as part of their stroke care
- 2 Appropriate interventions should be available in a timely manner; accessible via a routine stroke care pathway; including access to stroke specialist practitioner psychology/ clinical neuropsychology professionals, to provide care support and formal treatments where needed
- 3 Stroke psychological care should follow a ‘matched care’ model and pathway i.e. where an individual’s needs define the clinical care and contact accessed in a timely manner; not in response to clinical contact defined by rigid or inflexible stepped care criteria or systems.
- 4 The stroke neuropsychological care pathway should also accommodate patients having access to neuropsychological needs-assessment and stroke psychological care in the longer term where needed, recognising the progressive and chronic nature of many stroke survivor’s support needs that may require clinical review over a term which may frequently lie outside of the usual community rehabilitation timeframe
- 5 Staffing levels for the stroke clinical neuropsychology team must be sufficient to support a broad range of clinical activity including direct and indirect activities supportive of client rehabilitation; providing clinical assessment and treatment, as well as clinical advice/consultation, training, and clinical supervision to MDT colleagues, and to wider health professionals involved in stroke care. Also providing routine contributions to MDT meetings and MDT care planning
- 6 The clinical neuropsychology team must be of a suitable grade mix and under a relevant, consultant practitioner psychologist-led clinical governance framework, to adequately support safe and high-quality care
- 7 The clinical neuropsychology team should also support wider psychological and emotional support services (such as those provided by IAPT and that might also be provided by third sector providers along stroke emotional support lines), and support wider mental health interventions, under collaborative working, where required for best patient outcomes
- 8 Under a local ISDN (Integrated Stroke Delivery Network) framework, a ‘whole system’ stroke psychological workforce plan should be defined – expanding upon the community stroke workforce in place – to support system delivery on stroke rehabilitation requirements outlined (and to support system resilience).

The British Psychological Society endorses these recommendations for stroke service planning, particularly within the planning of community stroke services (which will provide the optimal access point for rehabilitation support for the majority of stroke survivors, where community return will highlight key rehabilitation needs to be met).

Given the robust evidence of needs, associated risks of further poor health and social outcomes and the intersection of neuropsychological factors with social and economic marginalisation, failure to address these is detrimental to the human rights of those affected and leads to exclusion in opposition to safeguards in place at a UK legislative level. The absence of such resources and arrangements will increase risks to patient safety and the possibility of avoidable harm, as patients travel through the care pathway without appropriate needs-assessment or appropriately directed packages of care.

WORKFORCE PLANNING REQUIREMENTS – COMMUNITY STROKE WORKFORCE

Drawing on national examples of best clinical practice in stroke rehabilitation contexts (including established and proven neuropsychology contributions to stroke rehabilitation delivery) and reflecting on new workforce opportunities in line with recent workforce innovations for psychology (with the creation of the Associate Psychological Practitioner (APP) and Clinical Associate Psychologist (CAP) roles), clear workforce recommendations were reached. Recognising the breadth of contributions to stroke rehabilitation required to be delivered by suitably skilled applied psychologists (with relevant neuropsychological expertise). The conclusions from this work underpin the recommendations below:

Figure 1:

SETTING: Community Stroke Rehabilitation (ICSS)	ROLE	GRADES	STAFF NUMBER (wte) per 100 referrals to the stroke MDT
Qualified staffing requirements	Practitioner Psychologists (with applicable and established neuropsychology skills, relevant to grade)*	Bands 7– 8b (grade mix defined according to stroke team size & local context) *With additional Consultant psychologist leadership requirements (please see below)	0.4/ 100 referrals to MDT
Additional psychology staff:	Assistant Psychologists/ Associate Psychological Practitioners/ Clinical Associate Psychologists	Bands 4–6	0.2/ 100 referrals to MDT
Staffing Total			0.6/ 100 referrals to MDT
*Clinical Governance assurances	Appropriate Consultant level Psychologist (Neuropsychology specialist) leadership is an essential requirement within the model *	Bands 8c–d	Wte inputs to be locally defined, under system requirements (see Figure 2)

