



Stroke Services:

Configuration Decision Support Guide
Appendices

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1. Appendix

NHS Midlands and East stroke service specification

NHS Midlands and East Stroke Services Specification

Version Control

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Version 3.0

1.1 Purpose

1. Introduction and Purpose

The following Service Specification document sets out the criteria, as recommended by the External Expert Advisory Group, that different parts of the stroke pathway need to meet to deliver high quality care to patients and achieve the step change improvement sought by the Midlands and East Stroke Review. These are the expected standards commissioners should adopt when commissioning stroke care services.

This service specification has been developed by the External Expert Advisory Group (EEAG) in consultation with stakeholders, including Stroke Networks, clinical staff working in stroke and other associated services, commissioners and patients and carers who have experienced NHS services. The document aims to build on clinical best practice and provide clarity on the system requirements for stroke services without prescribing the service model to be adopted locally.

The service specification has been reviewed by the Birmingham, Solihull and Black Country Local Clinical Advisory Group amendments have been endorsed by Professor Tony Rudd National Stroke Clinical Lead.

1.2 Overview

The National Stroke Strategy (2007) provides the foundation for defining stroke services and outlines what is needed to create the most effective stroke services in England. The strategy identifies major stages in the stroke patient's pathway and stresses a need to reorganise the way in which stroke services are delivered, from prevention through to support for those who have experienced a stroke.

A whole pathway approach to the provision of stroke services is crucial to maximising the clinical outcomes for patients, the resultant quality of life and their experience of stroke services. The first 72 hours of care is vital to ensure the optimum clinical outcome for stroke survivors. This needs to be underpinned by an effective whole system pathway for assessment, discharge and repatriation to local stroke services, subsequent rehabilitation and longer term support.

Improving outcomes in stroke services is core to the NHS Midlands and East's ambitions to provide access to the highest quality services. Although there have been significant improvements in stroke services across the Midlands and East region over the last three years, there remains scope for further improvement; demonstrated by the gap between the regions' performance as measured against the national Integrated Performance Measures.

1.3 Midlands and East Vision for Stroke Services

Midlands and East want to achieve a step change improvement in the quality of stroke and TIA services and outcomes. The overarching vision for stroke services across the area is to ensure that all patients who experience a stroke have access to high quality acute care 24/7 and high quality life after stroke rehabilitation as part of a stroke pathway focused on providing patient and carer centric care, empowerment and facilitation of self-management leading to meaningful participation in daily life.

1.4 Objectives and Expected Outcomes

The objectives are to:

- Provide a fully integrated, end-to-end stroke service for NHS Midlands and East.
- Implement the recommendations of the National Stroke Strategy.

1. Introduction and Purpose

- Meet the service standards and specifications set by the Royal College of Physicians and NICE guidelines.
- Ensure that stroke services deliver:
 - Improved clinical outcomes e.g. reduced mortality
 - Improved quality of life outcomes e.g. reduced level of disability following a stroke
 - An excellent patient and carer experience e.g. experience across the whole pathway and including improved access
- Ensure equity of service provision, outcomes and experience across the region

In meeting the above objectives, the expected outcomes will be that any patient presenting with acute stroke symptoms will receive the most appropriate care for their condition. Placing patients on the correct pathway (TIA, hyperacute or acute) will maximise the likelihood of best possible outcomes and allow NHS Midlands and East to use resources effectively within the local area. The specific performance standards are listed in each section, but the general expected outcomes are:

- Improved outcomes of stroke patients, by reducing the levels of death and disability following a stroke
- Reduced length of stay of stroke patients in bed based services
- Improved patient experience and to enhance recovery following a stroke through long term support and follow up
- A service that is sustainable and provides good value for money through effective use of resources
- Access to the services and the quality of care provided is equitable across the region.
- Provide high quality specialist stroke professional development

1.5 Evidence Base

Stroke is the third biggest killer in England and the main cause of adult disability - Stroke killed more than 40,000 people in 2009 in England and over 12,000 in NHS Midlands and East. Around two thirds of people will survive their stroke, but half of stroke survivors are left with long term disability and dependent on others for everyday activities.

Stroke care costs the NHS and the economy about £8 billion a year – about £3 billion in direct costs to the NHS¹, £2.4 billion in informal care costs (costs of nursing home care and care borne by the patients' families) and £1.8 billion in income lost to mortality and morbidity and benefit payments.

This service specification is based upon a comprehensive and current evidence base and agreed best practice, including:

- *National Stroke Strategy* (2007) Department of Health.
- *National Clinical Guidelines for Stroke* (2012) Royal College of Physicians
- *Quality Standards Programme: Stroke* (2010) National Institute for Clinical Excellence.
- *Stroke Service Standards* (2010) British Association of Stroke Physicians
- *Quality and Outcomes Framework for 2012/13* (2011) NHS Employers.
- *The NHS Outcomes Framework 2012/13* (2011) Department of Health.
- *A Public Health Outcomes Framework for England 2013-2016* (2012) Department of Health.
- *The 2012/13 Adult Social Care Outcomes Framework* (2012) Department of Health
- *Supporting Life after stroke* (2011) Care Quality Commission

It is recognised that guidelines can never provide the answer for every situation and do not replace sound clinical judgement and good common sense. Clinical guidelines are only likely to be

¹ NAO (2010) *Progressing in improving stroke care* report

1. Introduction and Purpose

applicable to 80% of clinical situations, 80% of the time. This guideline does, however, provide a framework for care and is intended to be practical and relevant for stroke specialists and non-specialists alike.

The guideline contains specific recommendations covering almost every aspect of stroke management. No one can expect to know them all, and no single person or organisation will need to use them all.

Everyone, however, should be aware of the most important recommendations. This guideline is based on the Royal College of Stroke Physician National Clinical Guidelines for Stroke, Fourth edition 2012.

2. Service Specification



The service specification is divided into phases of the care pathway for stroke patients:



This document is structured according to the stroke pathway phases below. In addition, expectations that apply across the whole pathway are described at the outset.

A. Primary prevention

B. Pre-hospital

C. Acute phase

- i. *Hyper Acute Stroke care*
- ii. *Acute Stroke care (including in-hospital rehabilitation services)*
- iii. *Transient Ischaemic Attack (TIA) services*
- iv. *Tertiary care services (e.g. neuro and vascular surgery referrals)*

D. Community rehabilitation

- i. *Early Supported Discharge (ESD)*
- ii. *Stroke specialist community rehabilitation*

E. Long term care and support

F. Secondary prevention

G. End of life

The specification divides the expected outcomes into three time windows – within 6 months, 6-12 months and 18 months or beyond. These are the expectation based on starting implementation following the Midlands and East SHA decision at the end of March 2013, therefore within 6 months would be by end of September 2013.

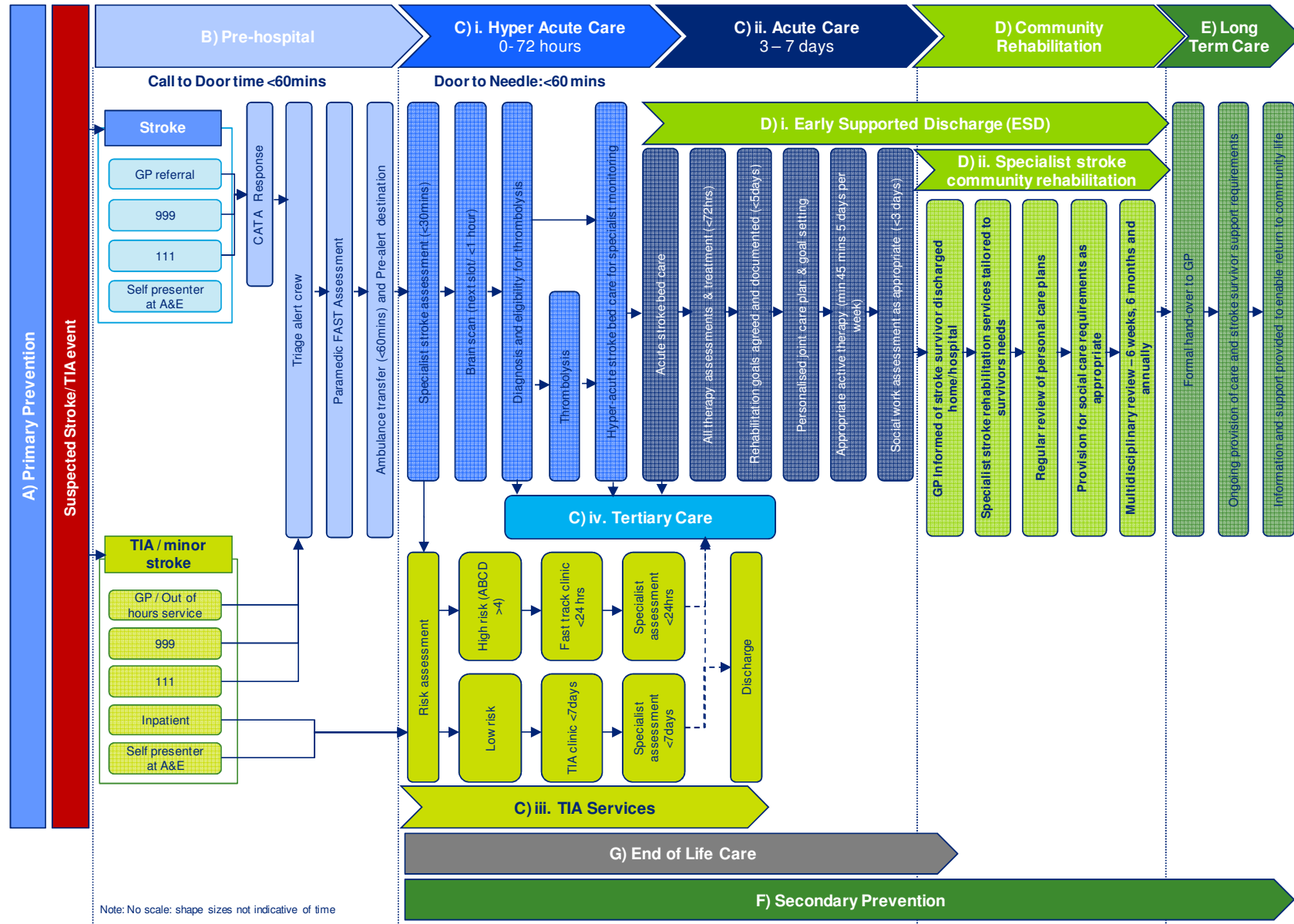
The performance standards specified for each pathway stage are defined according to the data definitions of the stated data collection audit (e.g. ASI, SSNAP, QOF etc.)

The diagram overleaf summaries the pathway according to the patient movement across the phases since they are not necessarily linear and not all phases or services are applicable to all patients.

2. Service Specification



Summary stroke pathway diagram:





2. Expectations across the whole stroke pathway

Across the entire pathway stroke care must be underpinned by several universally applicable components – to improve the quality of care e.g. communications; to improve patient experience of stroke services; and to ensure the step change improvement being sought in stroke care can be achieved e.g. data collection. These elements that apply across the whole pathway are described in this section.

1. Patient Experience

- Patients and their carers are informed throughout the care pathway on a regular and timely basis of:
 - Their prognosis and situation
 - What is likely to happen to them next e.g. how soon they will be seen, frequency of contact, contact information for the new team, how goals will be carried over
 - Who is taking care of them and who is responsible for their care
 - What they need to be doing to facilitate their care and recovery e.g. advice and information about exercises or other activities that they can practice independently
- Patients and carers are able to access information provided to them i.e. provided in an appropriate format/ medium, and in relevant community languages other than English; and that is specific to the phase of recovery and their needs at that time.
- Patients and carers receive instruction and guidance regarding any prescriptions – verbally and supported by written information
- Families and carers are actively involved in day to day care, rehabilitation and decisions about the planning and delivery of their care
- Patients are directed to relevant voluntary service organisations
- The service has in place a process for incorporating patient/ carer feedback into quality improvement service developments

2. Engagement and Communications

- Awareness raising activities are proactive and ongoing e.g. FAST awareness across primary care, care homes and providers and the general public.
- Providers of stroke services are actively engaged with their local stroke network/s e.g. to ensure that each stroke unit is linked to a regional neurosciences centre for emergency review of local brain imaging
- Clinical teams proactively communicate between themselves and with anyone who takes over responsibility for a patients care, while the processes used to manage care involve all relevant people and support seamless transitions between services along the pathway
- Clinical team members communicate regularly with patients and carers in appropriate ways for their condition and needs
- Formal links exist with patient and carer organisations e.g. local users' forum, Stroke Association Group, community stroke clubs.

3. Data Transfer and Information Sharing

- Accurate and explicit records of patients are recorded and shared using agreed protocols between all hospital, community and social care practitioners and individuals in a timely way



2. Expectations across the whole stroke pathway

4. Data Collection and Monitoring

- All organisations should report historical Sentinel metrics where available and required
- All organisations should submit data for the DH stroke and TIA IPMRs
- All clinical services take responsibility for all aspects of data collection, keeping stroke register, and participating in national stroke audit (SSNAP) either directly or via upload of equivalent local data that enables comparison with regional and national peers)
- A sustainable system of coding for stroke patients is in place.
- Local guidance should be in place to support the collection of data between community and across service providers
- All organisations will need to develop a robust system for collection and validation of reliable and accurate stroke data with a lead responsible individual to approve and sign off the data. This may involve investment in data systems and personnel to avoid the burden of data collection responsibility on clinical staff.
- An assessment of patient and carer experience across the stroke pathway is required at regular intervals. This information should be used to inform the improvement of local services and results submitted to inform commissioners on the progress in improving patient experience.

5. Innovation and Research & Development

- To be part of a research network, have a dedicated stroke research lead and actively participate in research (e.g. On the role of interventional radiology in treatment of acute ischaemic stroke or whether the increased intensity of therapy result in improved outcomes)
- Work with Stroke Research Networks
- Be open to performing and participating in national and international trials

2. A) Primary Prevention



Lack of awareness of stroke and TIA – lifestyle causes, risk factors, prevention and symptoms – can be a significant challenge to the realisation of a successful outcome for someone who goes on to experience a stroke or TIA. A proactive approach by all healthcare professionals to recognise patients at risk of stroke or TIA and subsequent mitigation against those risks will support the minimisation of stroke or TIAs.

	Immediate
Service Outcomes	Primary care and other health care professionals (e.g. opticians, ophthalmologists) are effective in: - Identifying patients at risk of stroke or TIA - Identifying atrial fibrillation and reducing the risk of stroke e.g. through anticoagulation - Promoting the “Know your Pulse” campaign and other national/ regional campaigns - Advising at risk patients of lifestyle choices and treatments to minimise risk of stroke and TIA - Advising and educating patients on how to identify symptoms of stroke and TIA to enable effective early intervention/ treatment - Ensuring patient attendance at vascular health check programme and regular long term condition reviews as appropriate Social care staff in domiciliary care, care homes and day centres, together with personal assistants purchased through Direct Payments are: - Effectively trained in the signs of stroke and TIA and aware of the consequences of delay - Able to recognise when a referral to emergency care is needed, and able to contact such services quickly - Able to reassure service users whilst the emergency services are en-route Members of the public are able to recognise and identify the main symptoms of stroke and TIA and know it needs to be treated as an emergency.² Local health economy, including voluntary organisations communicates basic information to patients on the symptoms, emergency treatment, risk factors, lifestyle factors and treatments.
Performance Standards	No metrics are proposed for monitoring. It is expected that local systems will performance manage primary prevention according to NICE guidelines on atrial fibrillation and anticoagulation. There are a large number of performance standards in the QOF and ASI that should be supported.

