Stroke workstreams

Workstream Title	Problem How big a problem is this and who for?	Strategy What are we planning to do to address it?	Stage Where are we up to in our plans?	Impact What are we hoping to realistically achieve?
Communication difficulties after stroke	Aphasia is an acquired loss or impairment of language (affecting reading, writing, speaking and understanding of language) experienced by a third of people who have a stroke. Other communication impairments are also common after a stroke. Motor speech disorders lead to weakness, in-coordination or paralysis of the muscles required to produce speech and are collectively known as dysarthria. Communication problems after stroke have been highlighted twice in the James Lind Alliance 'Top 10' Research priorities for life after stroke as generated in partnership with stroke survivors, carers and healthcare professionals.	• Inform the development and conduct definitive, rigorous, well reported trials of rehabilitation interventions for people with stroke related communication impairment. • Develop consensus around a minimum dataset for aphasia after stroke trials and encourage the use of comprehensive batteries of outcome measures that examine the clinical and cost effectiveness of specific approaches to SLT delivery.	• We have reviewed, collated and synthesised the evidence to date in relation to the management and rehabilitation of aphasia after stroke. It has been widely cited and has informed the UK clinical stroke guidelines and other countries' national guidelines. • Together with colleagues from 22 different countries we have established the EU funded Collaboration of Aphasia Trialists. • As a result of some qualitative work with people with dysarthria we have developed a better understanding of the impact of dysarthria and their perceptions of rehabilitation interventions.	• Facilitate the development and conduct of international aphasia trials. • Generate a consensus on a minimum dataset for use in aphasia trials. • Create an archive of aphasia trial data for use in exploratory secondary analyses. • Identify the most effective approaches to the rehabilitation of communication impairment for patients after stroke.

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Oral Health Care after stroke	Stroke-Associated Pneumonia is one of the leading causes of hospital-acquired infection following a stroke and affects a fifth (approximately 33,000) of stroke survivors each year. SAP is associated with triple the risk of death at 30 days, poorer rehabilitation outcomes, prolonged hospital stays and dependency at discharge. The onset of SAP is thought to be related to patients' stroke severity, functional impairment (both pre- and post-stroke onset) and level of consciousness. Swallowing difficulties (dysphagia) and associated aspiration of food and fluid into the lungs are also often implicated in the development of SAP. Aspiration alone however, does not fully account for the incidence of pneumonia. The possibility of a relationship between the occurrence of SAP and patients' oral health is receiving increasing attention.	• Develop a method to re-skill nurses/GPs in holistic assessment, and which leads to more use of psychosocial referrals. • Test its acceptability and feasibility for use in primary care contexts. • Deliver an evidence based intervention.	Through our pre-clinical and Phase I work we have successfully developed and evaluated the implementation of an evidence-based complex OHC intervention (SOCLE) . Our work has highlighted the importance of OHC for people after stroke and the lack of evidence to support a specific approach to the provision of that care. It has been widely cited and has informed the UK clinical stroke guidelines and other national guidelines including those for Canada, Australia and New Zealand. Funded by the Stroke Association we are currently conducting SOCLE II, a pilot multi-centred, stepped wedge, cluster randomised controlled trial to compare the clinical and cost effectiveness of a complex OHC intervention and standard OHC in stroke care settings. The trial aims to assess the feasibility of a large scale clinical trial assessing the clinical and cost-effectiveness of an enhanced package of OHC.	• Reduce the incidence of pneumonia after stroke as a result of enhanced oral health care provision. • Develop an evidence based approach to oral health care provision in stroke care settings. • Develop the methodology relating to the use of stepped wedge randomised controlled trials in rehabilitation contexts.

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Continence Care after stroke	UI affects up to 79% of the acute stroke population (up to 7 days post stroke). Six months after stroke UI is thought to persist for up to 39% of stroke survivors, while at 12 months UI is likely to continue to be experienced by up to 32% of stroke survivors. The relevant Cochrane review highlighted the paucity of evidence on which to base urinary incontinence (UI) interventions in stroke care settings. Much of continence care in hospital settings is dependent on nursing staff at all levels, with continence care often delegated to clinical support workers. Although staff are motivated, their knowledge and attitudes have been found severely lacking. UK audit data for the last decade has demonstrated an 'unacceptable' absence of written continence promotion plans with less than two thirds of incontinent patients found to have written continence promotion plans (63% in 2001; 54% in 2006; 63% in 2010).	Based on our implementation work we plan to seek funding to support the conduct of a phase II pilot randomised controlled to compare the clinical and cost effectiveness of a complex continence care intervention and standard continence care in stroke care settings. If effective, our multi-dimensional intervention will facilitate translation into NHS clinical practice.	Based on our preclinical and Phase I work we have successfully developed and evaluated the implementation of an evidence-based complex continence care intervention (Incontinence Stroke Project Inspiring Rehabilitation Excellence: INSPIRE) which intervenes at patient, staff and service levels of care. Improvements at each level of care cascade to the next, with the ultimate goal of benefiting patients' continence and overall health and well being. We demonstrated the feasibility of implementing this complex continence care intervention in a stroke care setting and the importance of capturing interaction between the different intervention components across different dimensions of stroke care.	• Systematic screening of all admissions to stroke wards for continence issues. • Regular documentation of continence care plans for patients admitted with continence problems after stroke. • Improve the quality of continence care on stroke wards and in turn more people will recovery their continence following their stroke.