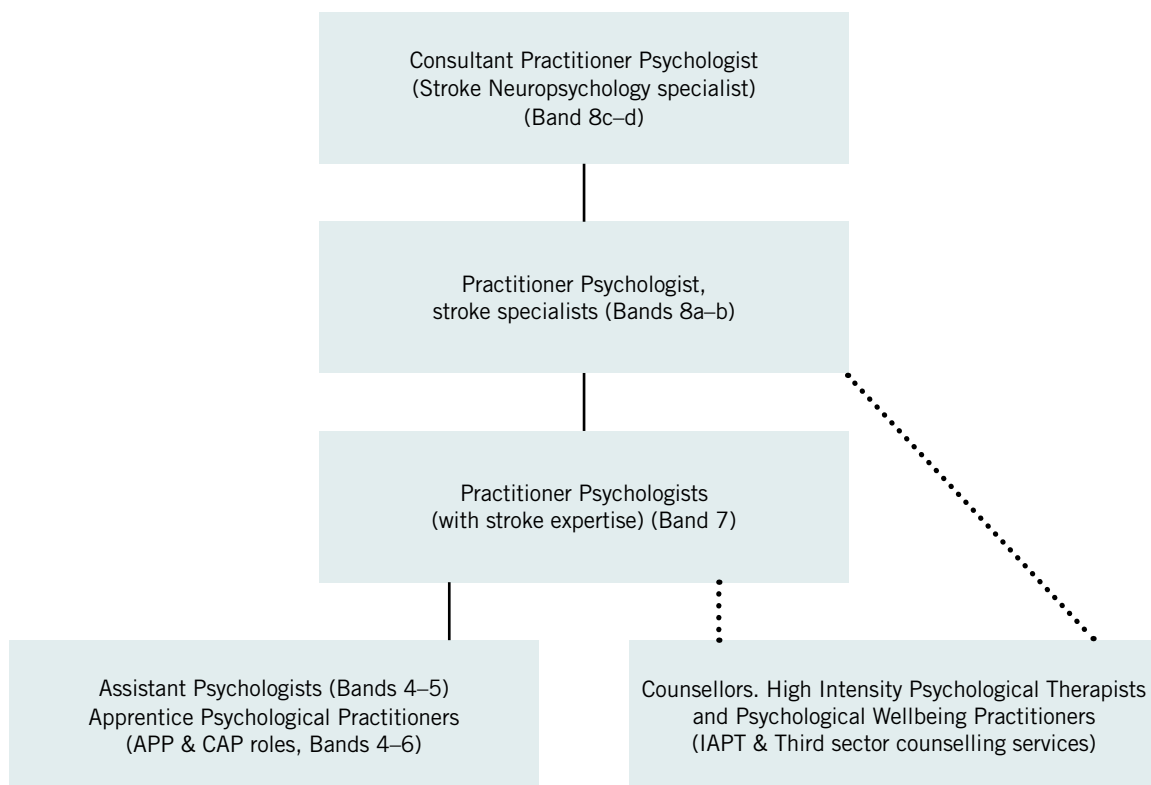
(Please note: (1) These recommended workforce numbers are based on delivery of a five-day service, although it is acknowledged that the flexibility of delivery/ care influence, supported by the model and recommended ways of working, will lend itself to influencing care seven-day services and seven-day care. Staffing ratio reference: National Stroke Programme; Rehabilitation Workstream; Ambition 4, Service Specification; Psychological rehabilitation & support following stroke recommendation, November 2019, unpublished; (2) *please see further guidance provided later in this paper, regarding how to seek to establish relevant neuropsychology expertise requirements).

For a multidisciplinary community stroke team that may be expected to receive 500 stroke referrals a year, for example, this would indicate the need for 2.0 stroke specialist practitioner psychologists and 1 assistant psychologist (or APP/ CAP) to be embedded within the community stroke team and to then support the delivery of MDT care planning contributions, MDT staff training, consultation, clinical supervision and direct assessment and treatment contributions, necessary to fulfil patient rehabilitation needs; as well as supporting wider consultation and support activities with IAPT and other mental health (and stroke emotional support) services, required for most effective collaborative care.

The stroke clinical neuropsychology team must be embedded within the necessary clinical governance framework (as outlined in Fig 2), where service clinical leadership, service management, staff clinical supervision needs and oversight of clinical risk assessment and risk management (e.g. risks associated with suicidality, self-neglect, vulnerable adult, and safeguarding needs) can be assured.