Delivering a step change in Primary Prevention is not the focus for the Midlands and East Stroke Review. However it is an important component of the stroke pathway and thus included at high-level for completeness to ensure it is recognised as part of a pathway wide approach to managing stroke.

² National Stroke Strategy Quality Markers – QM1: Awareness Raising

2. B) Pre-Hospital Phase



A fast response to stroke reduces the risk of mortality and disability – “Time is Brain”. The identification of potential stroke and TIA patients and their timely admission to an appropriate stroke centre is a critical stage of the care pathway. Promotion amongst healthcare professionals, the public and carers of stroke symptom awareness (e.g. FAST) that prompt emergency treatment can improve health outcomes through timely access to stroke care and specialist treatments such as thrombolysis, which must be administered within a few hours of the onset of symptoms.

	Immediate Requirements		Long term (>18months)
	<6 months	6-12 months	
Service Outcomes	Clinical assessment by ambulance staff: Patients with suspected acute stroke (or sudden onset of neurological symptoms) are screened using a validated tool ³ to diagnose stroke or assess TIA risk ⁴ . • All patients with suspected acute stroke are immediately transferred by ambulance to a hospital with facilities to manage hyper acute stroke (to include FAST positive or where stroke is suspected by paramedics even if FAST negative). • Higher risk TIA (ABCD2 score >3, on anticoagulation or with crescendo TIA⁵) is treated as an emergency, being at greater and imminent risk of stroke, undergoes specialist assessment within 24 hours of presentation to healthcare professional.⁶ • All suspected stroke patients are assessed and managed in accordance with best clinical practice and monitored for atrial fibrillation and other dysrhythmias⁷.		
	Ambulance transfer to hospital: Ambulance service transfer to the appropriate stroke centre within 60 mins, ideally within 30 mins (from scene to hospital). Local areas may choose to set more challenging targets as their geography permits • All patients with suspected acute stroke are immediately transferred by ambulance to a stroke centre offering hyper acute stroke services⁸		

³ Note: Many valid tools exist and this specification does not specify which one should be used, though some suggestions are made

⁴ NICE Quality Standards – Quality Statement 1; National Stroke Strategy Quality Markers – QM8: Assessment

⁵ Crescendo TIA is defined as two or more TIAs in one week

⁶ RCP 2012 – 4.2.1 C & D; low risk TIA should receive specialist assessment as soon as possible, but definitely within one week of onset of symptoms

⁷ RCP 2012 – 4.1.1.1 F, G & H

⁸ National Stroke Strategy Quality Markers – QM7: Urgent Response

2. B) Pre-Hospital Phase



	- Suspected stroke cases are assigned “Category A” 999 response (and meet Category A ambulance service standards – 2 man, 4 wheel response with the ability to transport patient). - The Ambulance Paramedic service links with the receiving hospital when they have a suspected stroke patient⁹, providing a system of pre-alert to enable potential stroke patients (FAST positive) to be met on arrival. - Action plans are in place to improve ambulance response and on-scene times.		
Education & Training	All ambulance and triage staff follow best practice clinical guidelines in the recognition of and handling of stroke patients’ e.g. FAST, ABCD2 - All Ambulance crews and paramedics are trained in stroke recognition using validated tools (e.g. FAST) - Stroke experience is included in paramedic training and staff able to prepare patient appropriately for admission to hyper acute stroke service according to agreed protocols. - Communication training provided to help manage patients with aphasia - Ongoing stroke specific training is included as part of Continuous Professional Development (CPD)	Ambulance service has an established method of obtaining and implementing new guidance for stroke care	Ambulance service participates in local Stroke Research Network trials and studies
Workforce	- There is sufficient and appropriate stroke skilled capacity in the ambulance service to provide the service to the required population to the defined performance standards. - There is an identified clinical lead for stroke within the ambulance service - Skill mix supports supervision of junior and trainee ambulance personnel		
Performance Standards			Thresholds
	1. Percentage of suspected stroke patients transferred by ambulance where a validated tool (e.g. FAST) was used to determine stroke (SSNAP)		100%
	2. Percentage of patients admitted to hyper acute services within 4 hours of symptom onset (SSNAP)		90%
	3. Percentage of FAST positive patients with a ‘call to door’ time <60 mins (SSNAP)		95%

⁹ BASP Stroke Service Standards 1.1

2. C) i. Hyper acute stroke care



Hyper acute services provide expert specialist clinical assessment, rapid imaging and the ability to deliver intravenous thrombolysis 24/7, typically for no longer than 72 hours after admission. These services may be in a specialist Hyper Acute Stroke Unit (HASU) or as a dedicated area on a stroke unit. At least 600 stroke patient admissions per year are typically required to provide sufficient patient volumes to make a hyper acute stroke service clinically sustainable, to maintain expertise and to ensure good clinical outcomes. People with acute stroke will receive an early multidisciplinary assessment, including swallow screening and, for those that continue to need it, have prompt access to high-quality stroke care.

	Immediate		Long term (>18months)
	<6 months	6-12 months	
Service Outcomes	Clinical assessment: All patients (including self/ GP referrals) with suspected stroke are admitted to a hospital with a hyper acute services and seen immediately by stroke team to receive immediate structured assessment by the appropriately trained staff in a consultant led team to determine likely diagnosis and suitability for thrombolysis and ongoing care needs ¹⁰ : • Hyper acute service alerted prior to patient arrival (where appropriate) • Hyper acute service has sufficient capacity for all stroke admissions • Patients are seen and assessed by a member of the specialist stroke team without delay and within 30 minutes of arrival • Patients diagnosed with stroke receive early multidisciplinary assessment: ○ Eligibility for thrombolysis ○ Need for immediate brain imaging ○ Swallow screening (within 4 hours of admission¹¹) with ongoing management plan for provision of adequate nutrition. Patients who fail swallow screen to be assessed by Speech and Language Therapist within 24 hours ○ Assessment for malnutrition and need for nasogastric tube or gastrostomy within 24 hours of admission¹² ○ Protocols for assessment and management of other causes of stroke: intracerebral haemorrhage, subarachnoid haemorrhage, acute arterial dissection, cerebral venous thrombosis¹³ ○ Patients with ischaemic stroke or TIA found to be in atrial fibrillation should		

¹⁰ National Stroke Strategy Quality Markers – QM8: Assessment; NICE Quality Standards – Quality Statement 3

¹¹ NICE Quality Standards – Quality Standard 4

¹² RCP 2012 – 4.17

¹³ RCP 2012 – 4.7- 4.9

2. C) i. Hyper acute stroke care

A) Primary Prevention

B) Pre-hospital

C) Acute Phase

D) Community Rehabilitation

E) Long Term Care

F) Secondary prevention

G) End of Life

	be anticoagulated (once intracranial bleeding excluded by imaging) at the discretion of the prescriber, but no later than 24 hours for Transient Ischaemic Attack and 14 days from the onset of stroke¹⁴ - Patients with stroke are assessed and managed by stroke nursing staff and at least one member of the specialist rehabilitation team within 24 hours of admission to hospital¹⁵. Patients are assessed by all relevant members of the MDT within 72 hours. - Ensure all patients with stroke are given an antiplatelet (e.g. aspirin 300mg) immediately after scanning unless contraindicated¹⁶ - Diagnosis discussed with patient and carer and plan of care clearly written in patient notes		
	Thrombolysis: Thrombolysis can be provided 24/7 to confirmed stroke patients with an appropriate protocol in place to screen patients against the medical criteria for thrombolysis: - Appropriate stroke patients, identified as potentially eligible for thrombolysis treatment, to be scanned within next available CT slot - Appropriate stroke patients to be scanned and receive thrombolysis, ideally within 30 mins and certainly within 60 mins of admission/arrival (door to needle time)¹⁷. - Thrombolysis should be conducted within the criteria specified within the RCP National clinical guidelines for stroke 2012		
	Monitoring: Protocols or pathways in place that ensure appropriate monitoring of stroke patients in the hyper acute phase of care: - All hyper acute patients should be monitored according to a protocol post stroke for 24 hours and then according to patients needs.¹⁸ - Any thrombolysed patient should be closely monitored by stroke-trained staff according to a protocol for the first 24 - 72 hours post-thrombolysis in a monitored bed. - All conscious patients admitted with suspected acute stroke are mobilised out of bed on the day of admission unless contraindicated with frequent		

¹⁴ RCP 2012 – 4.10.1 C

¹⁵ NICE Quality Standards – Quality Statement 5

¹⁶ RCP 2012 – 4.6.1 J-L

¹⁷ BASP Stroke Service Standards 1.4

¹⁸ Physiological monitoring and maintenance of hemostasis is recommended in RCP 2012 – 4.12

2. C) i. Hyper acute stroke care

A) Primary
Prevention

B) Pre-hospital

C) Acute
Phase

D) Community
Rehabilitation

E) Long
Term Care

F) Secondary
prevention

G) End
of Life

	opportunity to practice functional activities with a trained healthcare professional¹⁹ Mixed gender wards may be used for critical or highly specialised care in line with DH guidelines for mixed sex accommodation		
	Access to support services: Hyper acute services have onsite access to the following support services and clinical interpretation: - Brain imaging (MRI and CT) – patients are scanned in the next scan slot within usual working hours, and within a maximum of 60 minutes of request out-of-hours with skilled radiological and clinical interpretation being available 24/7²⁰ All patients are scanned within 12 hours and patients eligible for thrombolysis and urgent scans within a maximum of 1 hour. - Carotid imaging (e.g. ultrasound, MRA, CTA), within 24 hours²¹ Access (onsite or via clear pathway) is also available to tertiary care services with clear protocols to provide: - Neuro surgery - Vascular surgery		
	Repatriation/ Patient transfer: - If patient transfer is required from hyper acute to acute care services appropriate pathway protocols are in place and followed. - A system is in place to reduce delays in patient transfers.		
Education & Training	Hyper acute service staff have comprehensive knowledge of the stroke pathway: - Clinical staff assessing stroke admissions are trained in thrombolysis and interpretation of brain imaging - In-house multidisciplinary team stroke training programmes provided. - External stroke training available - Stroke physicians and non-medical specialist/ expert practitioners attend BASP thrombolysis training - Communication training provided to help manage patients with aphasia. - All staff aware of the Mental Capacity Act and its implications		

¹⁹ BASP Stroke Service Standards – 3.7

²⁰ National Stroke Strategy Quality Markers – QM8: Assessment; NICE Quality Standards – Quality Standard 2; BASP Stroke Service Standards – 2.1

²¹ RCP 2012 – 4.4.1 C; BASP Stroke Service Standards – 2.2

2. C) i. Hyper acute stroke care

A) Primary Prevention

B) Pre-hospital

C) Acute Phase

D) Community Rehabilitation

E) Long Term Care

F) Secondary prevention

G) End of Life

	Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework		
Workforce	Consultant Stroke Specialist led: Access to consultant stroke specialist²² decision making for all hyper acute stroke related issues, including thrombolysis 24/7: - In person or via telemedicine²³ - Sustainable on-call consultant with stroke training rota (no more than 1:6) - At least daily consultant stroke specialist rounds, 7 days a week		
	Multidisciplinary Team: Hyper acute services have a sufficient multi-disciplinary team on rota to provide service outcomes with an identified consultant stroke specialist clinical lead: 24/7 availability of appropriately trained staff for assessment of all patients, including thrombolysis eligibility assessment - Specialist stroke nursing is available for the care and monitoring of all hyper acute service patients - A full and detailed multi-disciplinary team meeting to meet at least once per week to exchange information about individual patients²⁴		
	Staffing Numbers Hyper acute services provide minimum staffing ratios²⁵ of: 6 BASP thrombolysis trained physicians on a rota 24/7 2.9 WTE nurses per bed to comply with 80:20 trained vs. untrained skill mix 0.73 WTE Physiotherapist per 5 beds (respiratory & neuro) 0.68 WTE Occupational Therapist per 5 beds 0.68 WTE S&LT per 10 beds - Access to social worker		

²² A stroke specialist is defined as a healthcare professional with the necessary knowledge and skills in managing people with stroke, usually evidenced by having a relevant further qualification and keeping up-to-date through CPD; it does not require the person to exclusively see people with stroke (RCP 2012 – 3.2)

²³ Telemedicine with telephone and video, with a local specialist stroke nurse (and IT support and regular audits for quality) can be used as an alternative to face-to-face with a stroke specialist (RCP 2012 – 3.4)

²⁴ RCP 2012 – 3.2.1 F

²⁵ RCP 2012 – 3.3

2. C) i. Hyper acute stroke care



Performance Standards				Performance Thresholds
	1. Percentage of all stroke patients admitted to hyper acute unit within 4 hours of arrival to hospital (SSNAP)			90%
	2. Proportion of patients scanned within 1 hour of clock start			50%
	3. Proportion of patient scanned within 12 hour of clock start			85%
	4. Percentage of patients seen and assessed within 30mins of admission by a specialist in stroke (SSNAP)			95%
	5. Percentage of appropriate patients having thrombolysis within 60 mins of entry (door to needle time) (SSNAP)			95%
	6. Percentage of appropriate patients having thrombolysis within 45 mins of entry (door to needle time) (SSNAP)			90%
	7. Percentage of appropriate patients having thrombolysis within 30 mins of entry (door to needle time) (SSNAP)			50%
	8. Percentage of stroke patients, identified as ineligible for thrombolysis, scanned within 12 hours of admission (SSNAP)			95%
	9. Percentage of all conscious stroke patients to receive a swallow screen within 4 hours of admission (SSNAP)			100%
	10. Proportion of patients with stroke assessed and managed by stroke nursing staff and at least one member of the MDT within 24 hours of admission to hospital (SSNAP)			80%
	11. Percentage of all stroke admissions thrombolysed (SSNAP)			15- 20%
	12. Percentage of patients who spend at least 90% of their time on a stroke unit (SSNAP)			90%
	13. Carotid imaging performed within 24 hours for patients suitable for carotid endarterectomy			90%

2. C) i. Hyper acute stroke care



	14. HASU meets workforce requirements set out in the Midlands and East Service specification V8			

2. C) ii. Acute stroke care



Acute stroke care immediately follows the hyper-acute phase, usually after first 72 hours after admission. Acute stroke care services provide continuing specialist day and night care, with daily multidisciplinary care, continued access to stroke trained consultant care, access to physiological monitoring and access to urgent imaging as required. In-hospital rehabilitation should begin immediately after a person has had a stroke. Rehabilitation services should continue for as long as required, to ensure the best recovery and the minimisation of any disabilities²⁶ though these are likely to extend beyond time in-hospital (see section D). Rehabilitation goals should be agreed between the multidisciplinary team and stroke patients and carers.