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Upper limb functional impairment following stroke	Up to 80% of acute stroke patients have arm impairment and around 50% have long-term persisting arm function problems, affecting daily activities, participation, mood, and carer burden. Identifying the most effective upper limb rehabilitation interventions is a recognised top priority for research.	Synthesise evidence of effectiveness of upper limb rehabilitation interventions and make this accessible to aid clinical decisions and support clear recommendations for future research. High quality pragmatic clinical trials of evidence-based interventions will further establish the evidence base.	We are completing a Cochrane Overview of reviews of upper limb rehabilitation interventions, which will identify clear recommendations for future research. We are exploring the effectiveness of commercial gaming devices. We are involved in a phase II RCT to establish feasibility of a RCT to explore the effect of timing of intervention for the upper limb.	• Improve knowledge of evidence for upper limb interventions amongst rehabilitation professionals, enhancing evidence-based practice. • Identify clear recommendations for future research, impacting on future research.

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Visual problems following stroke	Post-stroke visual impairments can take the form of visual field defects, eye movement disorders and visuospatial inattention, and can impact on activities of daily living, mobility, reading, driving, quality of life, depression and anxiety, ability to participate in rehabilitation and length of hospital stay. 61% of people with stroke have visual problems at admission and 22% have persistent visual problems at 90 days post stroke.	Develop evidence relating to the effectiveness of visual scanning training, which may help stroke patients compensate for a visual field defect. Explore effective methods of screening and diagnosis in order to identify patients with visual problems after stroke.	We have completed 4 Cochrane reviews, synthesising evidence relating to interventions for visual problems after stroke and carried out a survey of current practice in Scotland. We are completing an exploratory clinical study to investigate the feasibility of different types of scanning training. This should support the development of a future Phase II clinical trial. We are exploring current methods of clinical screening and assessment.	• Promote high quality research relating to visual problems after stroke, which can impact on patient outcomes. • Develop evidence of effectiveness of visual scanning training, and impact on clinical practice. • Establish recommendations for effective screening and assessment tools.

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Conceptual and methodological challenges of stroke rehabilitation research and dissemination	Rehabilitation interventions for the general stroke rehabilitation population are hugely complex, targeting a range of impairments and functional disabilities, multiple treatment modalities and activities, typically facilitated by different healthcare workers within a multidisciplinary team and delivered across a range of formal and informal contexts. Individual stroke survivor profiles also vary by age, social circumstances, stroke severity, communication ability, cognitive deficit, fatigue, educational background and pre-existing co-morbidities. The complexity of the population group and the interventions delivered creates a number of challenges to the conduct of high quality stroke rehabilitation research. In addition, stroke rehabilitation research is conducted by a large number of research groups across the world. Building on previous research involves understanding and assimilating the evidence to date but huge numbers of outcome measures are used across a single intervention topic. One review of the evidence for upper limb interventions identified 129 different outcome measures in use relating to just 14 different interventions.	Our methodological research activities specialise in the development, conduct and delivery of high quality research which facilitates the conduct of effectiveness studies to inform stroke rehabilitation interventions in stroke care settings.	Our stroke rehabilitation research is informed by the shared Top 10 research priorities of stroke survivors, carers and health professionals relating to life after stroke. People with aphasia have at times been excluded from stroke rehabilitation research. Throughout our research have aimed to highlight (to others) the importance of including this subgroup of people who have experienced a stroke and the implications this has on the clinical relevance of interventions developed and evaluated. The Virtual International Stroke Trial Archive Rehabilitation (VISTA-Rehab) is an archive of information collected from individual stroke patients who have taken part in trials of stroke rehabilitation from around the world. To date, the archive includes anonymised data on more than 10,000 patients (from 40 plus stroke rehabilitation trials). This collaborative resource provides the stroke research community with cost effective opportunities to conduct research analyses on large datasets. Our research programme is a lead producer of Cochrane systematic reviews of nursing and AHP led stroke rehabilitation interventions . Conventional approaches to meta-analyses in systematic reviews are not well suited to many of the naturally skewed outcomes used in stroke rehabilitation research. Funded by the Stroke Association and working with statisticians at the Edinburgh MRC Hub for Trials Methodology Research we aim to develop approaches that will ensure we can summarise the available evidence from stroke rehabilitation trials as rigorously as possible. We aim to ensure that our research is clinically relevant and that the results are accessible to stroke survivors, carers and health professionals. To do this, we disseminate the results of our research in a variety of different formats, including professional journals, newsletters and presentations at conferences and meetings. NMAHP RU led on the development of the Database Of Research In Stroke (DORIS) which provides easy access to best evidence.	1. Facilitate the development and conduct of international aphasia trials. 2. Generate a consensus on a minimum dataset for use in aphasia trials. 3. Create an archive of aphasia trial data for use in exploratory secondary analyses. 4. Identify the most effective approaches to the rehabilitation of communication impairment for patients after stroke.