Necessary clinical governance of the workforce will thus require Consultant level Psychologist leadership, at 8c grade or above and of someone with suitable neuropsychological skills and expertise, as required by the role, to provide clinical quality, safety, and professional standard assurances. Where this is indicated either by Specialist BPS Register (SRCN) status or by demonstrable expertise, measured by role job description requirements. Fulfilling this requirement is expected to require local system collaborative working across Trusts under local ICS footprints, with these mandatory Consultant Psychologist inputs into the model being possible to recruit directly into the community stroke team or to be pulled into the model, from external NHS partners. The broad principles of the accountability and governance framework are outlined in Figure 2 (below); black lines indicating formal accountability and clinical supervision arrangement needs; the dotted black lines indicate lines of informal clinical consultation and clinical advice that may be provided to other care providers outside of the stroke care pathway but who may support stroke survivors under a planned pathway of care.

Figure 2: Clinical Governance Framework: Principles to be followed.



Consultant level Psychologist (Stroke Neuropsychology Specialist) leadership of the ISDN stroke psychological and neuropsychological care model is an essential requirement, including the availability of direct clinical time at this level to support assessment and treatment of most complex needs.

Below this Consultant level, a combination of Band 8 (a-b) and Band 7 practitioner psychologists with suitable skills is advised (recognising relevant professional skills at different grades and the skill mix within the team that will be required for effective care). Additional input from assistant psychologists, associate psychological practitioners (APPs), or clinical associate psychologists (CAPPs), Bands 4-6, can then be built into the model, to increase the reach of delivery (once the core elements of the stroke clinical neuropsychology team are in place). Clinical governance assurances must be maintained within whatever local workforce solution is identified, rooted in the principles of need outlined.

The consideration of recruiting APPS or CAPs into the workforce model or of recruiting assistant psychologists who are given the option to take up these training roles within the team, is recommended, in order to provide additional benefits to the service delivery model. Such workforce modelling and planning will best support the ongoing development, stability, and resilience of the stroke psychology team, and provide an internal service structure to support within-system grade development and progression, thereby promoting staff retention.

It is the view of the British Psychological Society that seeking to plan a community stroke team model below the workforce thresholds outlined (as per the recommendations outlined in Figure 1) will fail to adequately meet the breadth of delivery needs required, leading to sub-optimal service outputs and rehabilitation outcomes, and to care planning that will carry clinical risks. Similarly, failure to follow the grade-mix, clinical governance and clinical leadership guidance outlined will be detrimental, leading to inequitable, inadequate, and unsafe psychological care.

Adherence to the system recommendations in Figure 1 and Figure 2, in ICSS service planning (and more broadly in local ICS ISDN planning terms), is strongly advised as a basic requirement such that psychological workforce resources are linked to proven clinical outcomes where delivery of high-quality clinical care will be assured. The recommendations also endorse the role of enhanced psychological workforce innovation – by incorporating new stroke service dedicated APP and CAP roles into workforce design – that are based on psychological competencies for the benefit of service delivery and patient care.

HEALTH ECONOMIC IMPACT OF A NEUROPSYCHOLOGICAL APPROACH

The inclusion of clinical neuropsychology as part of a neuro rehabilitation programme has been found to improve health related outcomes, community functioning and quality of life (Cicerone, et al., 2008; Cicerone, et al., 2011) supporting financial savings by reducing the number of social care hours needed by increasing independence (Wood, et al., 1999; O'Connor, et al., 2011; Turner-Stokes, et al., 2006) and aiding patients in successfully returning to paid employment (Parente, et al., 1999; Turner-Stokes, et al., 2008). Comprehensive reviews recently published in neuropsychological research journals (Glen, Hofstetter, et al., 2020; Stolwyk, Gooden, et al., 2021) documented over 30 studies which reported the cost-effectiveness of neuropsychological care, assessments, and rehabilitation across all areas of practice. Further recent evidence of cost-effective impact comes from Liverpool Stroke Recovery Partnership, where investment of approximately £308,000 was put into the local stroke care pathway, supporting the addition of stroke clinical neuropsychology input into the stroke community rehabilitation team, alongside additional lines of investment to support a new emotional support pathway. The neuropsychological input into community rehabilitation and into the wider pathway was seen to be instrumental in supporting financial savings (of approximately £913,000) – far out-stripping investment costs – as well as improving rehabilitation outcomes.

N.B. This document is pending final governance processes

AUTHORS

Mark Griffiths, Birgit Gurr, Catherine Ford & Alexandra Garfield

The recommendations in this briefing paper are endorsed by:



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St Andrews House
48 Princess Road East
Leicester LE1 7DR, UK

☎ 0116 254 9568 🌐 www.bps.org.uk ✉ info@bps.org.uk