	Immediate		Long term (>18months)
	<6 months	6-12 months	
Service Outcomes	Acute stroke care: All stroke patients should have access to high quality stroke care and spend the majority of their time in hospital under specialist stroke care: • Patients have access to a stroke trained nurse at all times • Protocol in place for the promotion of bladder and bowel continence including a policy to avoid urinary catheters²⁷ and prevention of pressure sores • Daily consultant or specialist registrar ward rounds at least 5 days a week • Protocols are in place for receiving and discharging patients 7 days a week in a timely manner • All patients with stroke have access to a designated stroke rehabilitation services²⁸ whether in an acute stroke bed or on a specialist rehabilitation unit in hospital. • All patients to be mobilised out of bed on day of admission unless contra-indicated and offered frequent opportunity to practice functional activities with a trained healthcare professional²⁹. Rehabilitation commences as soon as possible following admission into the acute stroke pathway. • Social work assessment as soon as possible and within a maximum of 3 days from referral, if appropriate		• Stroke trained MDT available 7 days a week
	Access to support services: Acute stroke services have access (not necessarily onsite) to the following support services and clinical interpretation: • Brain imaging (MRI and CT)³⁰		

²⁶ National Stroke Strategy Quality Markers – QM10: High-quality specialist rehabilitation

²⁷ BASP Stroke Service Standards – 3.8

²⁸ BASP Stroke Service Standards – 4.1; NICE Quality Standards – Quality Standard 6

²⁹ BASP Stroke Service Standards – 3.7

³⁰ Brain imaging should be performed immediately (ideally the next imaging slot and definitely within 1 hour) for people with acute stroke if several conditions apply, else as soon as possible and at most within 24 hours (RCP 2012 – 4.5.1 A & B)

2. C) ii. Acute stroke care



	• Carotid imaging (including ultrasound, MRA, CTA) • Based on carotid imaging/ stenosis, CEA should be undertaken as soon as possible and within 7 days³¹ of symptoms Access is also available to tertiary care services (onsite or offsite with clear protocols) to provide: • Neuro surgery • Vascular surgery		
	Rehabilitation planning in hospital: Rehabilitation programmes are built around the individual needs with patient agreed goals: • Patients assessed by specialist rehab team within 72 hours, with documented multidisciplinary goals agreed within 5 days³²) • Personal care plan which is patient-centred, goal-led and implemented from admission. The expected date of discharge will be planned and worked towards and plans shared with patient and carers • Multidisciplinary meetings at least once a week to plan patient care		
	Rehabilitation services available: Rehabilitation services that provide specialist stroke care 5 days a week: • Assessment by specialist therapists (Physiotherapist, occupational therapist, speech and language therapist) within 72 hours of admission³³ • Stroke survivors offered required active therapy at a level appropriate for obtaining rehabilitation goals for as long as they are continuing to benefit from the therapy and are able to tolerate it (target for 45 mins per discipline, 5 days a week)³⁴ • Identification of cognitive and perceptual problems within 7 days via a cognitive and psychological assessment using a validated screening tool for all patients by appropriate therapist • Screening of all patients to identify mood disturbance and cognitive	• Access to a service capable of appropriately managing mood, behaviour or cognitive disturbance following a stroke • A dysphagia management service is available including Percutaneous Endoscopic Gastrostomy (PEG)	• Rehabilitation services that provide specialist stroke care 7 days a week

³¹ RCP 2012 – 4.4.1 C

³² RCP 2012 – 3.2.1

³³ NICE Quality Standards – Quality Standard 10

³⁴ BASP Stroke Service Standards – 3.10, 3.11, 3.12, 4.4, 4.5, 4.6; NICE Quality Standards – Quality Standard 7; RCP 2012 – 3.14.1 A

2. C) ii. Acute stroke care



	impairment prior to discharge or within 6 weeks³⁵ - Specialised neuro-rehabilitation services e.g. spasticity, orthotics, continence, driving, vocational etc. prior to discharge³⁶ - Stroke survivors with continued loss of bladder control 2 weeks after diagnosis are reassessed and agree an ongoing treatment plan involving both patients and carers³⁷ - Comprehensive secondary prevention advice and treatment³⁸ is provided		
	Preparation for discharge: - Planning for care after discharge undertaken with stroke patients and their carer/s at as soon as possible to enable domiciliary care support and adaptations to be arranged in good time and in context of pre-admission status and family/ carer support available - Protocols are in place to ensure patients and families are fully informed and participate in the process of transfer of care - Discharge planning protocols ensures information handover with clear direction for community rehabilitation requirements, discharge destination (e.g. home, care home) with full participation of the ESD/ community rehabilitation team - Stroke survivors receive advice and support to enable a return to previous level of activities - A formal discharge summary report should be shared with the referrer, GP and stroke survivor (if requested) within 7 days of discharge		
Education & Training	All staff of the MDT are knowledgeable of the care standards and protocols of the stroke pathway: - In-house and external training provided, with staff released for training as required, including a stroke specific in-house induction training programme. - Staff skill mix supports supervision of junior and trainee personnel - All registered nursing staff in stroke units trained in urinary bowel continence - Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework or recognised competency framework. - Health and social care professionals should ensure that they are up to date with the current guidance from the DVLA		The practice development team incorporates stroke in education and training plans

³⁵ RCP 2012 – 3.2.1 H

³⁶ BASP Stroke Service Standards – 4.10

³⁷ RCP 2012 3.2.1G; NICE Quality Standards – Quality Standard 8

³⁸ BASP Stroke Service Standards – 4.17

2. C) ii. Acute stroke care



	• Staff are aware of the Mental Capacity Act and its implications • Communication training provided to help manage patients with aphasia.		
Workforce	Acute Stroke Services Sufficient capacity to provide the service to the performance standards set: • Consultant specialist stroke physician available 5 days a week • Consultant to see all new patients on the next working day following admission and provide 5 day a week consultant review • Provide a means for a consultant review of a deteriorating patient out-of-hours • 24/7 provision of stroke trained nurses • Identified clinical leads (i.e. one A&E Clinical Stroke Lead and one Radiology Stroke Lead)		• 7 day provision of stroke trained multidisciplinary therapists • Regular stroke physician to input into the review and medical management of patients³⁹

³⁹ BASP Stroke Service Standards – 4.3

2. C) ii. Acute stroke care



	Staffing numbers: Acute and rehabilitation services should have a multidisciplinary team comprising of ⁴⁰ : ○ Nurses: 1.35 WTE per bed (65:35 trained to untrained skill mix) ○ Physiotherapists: 0.84 WTE per 5 beds ○ Occupational Therapists: 0.81 WTE per 5 beds ○ Speech & Language Therapists: 0.81 WTE per 10 beds ○ Psychologists ○ Dieticians ○ Social workers • Access is available to a range of additional professionals including those in: ○ Clinical Psychology ○ Oral health ○ Orthoptics ○ Orthotics ○ Pharmacy Note: where combined stroke units are used, it is expected that beds are designated as hyper acute and acute, then staffed according to the hyper acute service and acute service standards outlined.			
Other	Equipment and Aids: • All equipment and aids (e.g. wheelchairs, continence equipment etc) should be reviewed and ordered before discharge			• Open referral system in social services for assessments of home adaptations and equipment needs
Performance Standards				Performance Thresholds
	1. Proportion of applicable patients who have rehabilitation goals agreed within 5 days of clock start (SSNAP)			100%
	2. Proportion of applicable patients who have a incontinence plan drawn up within 3 weeks of clock start.(SSNAP)			80%

⁴⁰ RCP 2012 – 3.3

2. C) ii. Acute stroke care



	3. Proportion of applicable patients who were assessed by an occupational therapist within 24 hours of clock start (SSNAP)			95%
	4. Proportion of applicable patients who were assessed by an physiotherapist within 24 hours of clock start (SSNAP)			95%
	5. Proportion of applicable patients who were assessed by an speech and language therapist within 24 hours of clock start(SSNAP)			95%
	6. Compliance (%) against therapy target of an average of 25.7 minutes of OT across all patients (Target =45 minutes x (5/7) x 0.8 which is 45 minutes of OT x 5 out of 7 days per week x 80 % of patients) (SSNAP)			80%
	7. Compliance (%) against therapy target of an average of 25.7 minutes of physio across all patients (Target =45 minutes x (5/7) x 0.8 which is 45 minutes of physio x 5 out of 7 days per week x 80 % of patients) (SSNAP)			80%
	8. Compliance (%) against therapy target of an average of 25.7 minutes of SALT across all patients (Target =45 minutes x (5/7) x 0.8 which is 45 minutes of SALT x 5 out of 7 days per week x 80 % of patients) (SSNAP)			80%
	9. Proportion of applicable patients receiving mood and cognition screening by discharge (SSNAP)			85%
	10. Percentage of patients receiving a continence assessment by discharge (SSNAP)			100%
	11. Proportion of applicable patients receiving a joint health and social care plan on discharge (SSNAP)			100%
	12. Proportion of those patent who are discharged alive who are given a named person contact after discharge			95%
	13. Proportion of applicable patients in arterial fibrillation on discharge who are discharged on anticoagulants or with a plans to start anticoagulation			95%

2. C) ii. Acute stroke care



	14. ASU meets workforce requirements out in the Midlands and East Service specification V8			100%

2. C) iii. TIA services



The risk of a stroke is high following a TIA – approximately 10 to 20 percent of patients who have a TIA will go on to have a stroke within seven days. Specific TIA services provide rapid diagnostic assessment and access to specialist care for high risk patients thereby lowering the risk of a subsequent stroke.

	Immediate		Long term (>18months)
	<6 months	6-12 months	
Service Outcomes	TIA identification: - TIA patients are risk stratified using the ABCD2 score - All TIA patients will be referred to a TIA service (accepting direct referral from primary care and A&E)		
	TIA Service: Specific TIA service is provided for those identified with TIA: - Access 7 days a week, 365 days a year. - The TIA service has both the facilities to diagnose and treat people with confirmed TIA, plus the facilities to identify and appropriately manage (which may include onward referral) people with conditions mimicking TIA - High risk patients⁴¹ must receive specialist assessment and investigation within 24 hours of presenting to a healthcare professional and be started on an antiplatelet (e.g. aspirin) and a statin immediately⁴² - TIA service has access to: - Blood tests - ECG - Brain scan (if vascular territory or pathology uncertain) – MRI DWI is preferred mode of imaging; urgently in high risk and within one week in low risk TIA - Completion of carotid imaging (where indicated) - Referral for carotid surgery⁴³ where indicated, which should be undertaken within 7 days of onset of TIA⁴⁴ - Provision of aspirin, clopidogrel or statins as appropriate - Control of blood pressure - Information and advice provided regarding stroke risk and secondary prevention - Lower risk TIA patients should receive specialist assessment as soon as		

⁴¹ High risk TIA is defined as ABCD score of 4 or above or crescendo TIA (two or more TIAs in one week)

⁴² RCP 2012 – 4.2.1 C & D

⁴³ Carotid endarterectomy is the recommended procedure, with less routine indications for carotid angioplasty or stenting (RCP 2012 – 4.4.1 L)

⁴⁴ RCP 2012 – 4.4.1 C

2. C) iii. TIA services



	possible, but definitely within one week of symptoms ⁴⁵		
Education & Training	- Specialist stroke practitioner assessing TIA patients have training, skills and competence in the diagnosis and management of TIA. This should be consistent with the UK Forum for Stroke Training⁴⁶ - Education and training for primary care staff in recognition and management of TIA patients - Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework or recognised competency framework.		
Workforce	The service should be led by a specialist stroke consultant and provided by a specialist in vascular services with access to the consultant lead or specialist stroke nurse with appropriate specialist competency (where appropriate)		
Performance Standards			Performance thresholds
	1. TIA cases with a higher risk of stroke who are assessed and treated within 24 hours of being referred to a healthcare professional (ASI 5/ IPMR)		70%
	2. TIA cases with a lower risk of stroke who are assessed and treated within 7 days of being referred by healthcare professional		70%
	3. Carotid Duplex performed within 24hrs of referral for patients suitable for CE (this is not all patients)		
	4. Percentage of TIA cases with a higher risk of Stroke who are assessed and treated within 24hrs of referral received		95%
	5. Percentage of TIA cases with a lower risk of Stroke who are assessed and treated within 7days of referral received		95%

⁴⁵ RCP 2012 – 4.2.1 E

⁴⁶ <http://www.ukstrokeforum.org/>

2. C) iv. Tertiary Care



Specialist neurosurgical and vascular procedures are sometimes necessary to prevent further damage following a stroke, or prevent stroke altogether. Effective and timely referrals are necessary to ensure that patients suffering a stroke receive the most appropriate care as quickly as possible to improve their long term outcome.

	Immediate Requirements		Long term Requirements (>18months)
	<6 months	6-12 months	
Service Outcomes	Access to tertiary services: Surgical services are provided as early as possible through early recognition of the need for surgical intervention: - All patients with a suspected non-disabling stroke or TIA have urgent access to comprehensive neurovascular services⁴⁷. Neurovascular services include: - Neurosurgical services - Vascular surgical services - Access to tertiary services may be on site or off-site. For offsite services, clear protocols must be in place for a commissioned pathway of care.		
	Neuro surgical services There are relatively few indications for neurosurgical intervention in patients with stroke; however specific cases of stroke may require urgent management. For example: - Cases of malignant middle cerebral infarction should be referred within 24 hours and treated (e.g. decompressive hemicraniotomy) within 48 hours⁴⁸. - Treatment for aneurysm (endovascular embolisation or surgical clipping) should be available within 48 hours⁴⁹		
	Vascular surgical services: Carotid intervention (e.g. carotid endarterectomy) for recently symptomatic severe carotid stenosis should be regarded as an emergency procedure in patients who are neurologically stable, and be performed within 7 days of a TIA or minor stroke⁵⁰		High risk TIA⁴¹ that require carotid endarterectomy are admitted for urgent investigation and surgery within 48 hours
Education and Training	Staff trained to recognise when specialist referral is required		

⁴⁷ BASP Stroke Service Standards – 5.1; National Stroke Strategy Quality Markers – QM 9: Stroke Treatment

⁴⁸ RCP 2012 – 4.6.1 N

⁴⁹ RCP 2012 – 4.8.1 C

⁵⁰ National Stroke Strategy Quality Markers – QM 6: TIA and Minor Stroke Treatment; BASP Stroke Service Standards – 3.16; Also note: The use of carotid artery stenting (CAS) was reviewed by NICE/RCP; however, no evidence (no RCT) for early stenting was found on which to base a recommendation [RCP 2012 – 6.4.2; NICE CG68 1.2.1]

2. C) iv. Tertiary Care



Workforce	Stroke physicians input to the multi-disciplinary management of appropriate cases		
Performance Standards			Performance Standards
	1. Percentage of patients receiving carotid surgery within 7 days of symptom onset that triggered referral (UK Carotid Interventions Audit)		95%

2. D) i. Early Supported Discharge (ESD)



Early supported discharge (ESD) enables appropriate stroke survivors to leave hospital ‘early’ through the provision of intense rehabilitation in the community at a similar level to the care provided in hospital. An ESD team of nurses, therapists, doctors and social care staff work collaboratively as a team and with patient and families, providing intensive rehabilitation at home for up to 6 weeks, thereby reducing the risk of re-admission into hospital for stroke related problems and increasing independence and quality of life with support the carer and family.

	Immediate Requirements		Long term Requirements (>18months)
	<6 months	6-12 months	
Service Outcomes	ESD service: ESD team should be stroke specific and sufficiently able to commence treatment within 24 hours of discharge: • Rapid response, same day ESD service provided 5 days a week at a stroke survivors place of residence to facilitate timely discharge from hospital setting for a period of up to 6 weeks. • Stroke survivors offered required active therapy, (target of 45 mins per discipline, 5 days a week) to an intensity equivalent to in hospital rehabilitation, but reflective of individual patient needs and goals • Single point of contact provided to patients, carer and families (into rehab) • Carers are appropriately educated and trained to recognise common causes of illness that result in avoidable admissions e.g. constipation, urinary tract infection (into rehab) • Collaboration with health and social services, the independent and third sectors to enable to stroke survivor to develop a greater quality of life and independence (in all or generic) • Access is provided to community rehabilitation services/ long term care provision following ESD if required.		• 7 days a week ESD service
Education & Training	• Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework		

2. D) i. Early Supported Discharge (ESD)



Workforce	• A stroke ESD multidisciplinary team composition should include as a minimum (WTE per 100 cases per year⁵¹): ○ Occupational Therapy (1) ○ Physiotherapy (1) ○ Speech and Language Therapy (0.4) • The stroke ESD team has access to support from: ○ Stroke physician (0.1) ○ Nurse (0- 1.2) ○ Social worker (0- 0.5) ○ Rehabilitation assistants (0.25) ○ Clinical Psychology ○ Dieticians ○ Orthotics ○ Orthoptics • There are coordinated stroke skilled ESD teams working in partnership with local authorities and other health and third sector providers • ESD team meets weekly as a minimum to plan and manage patient care		
Other	Equipment and Aids: • All equipment and aids (e.g. wheelchairs, continence equipment) should be reviewed and ordered during ESD service	• Open referral system in social services for assessments of home adaptations and equipment needs	
Performance Standards			
	1. Percentage of stroke survivors supported by a stroke skilled Early Supported Discharge team (ASI 9)		40%
	2. <i>Percentage appropriate stroke survivors whose treatment programme started within one working day of release from hospital*</i>		100%

**Requires a separate data collection exercise. These metrics are believed to be important components of the care pathway, but at the moment there is not a existing data source to provide a standard means of collection and thus would require local collection.*

⁵¹ East Midlands ESD Service Specification

2. D) ii. Stroke Specialist Community Rehabilitation



Stroke survivors' rehabilitation will continue after the initial time spent in acute in-hospital rehabilitation, out into the community. These services enable stroke survivors develop a greater quality of life and independence following stroke. Patients will access community rehabilitation services following standard discharge from a stroke unit or following ESD. Community stroke rehabilitation services includes the transfer of care from hospital to home and time at home provided through collaboration with health and social services, the independent and third sectors.

	Immediate Requirements		Long term Requirements (>18months)
	<6 months	6-12 months	
Service Outcomes	A range of services are in place and easily accessible to support the individual long-term needs of individuals, their carer/s and families⁵², encouraging self-management where appropriate. Comprehensive social care is provided to all patients and their carers that need it • Single point of contact provided when patients leave hospital • All stroke survivors discharged from hospital who have residual stroke-related problems are followed up within 72 hours by specialist stroke rehabilitation services for assessment and ongoing management⁵³ • Any stroke survivors referred to a social worker will receive an assessment within 72 hours of receipt of the referral • Goals incorporated into a personalised care plan that allows the patient to take ownership of their rehabilitation and reviewed regularly (every 4-6 weeks) with the patient throughout the treatment period. • Active therapy at a level appropriate for obtaining rehabilitation goals for as long as they are continuing to benefit from the therapy and are able to tolerate it⁵⁴ (target for 45 mins per discipline, 5 days a week⁵⁵) • The GP and other relevant community services are informed that a stroke survivor has been discharged home or to another hospital prior to discharge. • Age appropriate provision made for the social care requirements of stroke survivor prior to discharge, e.g. domestic tasks (such as shopping and laundry) • Adult social services provide advice on aids and adaptations to daily living	• Training in self-management, goal setting and problem solving skills is available⁵⁹	

⁵² National Stroke Strategy Quality Markers – QM 13: Long term care and support; Adult Social Care Outcomes Framework

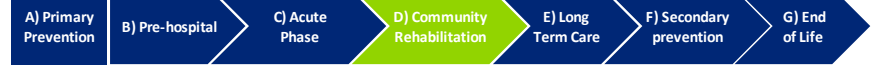
⁵³ RCP 2012 – 3.8.1 A

⁵⁴ BASP Standards – 3.10, 3.11, 3.12; 4.4, 4.5, 4.6; NICE Quality Standards – Quality Standard 7

⁵⁵ RCP 2012 – 3.14.1A

⁵⁹ Royal College of Physicians Stroke Guidelines; London commissioning guidelines

2. D) ii. Stroke Specialist Community Rehabilitation



- Review of home environment, usually by a home visit by an occupational therapist, to adapt to patient needs where patient remains dependent in some activities⁵⁶
- A carers assessment should be completed for each carer with links to carer support groups made and family support organisations and followed up
- Specialist stroke rehabilitation, support and any appropriate management plans will address the following issues either directly or by seamless onward referral where required⁵⁷:
 - Mobility and movement (including exercise programmes, gait retraining, mobility aids and orthotics)
 - Upper limb rehabilitation
 - Management of spasticity and tone
 - Sensory impairment screening and sensory discrimination training
 - Falls prevention (including assessment of bone health, progressive balance training and aids)
 - Cognitive rehabilitation (including addressing impairment in attention, memory, spatial awareness, perception, praxis and executive function)
 - Communication (including aphasia support twice weekly during the first 20 weeks, techniques or aids for dysarthria and apraxia, information about local groups)
 - Everyday activities including provision of daily living aids and equipment (e.g. dressing, washing, meal preparation)
 - Emotional and psychosocial issues (e.g. depression, adjustment difficulties, changes in self-esteem or efficacy, emotionalism)
 - Swallowing (including swallowing rehab, maintenance of oral and dental hygiene, nasogastric tube feeding, gastrostomy)
 - Skin integrity (i.e. pressure care and positioning)
 - Nutrition (including specialist nutritional assessment, nutritional support)Visual disturbance
 - Continence (bladder and bowel)
 - Social interaction, relationships and sexual functioning (including psychosocial management or medications)
 - Pain (assessed regularly using validated score, referred to specialist where indicated)
 - Home assessment (including need for larger scale equipment or adaptation)

⁵⁶ RCP 2012 – 3.8.1 D

⁵⁷ RCP 2012 – 6.4 to 6.46

2. D) ii. Stroke Specialist Community Rehabilitation



	- Return to work (including referral to specialist in employment or vocational rehabilitation) - Driving - Financial management and accessing benefits - Community leisure and exercise classes are available and promoted to stroke survivors, who are then supported to attend - Stroke survivors are aware of and offered options to promote wellbeing, including peer-led support groups, engagement in community activities and professional psychological therapies including IAPT and community mental health services - Telephone counselling support available for three months⁵⁸		
Education & Training	- Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework - Staff are aware of the Mental Capacity Act and its implications - Carers receive training in care, for example, moving, handling and dressing; receive written information on management plan and point of contact for stroke information		
Workforce	- There are established stroke skilled, multidisciplinary community rehabilitation teams. Composition of the team should include as a minimum: - Physiotherapist - Occupational therapist - Speech and language therapist - Community nursing (as appropriate) - Social care - Rehabilitation assistants - Clinical psychology (as appropriate) - The community rehabilitation team has access to support from: - GP - Dieticians - Orthotics - Orthoptics - Vocational rehabilitation - Initial assessment of the stroke patient is carried out by a qualified professional (some of the care may be delivered by rehabilitation assistants under the supervision of a qualified therapist)		

⁵⁸ RCP 2012 – 3.8.1 C

2. D) ii. Stroke Specialist Community Rehabilitation



Other	Equipment and Aids: All equipment and aids (e.g. wheelchairs, continence equipment etc) necessary to ensure a safe environment should be available at discharge and appropriate training provided to stroke survivors and carers.	Open referral system in social services for assessments of home adaptations and equipment needs	
Performance Standards			Performance Standards
	1. Percentage of appropriate patients and carers with joint care plans on discharge from hospital (ASI 7/ SSNAP)		100%
	2. <i>Percentage of stroke survivors contacted by a member of community rehabilitation team within one working day and assessed within 72 hours</i>		100%
	3. Percentage appropriate stroke survivors whose treatment programme started within 7 days where agreed as part of care plan (SSNAP)		100%
	4. <i>Percentage of stroke patients that are reviewed six weeks after leaving hospital</i>		95%

2. E) Long term care



Stroke survivors and their carers should be enabled to live a full life in the community⁶⁰ over the medium and long term (>3 months). Support is required from local services to ensure appropriate, tailored support is provided to assist re-integration into the community and maximise the quality of life experienced by stroke survivors, their carer/s and families.

	Immediate Requirements		Long term Requirements (>18months)
	<6 months	6-12 months	
Service Outcomes	Provision of information and support for stroke survivors, carers and families: - Ongoing physical, speech and language, continence and other required therapies are provided where clinically appropriate to meet patient needs - Carers of stroke survivors with stroke are provided with a named point of contact for stroke information, written information about the stroke survivors diagnosis and personal care plan, and sufficient practical training to enable them to provide care⁶¹ - Carers are provided with clear guidance on how to find help if problems develop	All eligible users of social care services should have access to a personal budget	Carers have the opportunity to access long-term emotional and practical support through peer support groups facilitated by charitable or voluntary groups
	Regular review and needs assessment: - The patient and family will be aware of their single named point of contact - All stroke survivors receive a review and onward referral to appropriate MDT members at six weeks, six months, 12 months and then annually that facilitates a clear pathway back to further specialist review, risk factor screening, advice, information, support and rehabilitation where required, is provided⁶². - Information from reviews should be shared across the entire team involved in delivering care to the stroke survivor, including with the stroke survivor themselves and their GP. - Stroke survivors and their carers are enabled to participate in paid, supported and voluntary employment⁶³		

⁶⁰ National Stroke Strategy Quality Markers – QM 15: Participation in community life

⁶¹ NICE Quality Standards – Quality Standard 11

⁶² National Stroke Strategy Quality Markers – QM 3: Information, advice and support, QM 14: Assessment and review

⁶³ National Stroke Strategy Quality Markers – QM 16: Return to work

2. E) Long term care



Education & Training	- Staff seeing stroke survivors know where to go to obtain information on other local services, charities in the area and how the stroke survivor may access financial, emotional, social, and vocational support. - Staff are aware of the Mental Capacity Act and its implications - Health and social care professionals should ensure that they are up to date with the current guidance from the DVLA - Care home staff should be familiar with stroke care strategies and options (including physical, psychological and social), and the needs and aspirations of those in their care - Staff have the details of the local IAPT service so that those that need it can access the service - Carers involved with the care management process from the outset, and encouraged to participate in an educational programme (on stroke, care and management, prevention)	Service should include staff with expertise and competence in assessing, treating and monitoring people with behavioural and cognitive disturbance	
Workforce	Staff working in long term care should have access to support and guidance from stroke skilled staff		
Performance Standards			Performance Standards
	1. Percentage of stroke patients that are reviewed six weeks after leaving hospital (SSNAP)		95%
	2. Percentage of stroke patients that are reviewed six months after leaving hospital (SSNAP)		95%
	3. Percentage of stroke patients that are reviewed 12 months after leaving hospital		95%
	4. Percentage of patients with Barthel score recorded at discharge (SSNAP)		100%
	5. Percentage of patients with Modified Rankin score at discharge (SSNAP)		100%

2. F) Secondary Prevention



Healthy lifestyles and management of specific risk factors reduce the risk of an initial stroke and the risk of a subsequent stroke⁶⁴. For those who have already had a stroke or TIA, prevention advice is even more important. This means assessing individuals for their risk factors and giving them information about possible strategies to modify their lifestyle that can reduce their risk. GPs need to actively manage these conditions in line with national guidelines.

	Immediate		Long term (>18months)
	<6 months	6-12 months	
Service Outcomes	Assessment: After stroke, stroke survivors and their carers need to be offered a review from primary care services ⁶⁵ of their health, social care and secondary prevention needs: • All stroke survivors with a stroke will have their risk factors assessed as soon as possible and certainly within one week⁶⁶; documented and a personal care plan for secondary prevention as part of the stroke team's assessment which is passed onto primary care • Monitored regularly in primary care on a yearly basis at minimum	• Protocols in place for stroke survivors education for secondary prevention of stroke encouraging better compliance with end result of reduced recurrent stroke	
	Monitoring: This specification does not attempt to define all risk factors (see RCP National clinical guidelines 2012), though significant risk factors and assessment include the following: • Managing hypertension so systolic blood pressure is below 130 mmHg; treatment should be initiated prior to discharge or at two weeks⁶⁷ • Anticoagulation (e.g. Warfarin) for individuals with atrial fibrillation and where not contraindicated; prescribed before discharge or plans to anti-coagulate as out-patient which ever aligns with guidelines to administer 2 weeks following stroke onset • All patients with ischaemic stroke, not in atrial fibrillation, to have anti-platelets medication unless contraindicated • All patient who have had an ischaemic stroke or TIA should be offered a statin drug unless contraindicated⁶⁸ • Smoking cessation, alcohol, tailored exercise programmes and healthy lifestyle advice for all stroke/TIA survivors.		

⁶⁴ National Stroke Strategy Quality Markers – QM 2: Managing risk

⁶⁵ National Stroke Strategy Quality Markers – QM 14: Assessment and review

⁶⁶ RCP 2012 – 5.1.1 A

⁶⁷ RCP 2012 – 5.4.1 D. Note: For non-admitted patients requiring blood pressure treatment, treatment should be stated at the first clinic visit

⁶⁸ RCP 2012 – 5.6.1 A

2. F) Secondary Prevention



	Risk management: Risk factors, including hypertension, obesity, high cholesterol, atrial fibrillation and diabetes, are managed according to clinical guidelines, and appropriate action is taken to reduce overall vascular risk ⁶⁹ • Participating GPs produce and maintain a register of patients who have had a stroke or TIA, forming a suite of indicators to provide quality of care⁷⁷ • Measures for secondary prevention introduced as soon as the diagnosis is confirmed, including discussion of individual risk factors • Information and advice strategies to ensure that clear, consistent, culturally sensitive messages are being given to those who have had a stroke, their families and those at high risk • Practices can produce a register of patients with stroke or TIA⁷⁰		
	Information and advice: Those at risk of stroke and stroke survivors are assessed for and given information about risk factors and lifestyle management issues (exercise, smoking, diet, weight and alcohol), and are advised and supported in possible strategies to modify their lifestyle and risk factors ⁶⁹ • Stroke survivors given named contact to help them plan and manage their long-term care⁷¹ • Meet individual needs, tailoring for a variety of ages, ethnicities and lifestyles • Access to leaflets in variety of formats (i.e. different languages, large print, braille, dysphasia friendly)		
Education & Training	• All primary care professionals maintain and update their knowledge of national guidelines and implement them in practice, targeting high risk patient groups⁶⁹		
Performance Standards		<6months	6-12 Months
	1. Percentage of patients with stroke or TIA who smoke whose notes record smoking status within the previous 15 months ⁷² (QOF)		

⁶⁹ National Stroke Strategy Quality Markers – QM2: Managing Risk

⁷⁰ Quality and Outcomes Framework: Stroke 1

⁷¹ Care Quality Commission: Supporting Life After Stroke

⁷² QOF Smoking 3

2. F) Secondary Prevention



	2. Percentage of patients with a history of TIA or stroke in whom the last blood pressure reading (measured in the previous 15 months) is 150/90 or less ⁷³ (QOF)			
	3. Percentage of patients with a TIA or stroke who have a record of total cholesterol in the last 15 months ⁷⁴ (QOF)			
	4. Percentage of patients with TIA or stroke who last measured total cholesterol (measured in the previous 15 months) is 5 mmol/L or less ⁷⁵ (QOF)			
	5. Percentage of patients with stroke or TIA who smoke whose notes contain a record that smoking cessation advice or referral to a specialist service, where available, has been offered within the previous 15 months ⁷⁶ (QOF)			
	6. Proportion of applicable patients in AF on discharge who are discharged on anti-coagulants or with a plan to start anticoagulation. (SSNAP)			
	7. Percentage of patients in AF before arrival at hospital or percentage of patients found to be in AF during admission			
	8. Percentage of patients in AF before arrival at hospital or percentage of patients found to be in AF during admission			
	New QOF – 2015/16 TIA			

⁷³ QOF Stroke 6

⁷⁴ QOF Stroke 7

⁷⁵ QOF Stroke 8

⁷⁶ QOF Smoking 4

2. F) Secondary Prevention



	Establishes and maintains a register of patients with atrial fibrillation			N/A
	Percentage of patients with atrial fibrillation in whom stroke risk has been assessed using the CHA2DS2-VASc score risk stratification scoring system in the preceding 12 months (excluding those patients with a previous CHADS2 or CHA2DS2-VASc score of 2 or more) NICE 2014 menu ID: NM81			40-90%
	In those patients with atrial fibrillation with a record of a CHA2DS2-VASc score of 2 or more, the percentage of patients who are currently treated with anti-coagulation drug therapy NICE 2014 menu ID: NM82			40-70%
	New QOF – 2015/16 STROKE			
	Establishes and maintains a register of patients with stroke or TIA			45-80%
	Percentage of patients with a stroke or TIA (diagnosed on or after 1 April 2014) who have a record of a referral for further investigation between 3 months before or 1 month after the date of the latest recorded stroke or the first TIA			40-75%
	Percentage of patients with a history of stroke or TIA in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less			57-97%
	Percentage of patients with a stroke shown to be non-haemorrhagic, or a history of TIA, who have a record in the preceding 12 months that an anti-platelet agent, or an anti-coagulant is being taken			55-95%

2. F) Secondary Prevention



	Percentage of patients with stroke or TIA who have had influenza immunisation in the preceding 1 August to 31 March			

G) End of Life care



Stroke is the UK's third biggest killer⁷⁷. Patients with stroke may enter the End of Life pathway at many stages of the Stroke Pathway, in different care settings. Clear decisions will indicate when a patient's prognosis means that an end of life pathway is appropriate. It is important that this decision is made by the appropriate skilled and experienced individual, taking account of the needs and choices of the patient, carer and family.

	Immediate		Long term (>18months)
	<6 months	6-12 months	
Service Outcomes	End of life care: - Decision to enter a patient into an end of life pathway should be taken by an appropriate and experienced individual, taking account of the needs and wishes of the patient, carer and family⁷⁸ - Patients and carer offered opportunity to be discharged home for end of life care - Palliative and End of Life care will be provided in line with clinical practice guidance and the local service specification for End of Life care. This may include referral to specialist palliative care services. - The Liverpool Care Pathway for the dying should be used to care for people in the last days or hours of life to deliver high quality care during this phase⁷⁸.	Patients considered to be in the last 12 months of life are recommended for inclusion on the GP's GSF register	
Education & Training	- Preferred Priorities for Care (PPC) document shared with all health and social care staff involved in their care - Application of the 'Gold standards framework' to enable identification of appropriate patients and their care, and the Liverpool Care Pathway - Communication training provided to support practitioners in conversations about end of life care		
Workforce	Patients receiving end of life care do so from a workforce with appropriate skills and experience in all care settings⁷⁸		
Performance Standards		<6months	6-12 Months
	1. Percentage mortality of stroke patients at 1 month following a stroke (SSNAP)	N/A	>18 months

⁷⁷ Stroke Association Manifesto 2010-2015

⁷⁸ National Stroke Strategy Quality Markers – QM 11: End of Life care

G) End of Life care



	2. Percentage mortality of stroke patients at 6 months following a stroke (SSNAP)	N/A		
	3. Percentage mortality of stroke patients one year following a stroke (SSNAP)	N/A		
	No explicit performance measures are included for End of Life care services, though it is expected that the National Quality Markers for End of Life care are met, with data collected to support achievement.			

2. Appendix

Inpatient bed based rehabilitations service specification

Schedule 2 – the services

Stroke Inpatient Rehabilitation Unit (bed-based care) – Service Specification Version Control

Contributors

Name	Role/Title	Organisation
Liz Green	Senior Programme Manager – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Nighat Hussain	Programme Director – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Charlie Mason	Programme Co-ordinator – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Ruth Williams	Icares Manager	Sandwell and West Birmingham Hospital Trust
Carron Sintler	Consultant Physiotherapist for Stroke Services	Birmingham Community Healthcare Trust
Mohammed Khalil	Senior Commissioning Manager	Sandwell and West Birmingham CCG
Geraldine Child	Patient Representative	Walsall CCG
Bernice Jones	Deputy Head of Operations	Stroke Association
Anne Adams	Secretary/Trustee	Dudley Stroke Association
Alan Hackett	Patient Representative	Dudley Stroke Association
Hugh Tibbits	Regional Director of Operations	Stroke Association
Dana Tooby	Patient Representative	
David Tuplin	Carer Representative	Dudley Stroke Association
Joanne Graham		
Liz Brown	Clinical Team Leader,	Walsall Healthcare NHS Trust

	Community Stroke Services	
Michelle Hyde		
Robert Freeman	Consultant	Walsall Healthcare NHS Trust
Sonia Jenkinson	Stroke Lead Nurse	Walsall Healthcare NHS Trust
Claire Finnimore		
Dawn Hicklin	Therapy Lead – Stroke	Sandwell and West Birmingham Hospitals Trust
Paulette Myers		Walsall CCG
Joanne Gutteridge		Dudley CCG
Frances Pons	Dudley Rehabilitation Service Team Manager	Dudley Group of Hospitals

Service	Stroke – Inpatient Rehabilitation Unit (Non-acute bed based care)
Commissioner Lead	CCG Commissioning Lead
Provider Lead	Provider Lead
Period	2015 - 2016
Date of Review	6 month/9 months

1. Population needs

1.1 National/local context and evidence base

In 2009, Stroke killed more than 40,000 people in England and over 12,000 in the Midlands and East Region. Stroke is the third biggest killer in England and the main cause of adult disability. Around two thirds of people will survive their stroke, but half of stroke survivors are left with long term disability and are dependent on others for everyday activities.

Within England:

- approximately 110,000 people experience a stroke every year
- 20-30% people die within a month of experiencing a stroke
- 25% of strokes occur to people under the age of 65
- there are approximately 900,000 people living with the effects of stroke
- 300,000 people live with moderate to severe disability as a result of experiencing a stroke

(National Stroke Strategy, 2007)

Evidence shows that continued coordinated multidisciplinary rehabilitation in the community setting improves long term outcomes for stroke survivors and can help to reduce hospital admissions (National Service Framework for Long Term Conditions (2005))

The National Audit Office sets an expectation that the quality standards of the National Service Framework for long-term conditions should inform the commissioning of post-acute stroke services. Quality Marker 4 of the National Service Framework (early and specialist rehabilitation) requires that people with long-term neurological conditions, who would benefit from rehabilitation are to receive timely, ongoing, high-quality rehabilitation services in hospital or other specialist setting to meet their continuing and changing needs. When ready, they are to receive the help they need to return home for ongoing community rehabilitation and support.

This is because people who suddenly become disabled as a result of a neurological condition may initially be unable to manage safely at home and may need the services of a specialist inpatient rehabilitation unit to help them make the best possible recovery. Timely, good quality rehabilitation offers stroke survivors the chance to achieve goals for independent living.

Evidence based benefits of specialist inpatient neuro-rehabilitation cited by the National Service Framework are:

- rehabilitation in specialised settings for people with traumatic brain or spinal cord injury is effective and provides value for money in terms of reducing the length of stay in hospital and reducing the costs of long-term care
- transfer to specialist centres and more intense rehabilitation programmes are cost-effective, the latter particularly in the small group of people who have high care costs due to very severe brain injury.

Stroke carries a significant risk of death and can be a sudden and catastrophic event. In the UK, approximately 150,000 people have a Stroke each year, and about 17% of these people die within one month. (Stroke Association April 2012). Stroke is the third most common cause of death in the UK.

Within the first 30 days following Stroke, stroke survivors may fall into three possible categories or pathways:

- those stroke survivors for whom a degree of recovery is anticipated and who are very likely to gain benefit from full rehabilitative measures
- Those where the extent of stroke and/or the irreversible damage is moderate or unclear. There is associated uncertainty as to the stroke survivor's likely survival. It is possible or likely that the stroke survivor might not survive the next 30 days
- those stroke survivors where there appears to be an extensive stroke with profound/catastrophic irreversible damage (and/or co-morbidities such that death in a matter of days is a probable outcome.

Time is brain, and the first 72 hours of care is vital to ensure the optimum clinical outcome for stroke survivors. This needs to be underpinned by an effective whole system pathway for assessment, discharge and repatriation to local stroke services, subsequent rehabilitation and longer term support.

This service specification is based upon a comprehensive and current evidence base and agreed best practice, including but not exhaustive to:

- quality requirement 4 – (Early and specialist rehabilitation).
- services should aim to meet the following standards and guidelines:
- National Service Framework for Older People (2005) especially Standard 5: Stroke
- National Service Framework for Long Term Conditions (2005)
- National Stroke Strategy Quality Markers (2007)
- The Stroke Strategy for London (2008)
- Royal College of Physicians National Clinical Guidelines for Stroke (2008)
- NICE Stroke Quality Standards (2010)
- Stroke Rehabilitation Guide: Supporting London Commissioners to Commission Quality Services in 2010/11
- Midlands and East Service Specification
- NHS Quality Improvement Scotland (2010)
- NICE Stroke Rehabilitation – Long term rehabilitation after stroke (2013)
- any relevant new standards as and when they are published.

It should be noted that providers that do not have access to an onsite HASU then a collaborative agreement to manage clinical pathways should be agreed with a HASU provider.

2.0 Key Service Outcomes

2.1 NHS Outcomes Framework Domains & Indicators

NHS Outcomes Framework 2014/15:

1 – Preventing people dying prematurely
Reducing premature mortality from the major causes of death
1.1 under 75 mortality rate from cardiovascular disease
2 – Enhancing quality of life for people with long term conditions
Ensuring people feel supported to manage their condition
2.1 proportion of people supported to manage their conditions
3 – Helping people to recover from episodes of ill health following injury
Improving recovery from stroke
3.4 Proportion of stroke patients reporting an improvement in activity /lifestyle on the modified Rankin Scale at 6 months

Public Health Outcomes Framework 2013-2016:

4. Healthcare public health and preventing premature mortality
4.4 Under 75mortality rate from all cardiovascular disease (including heart disease and stroke)

2.2 Local defined outcomes

Although quality and key performance indicators are described in more detail later in this

document, stroke survivors receiving care in an inpatient rehabilitation unit in Birmingham, Solihull and the Black Country should receive a high standard of care across the whole conurbation. Broadly, the expected outcomes are:

- improved outcomes for stroke survivors, reducing the levels of post stroke death and disability
- improved health and wellbeing outcomes as measured against specific criteria (e.g. quality of life measures*)
- improved stroke survivor and carer experience
- timely discharge from acute services and seamless transfer from hospital to home
- reduction in unnecessary hospital admissions
- reduction in hospital length of stay
- quality improvements and subsequent achievement of national and local performance outcome measures
- reduced incidence and/or problems from secondary risk factors (e.g. pressure sores, chest infections, contractures) .
- the services should be based upon national and international best practice and evidence
- the service should offer equity of access and care to all stroke survivors being treated in Birmingham, Solihull and the Black Country

3. Scope

3.1

Stroke survivors identified as potentially having a stroke via the FAST assessment are taken directly to a Hyper Acute Stroke Unit (HASU) for the first 0-72 hours of Stroke Care where a diagnosis of Stroke will be confirmed. At the end of the 72 hours, stroke survivors should be transferred to an Acute Stroke Unit (ASU). Upon arrival at hospital, a stroke survivor is diagnosed and then proceeds to treatment.

Following a stay on a Hyper Acute Stroke Unit, stroke survivors are transferred to an Acute Stroke Unit. Some stroke survivors may have been treated directly on an Acute Stroke Unit. In every case, all stroke survivors will need to undergo a period of rehabilitation suited to their clinical need and this should start as soon as it clinically appropriate irrespective of setting.

Although, quality and key performance indicators are described in more detail later in this document, stroke survivors receiving inpatient rehabilitation unit rehabilitation in Birmingham, Solihull and the Black Country should receive a consistently high standard of care across the whole conurbation. Expected outcomes are:

- improved health and wellbeing outcomes as measured against specific criteria (e.g. quality of life measures*)
- improved stroke survivor and carer experience
- timely discharge from acute services and seamless transfer from hospital to home
- reduction in unnecessary hospital admissions
- reduction in hospital length of stay

- quality improvements and subsequent achievement of national and local performance outcome measures
- reduced incidence and/or problems from secondary risk factors (e.g. pressure sores, chest infections, contractures)

Stroke rehabilitation commences from the moment a stroke has taken place and continues whilst the stroke survivor travels through the whole stroke pathway. Whilst the stroke survivor is being medically stabilised, early rehabilitation will begin on the HASU, where the stroke survivor will usually remain for the first 72 hours. Rehabilitation will then continue on a dedicated Acute Stroke Unit (ASU), staffed with individuals with specialist stroke skills. Evidence shows that starting rehabilitation early is associated with reduced disability and improved prognosis. It is best practice that rehabilitation should take place on a dedicated stroke unit unless there is an exception for clinical reasons. E.g. the stroke survivor requires intensive care for another condition; the stroke survivor has advanced stage dementia etc.

Currently this rehabilitation may take place in a dedicated stroke unit, neurological or care of the elderly ward. Stabilisation of stroke survivors will usually occur in the hyper-acute stroke unit. Some stroke survivors may require very little rehabilitation following discharge from the acute setting. Stroke survivors that do require further bed based rehabilitation should be treated at an inpatient rehabilitation unit.

Some stroke survivors will be assessed as not likely to benefit from further rehabilitation after their stroke unit stay, and they will need to be cared for in a long-term care setting. For those that do require further rehabilitation, this may be delivered in a variety of ways determined locally. Please refer to the Early Supported Discharge, Community Stroke Rehabilitation and Long Term care Support services specification for further detail.

Following their stay in a stroke unit, a small proportion of stroke survivors may need continuing specialist inpatient stroke care in the medium term. There should be access to inpatient stroke rehabilitation for those survivors with a high level of dependency, who would not benefit from further acute stroke inpatient input but for whom discharge into the community at that stage is not appropriate. This care is delivered in dedicated should meet the inpatient stroke service specification performance standards. Generic settings such as intermediate care beds are therefore not appropriate for this continuing specialist rehabilitation. Further specialist inpatient care is given to those for whom it is clinically appropriate. This should not be seen as an alternative to care at home from an effective community rehabilitation team. (London Stroke Rehabilitation Guidelines, 2010)

Length of stay in the new stroke units will vary. Stroke survivors are discharged when medically stable, and when they are assessed as being sufficiently independent to be at home. As a result, the timing of discharge from hospital is often determined by the level of support available at the stroke survivor's home for any functional disabilities. The average length of stay is expected to be 20 days, but up to one-third of stroke survivors will not be able to be safely discharged home by this stage, and will require inpatient rehabilitation for more than four weeks following their stroke. Ideally, this should be given on the stroke unit. If the stroke survivor is transferred to another setting for continuing inpatient stroke care, commissioners should ensure this meets the standards set in for ASU. A small number of stroke survivors will need specialised inpatient rehabilitation such as neuro-rehabilitation. (London Stroke Rehabilitation Guidelines, 2010). Pathways should be in place to make seamless transfer to these pathways as clinically appropriate.

Health and social care professionals should work collaboratively to ensure a social care

assessment is carried out promptly, where needed, before the person with stroke is transferred from hospital to the community. The assessment should: identify any ongoing needs of the person and their family or carer, for example, access to benefits, care needs, housing, community participation, return to work, transport and access to voluntary services be documented and all needs recorded in the person's health and social care plan, with a copy provided to the person with stroke.(NICE, 2013).

3.2 Aims and objectives of service

- to provide dedicated inpatient assessment and care for all stroke survivors in the Birmingham, Solihull and Black Country, as part of a whole stroke pathway approach.
- implement recognised Best Practice standards in relation to Stroke Inpatient Rehabilitation services
- ensure Royal College of Physicians and NICE guidance standards are met for Inpatient Rehabilitation
- units will have the capacity and resource to accept repatriated stroke survivors from the comprehensive and primary stroke centres as soon as the stroke survivor is ready for transfer;
- provide timely comprehensive assessment and management of admitted stroke survivors;
- provide evidenced based interventions whilst the stroke survivor is in hospital for as long as the stroke survivor can benefit;
- facilitate a seamless service between acute and community stroke rehabilitation teams;
- to provide access to a community stroke support worker/community stroke co-ordinator who can offer stroke survivors and carers support, advocacy and signposting.
- improve functional outcomes of stroke survivors by providing intensive rehabilitation;
- ensure that co-morbidities, which may have predated the stroke but will exacerbate the problems associated with the stroke (e.g. depression, hearing impairment and incontinence) are managed optimally;
- screening of psychological state should be undertaken at each stage of the pathway and stroke survivors will be referred as necessary to psychology/mental health services
- provide a highly skilled and experienced workforce supported by stroke specialist rehabilitation assistants
- include stroke survivors and their families in decision-making to improve their experience of rehabilitation;
- ensure that all stroke survivors have an excellent stroke survivor experience
- to ensure that all stroke survivors have access to inpatient stroke unit rehabilitation that delivers improved clinical outcomes and reduced mortality and long term disability
- to ensure the needs of all stroke survivors including complex stroke are met at all times by offering specialist stroke support
- to recognise and put in place provision for vulnerable adults such as homeless or illegal immigrants
- improved stroke survivor experience
- enable stroke survivors to achieve mutually agreed, realistic rehabilitative goals to maximise their recovery
- to ensure stroke survivor and carer satisfaction feedback and clinical outcome data

is captured and reviewed as part of a cycle of performance management to ensure continuous quality improvement. To capture and act upon the views of stroke survivors and carers throughout the rehabilitation period in a meaningful way.

- work with commissioners to further develop high quality local services
- develop strong relationships with referrers and supporting services, including acute multi-disciplinary meetings, social care, dietetics and voluntary sector organisations
- the service should offer equity of access and care to all stroke survivors registered with a GP in the 7 CCGs in Birmingham, Solihull and the Black Country ensuring stroke survivors with protected characteristics are catered for
- participate in local and national audit programmes
- to ensure joint stroke registers are in place in the community that are linked to the local acute providers in order to track stroke survivors across the entire pathway of stroke care, to facilitate access to long term review and other key resources
- participate in local and national audit programmes
- data should be entered in to the SSNAP database at all times.

It is recognised that not all acute hospitals across Birmingham, Solihull and the Black Country provide dedicated stroke inpatient rehabilitation units, and stroke survivors are often transferred to other sites for their rehabilitation. It should be noted that all providers of stroke inpatient rehabilitation units are expected to meet standards and best practices as set out within this service specification. Additionally, stroke inpatient rehabilitation unit providers need to be aware of the possible changes to the HASU pathway across Birmingham, Solihull and the Black Country and the impact that changes may have in terms of the need to accept stroke survivors from other providers as part of a repatriation policy (currently in development).

CCGs must ensure that where ongoing inpatient stroke rehabilitation is judged necessary, but cannot be appropriately delivered in a stroke unit, it is only delivered in settings that meet the inpatient stroke rehabilitation standards. Stroke survivors should be treated in the best location and in the best way to meet their clinical needs.

Stroke inpatient rehabilitation units should have access to HASU care where possible onsite. If stroke inpatient rehabilitation units do not have access to an onsite HASU, then a collaborative agreement to manage clinical pathways including access to same day/next day diagnostics must be made available with the nearest HASU centre.

Minimum criteria for a stroke inpatient rehabilitation unit

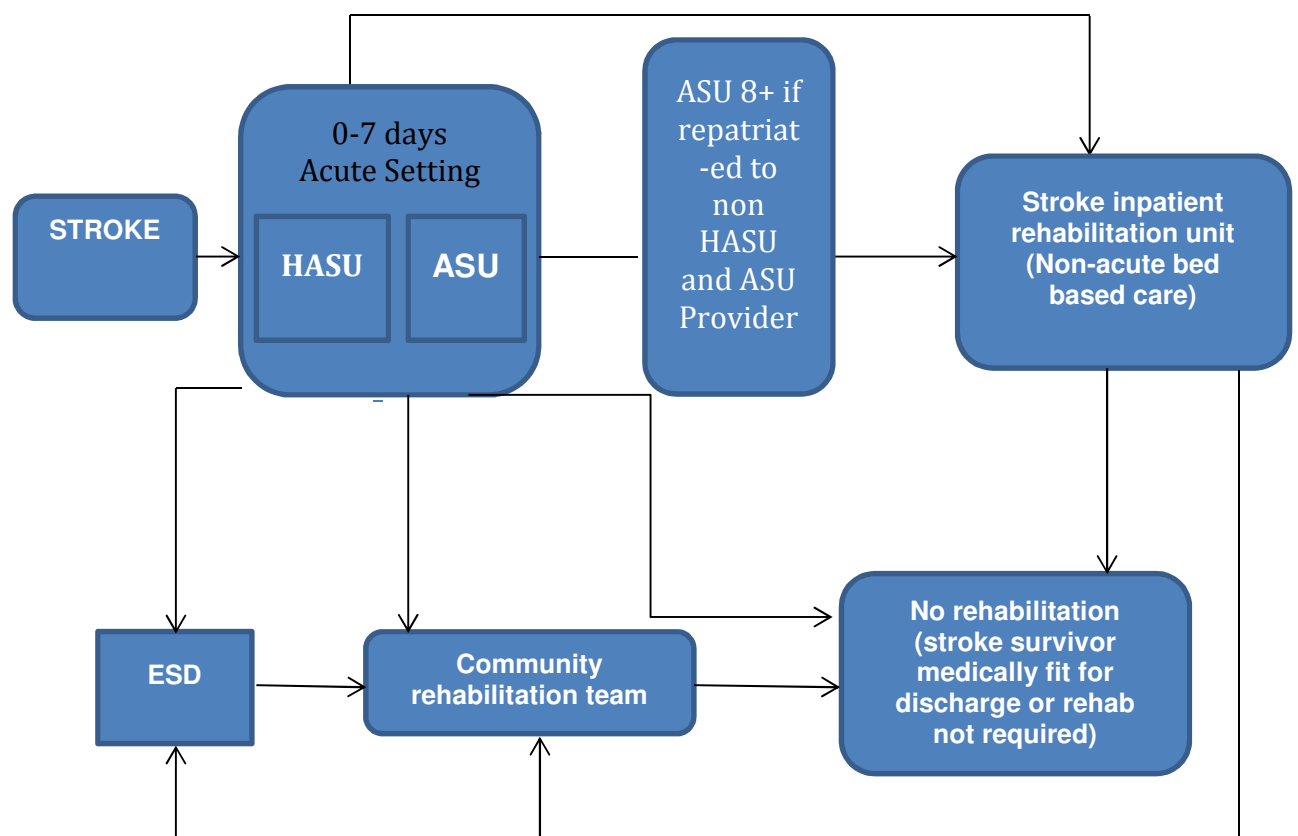
All stroke patients should have access to high quality stroke care and spend the majority of their time in hospital under specialist stroke care:

- protocols in place to receive and discharge stroke survivors 7 days a week. This will need to fit with HASU model
- dedicated specialist stroke rehabilitation should be available for stroke survivors, in every setting that care is delivered
- access should be available to stroke trained nurses 24/7
- there should be appropriate Nurse/Staffing levels available with an appropriate skill mix to reflect the clinical needs of stroke survivors
- protocol in place for the promotion of bladder and bowel continence including a policy to avoid urinary catheters and prevention of pressure sores
- a dedicated consultant stroke clinician should be available 5 days per week
- protocols are in place for receiving and discharging patients 7 days a week in a

timely manner

- all patients with stroke have access to a designated rehabilitation service whether in an acute stroke bed or on a specialist rehabilitation unit in hospital.
- all patients to be mobilised out of bed on day of admission unless contra-indicated and offered frequent opportunity to practice functional activities with a trained healthcare professional. Rehabilitation commences as soon as possible following admission into the stroke inpatient rehabilitation pathway.
- social work assessment as soon as possible and within a maximum of 3 days from referral, if appropriate
- participate in SSNAP audit and any other statutory audits as required
- form links with stroke survivor and carer organisations
- form links with social care, where appropriate
- provide information to stroke survivors, carers, families, and others about stroke and signpost to other services where clinically appropriate.

3.4 Stroke rehabilitation pathway



Recent best practice states as described in the Midlands and East Service Specification (2012) that the following steps should be taken for Stroke survivors in the first six months:

Rehabilitation planning in hospital:

- stroke survivors should be reassessed/reviewed and treated (where appropriate) by a specialist rehabilitation team within 72 hours, and documented multidisciplinary goals should be agreed within 5 days
- a personalised care plan should be developed which is stroke survivor centred, goal led and implemented from admission. An expected date of discharge will be planned for and worked towards with the input of stroke survivors and carers.
- multidisciplinary meetings should be held at least once a week to plan stroke survivor care.

Rehabilitation services available:

- specialist stroke rehabilitation should be provided at least 7 days per week within Inpatient rehabilitation stroke units
- stroke survivors should be assessed by specialist therapists within 24 hours of admission. (Physiotherapist, Occupational Therapist, Speech and Language Therapist).
- all stroke survivors should be offered required active therapy at a level appropriate for obtaining rehabilitation goals for as long as they are continuing to benefit from the therapy and are able to tolerate it (target of 45 minutes per discipline, 5 days per week). (Stroke survivors have a choice to opt out of this if desired).
- identification of cognitive and perceptual problems within 7 days via a cognitive and psychological assessment using a validated screening tool for all stroke survivors by an appropriate therapist
- all stroke survivors after stroke should be screened within 6 weeks of diagnosis, using a validated assessment tool, to identify mood disturbance and cognitive impairment in line with The Royal College of Physicians National guidelines for Stroke section 6.341, and should be referred to a specialist in the management of mood disorder if the results of the assessment tool indicate this is appropriate.
- stroke survivors should have access to specialised neuro-rehabilitation services e.g. spasticity, orthotics, continence, driving, vocational etc. Prior to discharge and following discharge should have access to long term care support.
- stroke survivors with continued loss of bladder control 2 weeks after diagnosis should be reassessed and an ongoing treatment plan should be agreed with both stroke survivors and carers where possible
- comprehensive secondary prevention advice, treatment and signposting should be provided.

Preparation for discharge:

- planning for care after discharge should be undertaken with stroke survivors and their carers as soon as possible, to enable domiciliary care support and adaptations to be arranged in good time
- offer training in care (for example, in moving and handling and helping with dressing) to family members or carers who are willing and able to be involved in supporting the person after their stroke
- protocols should be in place to ensure stroke survivors and families/carers are fully informed and participate in the process of any transfer of a stroke survivor's care

- discharge planning protocols should be in place to ensure that information handover is completed with clear direction for community rehabilitation requirements, discharge destination (e.g. home, care home) with the full participation of the ESD/community rehabilitation team.
- stroke survivors should receive advice and support to assist in enabling them to return to a previous level of activities where possible and to maintain independence.
- a formal discharge summary report should be shared with the referrer, GP, stroke survivor and carer (if requested) within 7 days of discharge. As part of best practice, Clinicians may need to utilise the mental capacity act when making best interest decisions for stroke survivors regarding consent and capacity.
- for stroke survivors with mild or moderate symptoms of mood disorder, stroke survivors and carers should be provided with information, support and advice about the mood disorder as the first line of intervention. This may be from within the multidisciplinary team by nominated staff who are suitably trained and supervised, and may also involve the voluntary sector. These patients should then be reassessed after one week.

Minimum data set to support documentation to support planning for rehabilitation:

- basic demographics, including contact details and next of kin
- diagnosis and relevant medical information
- list of current medications, including allergies
- standardised screening assessments
- the person's rehabilitation goals
- multidisciplinary progress notes
- a key contact from the stroke rehabilitation team (including their contact details) to coordinate the person's health and social care needs
- discharge planning information (including accommodation needs, aids and adaptations)
- joint health and social care plans, if developed
- follow-up appointments.

Education and training

- all staff working within the MDT should be knowledgeable of the care standards and protocols of the whole stroke pathway
- in house and external training should be provided, with staff released for training as required, including a stroke specific in house induction training programme
- staff skill mix supports supervision of junior and trainee personnel
- specific education and training should be developed and provided in accordance with the Stroke-Specific Education Framework or recognised competency framework
- health and social care professionals should ensure they are up to date with the latest Driving and Vehicle Standards Agency (DVLA) guidance
- staff should be aware of the Mental Capacity Act and its implications
- communication training should be provided to help manage stroke survivors with aphasia

Staff should be trained to the standards set out in the Stroke Competency Toolkit, NHS Midlands and East Workforce Education and Training Subgroup (2012) **Appendix 1.**

Stroke inpatient rehabilitation service

There should be sufficient capacity to provide the service in line with the performance standards that have been set:

- A consultant specialist stroke physician should be available (by telephone, or in person) 5 days a week
- Provide a means for a consultant review of a deteriorating stroke survivor out of hours
- There should be 24/7 provision of stroke trained nurses
- Strong interface with hyper-acute service and pathway to get advice and facilitate the transfer of patients

Staffing numbers

It is difficult to differentiate between inpatient stroke services and acute rehabilitation. Best Practice suggests that Acute and Rehabilitation services should have a multidisciplinary team comprising of

- nurses 1:35 WTE per bed (a minimum of 50:50 trained to untrained skill mix)
- physiotherapists: 0.84 WTE per 5 beds
- occupational therapists: 0.81 WTE per 5 beds
- speech and language therapists: 0.81 WTE per 10 beds
- psychologists
- dieticians
- social workers
- rehabilitation assistants
- consultant physicians

Access should also be available to a range of other professionals including those in:

- clinical psychiatry
- oral health
- orthoptics
- orthotics
- pharmacy
- ophthalmologists

(Where combined stroke units are used, it is expected that beds are designated as hyper acute and acute, then staffed according to the hyper acute service and acute service standards outlined)

Equipment and aids

- All equipment and aids should be reviewed and ordered before discharge (e.g. wheelchairs, continence equipment, adaptations etc). This will require partnership working with social services for assessment of home adaptations and equipment needs.

3.5 Access to services

Population covered

The service will be provided for all stroke survivors who are registered with a General Practitioner within the Clinical Commissioning Group Boundary. Services to out of area registered stroke survivors, will be reviewed pending reciprocal arrangements with Commissioners from neighbouring CCGs

The service is for stroke survivors aged over 16 who have had a stroke (and/or other neurological condition if commissioning a community neuro service inclusive of stroke). Referrals are accepted from any source: the stroke survivors themselves, their relatives, GPs, district nurses, social workers or any other health or social care professional.

The service must not discriminate on the grounds of race, disability, gender, sexual orientation, religion, belief or age (N.B. Stroke services are only for those aged over 16yrs of age).

Services should provide equal access for all and be responsive to diverse needs, free from stereotyping and discriminatory practice

Stroke rehabilitation should be available 7 days per week within stroke inpatient rehabilitation unit settings and as a minimum of 6 days a week in early / timely supported discharge team and 5 days a week in community stroke rehabilitation teams.

3.6 Any acceptance and exclusion criteria and thresholds

Inclusion criteria

- adults age 16 and above
- stroke survivors registered with a CCG GP

Exclusion Criteria

- stroke survivors under the age of 16
- all stroke survivors who have had a stroke should be managed in line with the pathways and models outlined. however, stroke survivors with a dominant co-morbidity may be treated on that conditions pathway if deemed clinically appropriate. support for these stroke survivors will be given by the stroke unit with transfer to the stroke unit if and when clinically appropriate.
- stroke survivors whose neurological symptoms have resolved by the time of presentation to the specialist stroke unit will be referred to the TIA pathway unless clinically indicated.
- stroke survivors not registered with GP in agreed geographical boundary (to be determined locally)
- medically unstable
- stroke survivors who do not have a primary diagnosis of stroke i.e. stroke mimics.

3.7 Interdependencies with other services/providers

Whole system relationships

- GPs
- practice nurses
- hASU services, SASU that do not have access to an onsite HASU a clear

collaborative agreement to manage clinical pathways needs to be agreed with a neighbouring HASU to ensure stroke survivors who require urgent HASU level care can access as clinically required

- TIA services
- ambulance services
- clinical nurse specialists
- speech and language therapists
- dieticians
- nursing homes and residential homes
- social services
- early supported discharge and community rehabilitation providers
- long term care providers
- voluntary services
- housing.

Interdependencies and other services

- vascular and cardiac imaging
- radiology
- neurology
- clinical education services
- bereavement services
- cardiac and stroke network
- out of area providers.

4. Applicable Service Standards

Applicable standards

- information will be offered to all stroke survivors/carers/families relating to stroke inpatient rehabilitation services that are being provided. This information should be in an appropriate format, relevant to individual needs and will include contact information. Where possible, this information will be provided in multiple languages.
- when transferred from secondary care to ESD or primary care, referral or notification of discharge should be made to a local stroke care co-ordinator and to the stroke survivors GP with as much notice as possible
- discharge planning should start early within the pathway and involve the stroke survivor, their family/carer and both health and social care in partnership with other agencies such as housing to avoid delayed discharges
- stroke survivors/carers should receive copies of their own transfer of care summaries
- if a stroke survivor is being transferred home, then the GP should be informed prior to hospital discharge
- seamless relationships should exist between the stroke inpatient rehabilitation service and social and community services to allow for smooth transfers of care across organisations and locations
- a stroke review should be undertaken at 6 weeks post discharge to final destination. The relevant MDT will attend and/or provide information for this review as appropriate

- pathways need to be formed with social care to ensure that where stroke survivors do not meet their rehabilitation potential or their daily living function deteriorates post discharge from rehabilitation, they are able to access long term care as appropriate

At all times the organisation shall provide the service detailed in this specification and incorporate the following general principles:

- compliance with current national and local guidance
- compliance with Standards for Better Health
- responding to notices as stipulated by the MRHA
- Redesigning of stroke survivor pathways to meet the needs of service users
- implementation of appropriate NSF and NICE guidelines
- audit against local and national standards
- monitoring activity and staff performance
- monitoring quality outcomes for interventions with stroke survivors and implementing evidence based changes to improve stroke survivor outcomes
- monitoring complaints and adverse incidents according to CCG Policy
- competence to practise in the clinical area
- compliance with CQC working
- people are individuals and have the right to dignity, privacy and independence. All those involved in providing the Service should acknowledge and respect Service users gender, sexual orientation, race, religion, culture, lifestyle and values
- the service will accept referrals for all stroke survivors 16 years and over (except in exceptional circumstances)
- ensure that services are able to respond sensitively and flexibly to the service user's changing needs
- this service can be accessed by people currently within the acute sector who have been newly diagnosed as having had a stroke: to include within cerebrovascular disease, both Haemorrhagic Stroke and Ischaemic Stroke
- an Equality Impact Assessment will be completed to ensure adherence with equality legislation and commissioners will work with providers to ensure complete compliance.

5. Applicable quality requirements and CQUIN goals

Performance indicator	Threshold	Method of Measurement and Numerator/ Denominator to be used if applicable	Reporting Timescales	Consequence of Breach
Activity				
Expected number of referrals	To be agreed with commissioner	Number of actual referrals/number of expected referrals	Quarterly	Remedial action plan
Average and median length of stay	To be agreed with commissioner		Quarterly	Remedial action plan
Number of stroke survivors previously	To be agreed with the		Quarterly	Remedial action plan

discharged who have been re-referred	commissioner				
Quality					
Compliance (%) against the therapy target of an average of 25.7 minutes of OT across all patients (Target = 45 Minutes x (5/7) x 0.8 which is 45 minutes of OT x 5 out of 7 days per week x 80% of patients)	Domain 5: Occupational Therapy (overall score C/D)	Evidence SSNAP - 5.4A Patient centred (60-65 minutes) - 5.4B Team centred (60-65 minutes)	In line with SSNAP requirements	General Condition 09	
Compliance (%) against the therapy target of an average of 27.1 minutes of Physio across all patients (Target = 45 Minutes x (5/7) x 0.85 which is 45 minutes of Physio x 5 out of 7 days per week x 85% of patients)	Domain 6: Physiotherapy (overall score C/D)	Evidence SSNAP - 6.4A Patient centred (60-75 minutes) - 6.4B Team centred (60-75 minutes)	In line with SSNAP requirements	General Condition 09	
Compliance (%) against the therapy target of an average of 16.1 minutes of SALT across all patients (Target = 45 Minutes x (5/7) x 0.5 which is 45 minutes of SALT x 5 out of 7 days per week x 50% of patients)	Domain 7: Speech and Language Therapy (overall score C/D)	Evidence SSNAP - 6.4A Patient centred (50-55 minutes) - 6.4B Team centred (50-55 minutes)	In line with SSNAP requirements	General Condition 09	
% of patients receiving screening for emotional support (including mood), as soon as possible before discharge	85%				
% of patients given a Rankin outcome measure and recorded with one week of admission to and one week of discharge from stroke unit	90%	Number of patients with Rankin score measured within one week of admission/ Total number of patients admitted Number of patients with Rankin score measured within one week of discharge/ Total number of patients discharged Patient Rankin score on	Quarterly data set	Remedial action plan	

		admission and discharge			
% of stroke survivors receiving cognitive/perceptual screening within 6 weeks if required (SSNAP) (if applicable screen for cognition by discharge from inpatient stroke care – SSNAP only states 6 weeks when combining Mood and Cognitive screen, otherwise by discharge)	95%	9.3 Proportion of applicable who have mood and cognition screening by discharge: 9.3A Patient centered 9.4B Team centered	In line with SSNAP requirements	Remedial action plan	
% of stroke survivors receiving a continence assessment before discharge (SSNAP)	95%	SSNAP evidence 9.2A Patient centred – 95% 9.2B Team centred - 95%	In line with SSNAP requirements	General Condition 09	
% of appropriate stroke survivors and carers having at least one family meeting with MDT team and provided with joint care plan on discharge from hospital	100%	Local data collection	Quarterly	General Condition 09	
Stroke survivor receives a written Joint Health and Social Discharge Plan at discharge. This will contain written details of the care package they will receive on discharge from hospital (such as the equipment ordered, estimated delivery dates, onward referrals made, contact details and any appointments made)	95%	SSNAP evidence 10.1A Patient centred – 90% 10.1B Team centred - 90%	In line with SSNAP requirements	General Condition 09	
Proportion of stroke survivors made aware of their right to choose, accept or decline treatment	95%	Numerator: number of stroke survivors in the denominator made aware of their right to choose, accept or decline treatment	Quarterly	Remedial action plan	

		Denominator: the number of stroke survivors accessing NHS services Methods of measurement can include stroke survivor experience surveys and feedback forms that evidence stroke survivor awareness around the right to choose, accept or decline treatment.			
Agreed Pathway and protocol to transfer stroke survivors to a HASU if clinically required	N/A	Agreed protocol in place to accept transfer to onsite HASU or collaborative agreement with neighboring CCG	Quarterly data	Remedial action plan	
Evidence of completion of an Equality Impact Assessment	N/A	Impact Assessment report including evidence of action plan implementation plans	Annual	To be confirmed locally	
Workforce					
Provide an annual stroke specific workforce plan to include training	Baseline required	Demonstrate that workforce meets the specification. Staff have access to training (breakdown of training achievements).	Annual report	Remedial action plan	
All stroke specific clinical staff to have the opportunity to access regular clinical supervision sessions	Baseline required	Audit Breakdown of access to clinical supervisor sessions	Annual Report	Remedial action plan	
Stroke specific staff turnover rates	Baseline required	Audit of turnover record	Annual Report	Remedial action plan	
Stroke specific sickness levels	Baseline required	Audit of sickness record	Annual Report	Remedial action plan	
Stroke specific agency and bank spend	N/A	Audit of agency and bank record	Annual report	To be determined locally	

Number of contacts by WTE	Baseline required	TBC	Quarterly	Remedial action plan	
Stroke Survivor Outcomes					
% of stroke survivors who were discharged on the clinically preferred day agreed with both the hospital and community team	50%	Date of planned discharge/date of actual discharge	Quarterly	Service improvement plan	
Stroke survivor / carer reported satisfaction evaluation to be completed.	80%	TBC	Quarterly	Service improvement plan	
6. Location of Service Delivery					
If a local transfer is required, then this will be provided via ambulance.					

A minimum data set on stroke survivor demographics needs to be captured and evaluation needs to take into consideration access in line with EQIA. Data should include:

- date of birth
- postcode
- gender
- local patient identifier
- organisation code
- NHS number
- NHS number status indicator code
- Ethnic category
- language
- GP practice
- commissioner
- referral date (sourced from referral letter)
- referral request received date
- service type referred to (e.g. occupational therapist, speech and language therapy etc)
- source of referral
- first contact date
- other contact dates
- clinical contact type
- attended or did not attend
- outcome of contact
- length of stay in service

All providers of an inpatient rehabilitation service should ensure they can demonstrate the following policies are in place as a minimum, and that these policies are adhered to:

- whistleblowing policy
- consultant to consultant referral policy
- equality and diversity policy
- clinical record keeping
- complaints policy
- consent to examination or treatment
- major incident plan
- risk management strategy
- medicines management policy
- safeguarding adults policy
- information sharing
- environmental waste policy
- formulary process
- emergency preparedness plan
- business continuity plan
- lone working policy
- service user transfer policy
- service user discharge from care policy
- Mental Capacity Act policy
- DOLs policy if separate from (safeguarding adults policy)

References

- National Service Framework for Older People (2005) especially Standard 5:Stroke
- National Stroke Strategy Quality Markers (2007)
- The Stroke Strategy for London (2008)
- Royal College of Physicians National Clinical Guidelines for Stroke (2012)
- NICE Stroke Quality Standards (2010)
- Stroke Rehabilitation Guide: Supporting London Commissioners to Commission Quality Services in 2010/11
- Midlands and East Service Specification (2012)
- NICE Stroke Rehabilitation – Long Term Rehabilitation after Stroke (2013)

3. Appendix

Early supported discharge service specification

Schedule 2 – the services

Stroke Early Supported Discharge – Service Specification

Contributors

Name	Role/Title	Organisation
Liz Green	Senior Programme Manager – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Nighat Hussain	Programme Director – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Charlie Mason	Programme Co-ordinator – Birmingham, Black Country and Solihull Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Ruth Williams	Icares Manager	Sandwell and West Birmingham Hospital Trust
Carron Sintler	Consultant Physiotherapist for Stroke Services	Birmingham Community Healthcare Trust
Mohammed Khalil	Senior Commissioning Manager	Sandwell and West Birmingham CCG
Geraldine Child	Patient Representative	Walsall CCG
Bernice Jones	Deputy Head of Operations	Stroke Association
Anne Adams	Secretary/Trustee	Dudley Stroke Association
Alan Hackett	Patient Representative	Dudley Stroke Association
Hugh Tibbits	Regional Director of Operations	Stroke Association
Dana Tooby	Patient Representative	
David Tuplin	Carer Representative	Dudley Stroke Association
Joanne Graham		
Liz Brown	Clinical Team Leader, Community Stroke Services	Walsall Healthcare NHS Trust
Michelle Hyde		
Robert Freeman	Consultant	Walsall Healthcare NHS Trust
Sonia Jenkinson	Stroke Lead Nurse	Walsall Healthcare NHS Trust
Claire Finnimore		
Dawn Hicklin	Therapy Lead – Stroke	Sandwell and West Birmingham Hospitals Trust
Paulette Myers		Walsall CCG
Joanne Gutteridge		Dudley CCG

Frances Pons	Dudley Rehabilitation Service Team Manager	Dudley Group of Hospitals

Schedule 2 – the services

A. Service Specifications

Service	Early Supported Discharge
CCG Lead	CCG Commissioning Lead
Provider Lead	Provider Lead
Period	2015-2016
Date of Review	6 months/9 months

1. Population Needs

1.1 National/local context and evidence base

This launch of the National Stroke Strategy (2007) clearly states there is evidence that early supported discharge (ESD) improves care for a certain percentage of stroke patients. ESD services facilitate reduced length of hospital stay and a decrease in long term mortality.

In 2009, Stroke killed more than 40,000 people in England and over 12,000 in the Midlands and East Region. Stroke is the third biggest killer in England and the main cause of adult disability. Around two thirds of people will survive their stroke, but half of stroke survivors are left with long term disability and are dependent on others for everyday activities.

Within England:

- approximately 110,000 people experience a stroke every year
- 20-30% people die within a month of experiencing a stroke
- 25% of strokes occur to people under the age of 65
- there are approximately 900,000 people living with the effects of stroke
- 300,000 people live with moderate to severe disability as a result of experiencing a stroke.

(National Stroke Strategy, 2007)

Studies have shown that Early Supported Discharge, that provides a similar level of intensity to stroke unit care, can help reduce long term mortality rates and institutionalisation rates for up to 50% of stroke survivors (National Stroke Strategy 2007). Early supported discharge (ESD) enables appropriate stroke survivors to leave hospital “early” through the provision of intense rehabilitation in the community at a similar level to the care provided in hospital. An ESD team of nurses, therapists, doctors and social care staff work collaboratively as a team and with patients and families, providing intensive rehabilitation at home for an average of 6 weeks thereby reducing the risk of re-admission into hospital for stroke related problems and increasing independence and quality of life with support to the carers and family (NHS Midlands & East, September 2012).

This service specification is based upon a comprehensive and current evidence base and agreed best practice, including but not exhaustive to:

- National Stroke Strategy (2007) Department of Health
- National Clinical Guidelines for Stroke (2012) Royal College of Physicians

- Quality Standards Programme: Stroke (2010) National Institute for Clinical Excellence
- Stroke Service Standards (2010) British Association of Stroke Physicians
- A Public Health Outcomes Framework for England 2013-16 (2012) Department of Health
- Supporting Life after Stroke (2011) Care Quality Commission
- Stroke Rehabilitation Guide: Supporting London Commissioners to Commission Quality Services in 2010/11
- Midlands and East Service Specification
- NICE Stroke Rehabilitation – Long term rehabilitation after stroke (2013)
- any relevant new standards as and when they are published.

2. Outcomes

2.1 NHS Outcomes Framework Domains & Indicators

NHS Outcomes Framework 2014/15:

1 – Preventing people dying prematurely
Reducing premature mortality from the major causes of death
1.1 under 75 mortality rate from cardiovascular disease
2 – Enhancing quality of life for people with long term conditions
Ensuring people feel supported to manage their condition
2.1 proportion of people supported to manage their conditions
3 – Helping people to recover from episodes of ill health following injury
Improving recovery from stroke
3.4 Proportion of stroke patients reporting an improvement in activity /lifestyle on the modified Rankin Scale at 6 months

Public Health Outcomes Framework 2013-2016:

4. Healthcare public health and preventing premature mortality
4.4 Under 75 mortality rate from all cardiovascular disease (including heart disease and stroke)

This service should enable the delivery of the following outcomes:

2.2 Local defined outcomes

Although quality and key performance indicators are described in more detail later in this document, stroke survivors receiving Early Supported Discharge services Birmingham, Solihull and the Black Country should receive a high standard of care across the whole conurbation. Broadly, the expected outcomes are:

- improved outcomes for stroke survivors, reducing the levels of post stroke death and disability
- supported specialist stroke care delivered in the stroke survivors normal home environment can also take place in an interim placement if normal home environment not appropriate (stroke survivors can exercise their right to opt out of this if desired)
- achievement of best outcomes in terms of stroke survivor reduction in disability and functional independence

- reduction in hospital length of stay
- reduction in readmission rates in to the acute stroke unit
- effective hospital discharge with seamless transfer of care
- reduced “hand offs” between services dependent on local configuration
- involvement of stroke survivors and carers in decisions about treatment and informed about life style changes
- improved stroke survivor and carer satisfaction
- improved self-management by stroke survivors and their family/carers through inclusion of goal setting
- the services should be based upon national and international best practice and evidence
- the service should offer equity of access and care to all stroke survivors being treated in Birmingham, Solihull and the Black Country.

3. Scope

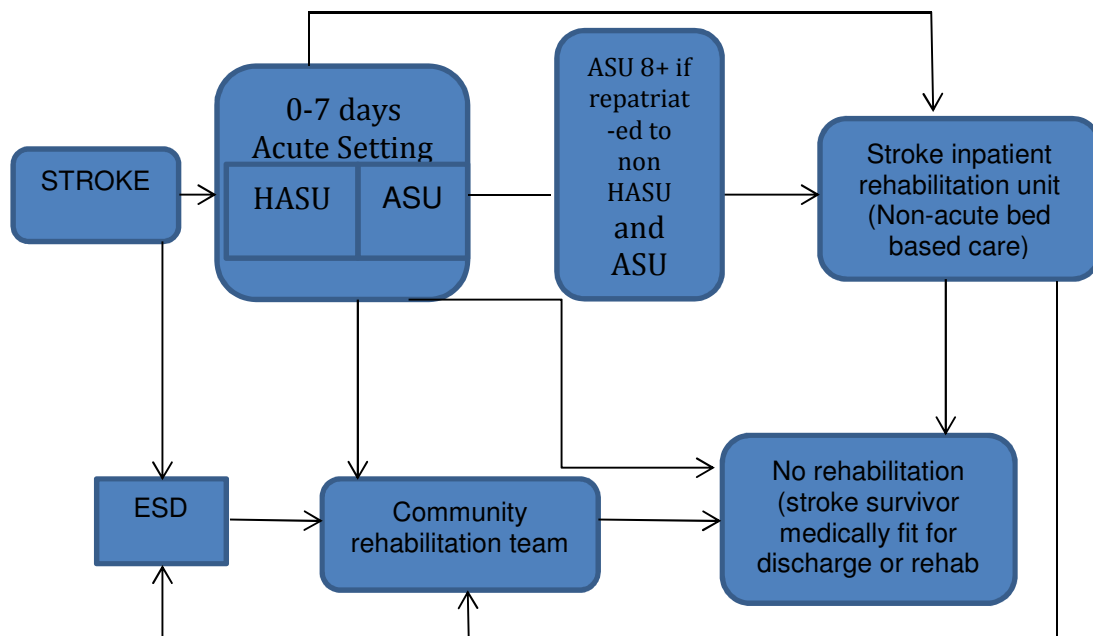
3.1 Aims and objectives of service

The aim of Early Supported Discharge (ESD) is to provide accelerated discharge of stroke survivors to their home (family home or normal place of residence or interim place if home not appropriate e.g. relatives home) providing specialist rehabilitation and social support in the community comparable to that of an in-patient stroke unit. Service provision is focused around time specific stroke survivor goals and will embrace the needs and ability of their carers.

- provide specialist dedicated Early Supported Discharge and care for all stroke survivors in the Birmingham, Solihull and Black Country, as part of a whole stroke pathway approach
- ensure Royal College of Physicians and NICE guidance standards are met for Early Supported Discharge
- deliver specialised rehabilitation through a multidisciplinary and co-ordinated approach within NICE Quality standards (2010) and NICE (2013) Stroke Rehabilitation – Long Term Rehabilitation after Stroke
- ensure a whole system approach that raises standards across the stroke pathway aligned with National and local strategy and guidelines.
- provide a service delivered by a skilled team through an integrated health and social care MDT approach which ensures a seamless structured transfer from acute services to community services
- reduce the likelihood of re-admission for complications and non-clinical reasons and prevent further strokes and complications associated with disability
- to provide access to a community stroke support worker/community stroke co-ordinator who can offer stroke survivors and carers support, advocacy and signposting
- ensure that stroke survivors and their family and/or carers receive expert education and information to make lifestyle choices and maintain independence in accordance with the Stroke-Specific Education Framework
- ensure stroke survivor and carer satisfaction feedback and clinical outcome data is captured and reviewed as part of a cycle of performance management to ensure continuous quality improvement. To capture and act upon the views of stroke survivors and carers throughout the rehabilitation period in a meaningful way
- ensure rehabilitation is delivered with a person –centred, goal planning approach
- provide a highly skilled and experienced workforce supported by stroke specialist rehabilitation assistants

- maximise independence of the stroke survivor and their family/carer.
- provide a timely seamless pathway and continuity of care for the stroke survivor and their carers through the acute stay to rehabilitation and beyond
- ensure the stroke survivor and family/carer have access to support, advice, advocacy and information throughout the care pathway and beyond
- reduce avoidable disability, dependency on social care and the need for the stroke survivor to enter prematurely into long term care.
- ensure access to information is suitable to meet the needs of the stroke survivor (e.g. aphasia-friendly)
- work collaboratively with the acute sector, voluntary sector providers, general practice (including GP consortia) other primary care providers.
- work with commissioners to further develop high quality local services
- develop strong relationships with referrers and supporting services, including acute multi-disciplinary meetings, social care, dietetics and voluntary sector organisations
- the service should offer equity of access and care to all stroke survivors registered with a GP in the 7 CCGs in Birmingham, Solihull and the Black Country ensuring stroke survivors with protected characteristics are catered for
- participate in local and national audit programmes
- ensure joint stroke registers are in place in the community that are linked to the local acute providers in order to track stroke survivors across the entire pathway of stroke care, to facilitate access to long term review and other key resources
- data should be entered in to the SSNAP database at all times.

3.2 Service description/care pathway



Early Supported Discharge enables stroke survivors admitted to hospital with a diagnosis of stroke to have early fully supported specialist stroke care safely transferred and delivered within their normal home environment.

- providing seamless transition from the acute episode of stroke through to ensuring stroke survivors and their family/carer receive high quality specialised stroke rehabilitation where appropriate

- access to therapy must be given in a timely manner, through agreed multidisciplinary goals with additional support and advice to offer a holistic approach to rehabilitation
- the purpose is to achieve maximum potential for independence in all aspects of the stroke survivors and their family/carer's lifestyle while, acquiring the skills to adapt to new situations
- providing seamless transition of care through a multidisciplinary, co-ordinated stroke competent specialist stroke rehabilitation team, providing therapy, advice and support to people who have experienced a stroke, including their family /carer
- integration of health, social and voluntary organisations, ensuring a high quality pathway from transfer from the acute setting through discharge home and beyond
- the service will be available to those people who have experienced a new stroke, who are currently within an acute or sub-acute stroke setting and are living and registered with a GP within (insert detail of CCG boundary)
- the ESD will be characterised by a single point of access
- on identification the ESD team will make contact with the stroke survivor and family/carer and establish level of support required as per an individualised care plan
- all equipment to aid daily living and rehabilitation will be in place prior to discharge
- rehabilitation will continue as per care plan and reviewed via a weekly multidisciplinary meeting
- in preparation for discharge from the service any necessary ongoing support will be arranged/signposted to and in accordance with Section 5 of this specification, Discharge Planning
- stroke survivors assessed as having rehabilitation potential but not suitable for immediate ESD will receive Acute and/or Sub-Acute rehabilitation, and from there be discharged to ESD team in accordance with the ESD eligibility criteria. All stroke survivors with rehabilitation potential, who meet the eligibility criteria will therefore go through the ESD team, some potentially for a very short length of time
- the ESD team will have responsibility for onward referral to appropriate services
- pathways should be in place to ensure stroke survivors referred to a social worker have access to a social care assessment within 72 hours of receipt of the referral
- integral to the Early Supported Discharge team will be third sector organisations and Social Care Workers.

Staffing:

- a multidisciplinary team approach with sufficient staff, skill mix and stroke-specific training as per national and Midlands and East service specification guidance.
- staff stroke competencies to be assessed against peer reviewed standards as per local guidance.
- the stroke survivor will be offered a minimum of 45 minutes of each therapy that is clinically appropriate, for a minimum of 5 days a week.
- the stroke survivor would be discharged from the Acute Unit with a Care Plan for ongoing care.
- a Stroke Consultant should be part of the specialist stroke team
- medical oversight related to the stroke survivor's stroke and cerebrovascular health during ESD should be provided by the stroke survivor's Consultant, and be documented in their Care Plan. Clinical responsibility for other health issues will remain with the stroke survivor's GP. A review of the stroke survivor and their medication will be undertaken 6 weeks after discharge from hospital by the stroke consultant. On discharge from ESD the medical responsibility for the stroke survivor would revert entirely to their GP

- there is an overarching emphasis on self-care in recognition that stroke survivors and their family/carers working in partnership with their multidisciplinary team achieve better health outcomes
- data should be entered in to the SSNAP database at all times.

Equipment

The assessment of the stroke survivor prior to discharge will identify any equipment requirements. It is crucial to note that their use must increase the safety of the stroke survivor and not increase the risk due to limited space within the home environment. All equipment necessary for a safe discharge must be in place prior to the stroke survivor going home.

All equipment and aids (e.g. wheelchairs, continence equipment) should be reviewed and changed as necessary by the ESD service.

Skills and Competences

The ESD team will include:

- a designated service lead with operational accountability
- a full complement of staff made up of:
 - physiotherapists
 - occupational therapists
 - speech and language therapists
 - reablement practitioners and/or therapy assistants
 - administration support (from within or outside the ESD team)
 - specialist stroke nurses
 - family support workers
 - psychology
 - dietetics
 - consultant and GP
 - case manager/community matrons (if appropriate)
 - social Workers (if appropriate)
 - orthoptist (if appropriate).

The team will develop and evidence a framework of expert and specialist competences that provides increased service capacity and provides the opportunity to extend the roles of reablement workers.

The service will be stroke specific and sufficiently able to commence treatment within 24 hours of discharge:

The ESD service will:

- provide stroke care between the hours of 07:00 – 23:00, 7 days a week
- be a rapid response, same day ESD service provided 7 days a week at a stroke survivors place of residence to facilitate safe and timely discharge from hospital setting for an average period of 6 weeks
- provide a clear point of contact and access for all stroke survivors, carers and their families (into rehabilitation)
- have a clear system in place where the ESD provider is in daily contact with stroke units to identify stroke survivors who have been admitted and assessed, confirming

their estimated date of discharge and their potential suitability for ESD

- following initial assessment, all relevant members of the MDT will carry out specialist assessments in line with best practice/guidelines, the ESD service must have access to the assessments undertaken while the stroke survivor was in hospital
- ensure the stroke survivor leaving acute care has an appointment with the ESD service within their community setting and that clear discharge information is provided
- ensure the active engagement of the ESD service within MDT discussions, working to plan the care needs of the individual stroke survivors
- ensure their involvement is accurately captured within the stroke survivor's notes and ensure notes follow the stroke survivor through their journey so they do not have to re-tell their story repeatedly
- must ensure and enable that there is no delay between a stroke survivor being identified as medically fit for discharge and actually being discharged
- provide the service for an average period of six weeks
- provide active therapy for stroke survivors, (target of 45 minutes per discipline, 5 days a week as set out in the RCP guidelines 2012) to an intensity equivalent to in hospital rehabilitation, but reflective of individual stroke survivor needs and goals (needs to be with agreement from the stroke survivor as many do not want daily input and are able to opt out if desired)
- ensure that progress towards the stroke survivors rehabilitation goals are reviewed and assessed within the first four weeks of ESD service access
- ensure that where stroke survivors have previously been discharged and deemed not suitable or appropriate for ESD, but there is evidence of changing needs and eligibility for ESD, the stroke survivor should be re-assessed for an episode of ESD support. (This needs to be reassessed at regular reviews)
- ensure that all equipment required for discharge is ready and available and must not delay discharge from hospital
- ensure specific groups of stroke survivors with exceptional needs are accommodated for e.g. parents of young children
- ensure regular verbal and written communication with the stroke survivor as well as between services throughout their journey, ensuring that they are informed throughout
- ensure both the stroke survivor and their carer's are trained in managing stroke and life after stroke as well as the ability to recognise common causes of illness that result in avoidable admissions e.g. constipation, urinary tract infection
- collaborate with health and social services, the independent and third sectors to enable a stroke survivor to develop a greater quality of life and independence
- ensure access is provided to community rehabilitation services/long term care provision following ESD if required.

Local Pathway

- direct access to stroke unit
- assessment and intervention planning by acute stroke team with stroke survivor and their carers
- the ward based team will assess and identify suitable stroke survivors for ESD with the ESD team in-reaching to work collaboratively
- the ESD team will meet the stroke survivor prior to discharge from hospital and ensure the stroke survivor has a community appointment prior to leaving the acute setting
- the stroke survivor will leave the acute setting with a discharge information pack, an

intervention care plan and be aware of how to begin to manage their stroke within a community setting

- the previous assessments and care plan will be transferred to the ESD team upon transition
- the care plan will be continued by the ESD team within community on the day of transition
- the stroke survivor's goals and care plan will be reviewed by the most appropriate clinician within the ESD team within 7 days of transition
- new goals will be set using the principles of SMART (specific, measurable, achievable, realistic, time limited)
- an estimated date of discharge out of the service will be set with the stroke survivor and their carer's at the initial contact
- the stroke survivor and their carers will be trained and supported to self-manage the stroke within their community setting as part of their intervention within the ESD team
- there on-going care is delivered by other health and/or voluntary care providers, the team will required at the end of the ESD episode of care (this should be the exception) to ensure a seamless transition occurs where on-going goals and care plans are transferred to the receiving provider, with the stroke survivor's consent
- at the end of the ESD episode of care stroke survivors will be aware of their follow up appointments and be aware who is responsible for their on-going needs. They will also be aware of how to contact the ESD team in future.

3.3 Population covered

The service will be provided for the whole of the CCG area. Each local authority service will have stroke champions to ensure appropriate reablement care packages are in place with a stroke and ESD focus.

3.4 Location of service delivery

The service will normally be delivered in the stroke survivor's permanent place of residence. There may be occasions when delivery occurs in an external location in line with their individual rehabilitation goals, cultural preferences and rehabilitation needs. This will be agreed on an individual stroke survivor basis – ensuring the safety of both parties is maintained to limit risk.

The accommodation will adhere to CQC standards and health staff will be able to access health ICT systems for electronic patient records, CDA and incident reporting.

3.5 Any acceptance and exclusion criteria and thresholds

Inclusion Criteria

In order to be considered for ESD, the following criteria should be met:

- the Early Supported Discharge Service will be available for stroke survivors who are age 18 and over admitted to secondary care facilities with a new onset Stroke. Stroke survivors should be assessed as safe to return to their own home, with a commitment to rehabilitation and improvement
- diagnosis of stroke has been confirmed by imaging and /or clinical assessment by a consultant experienced in the diagnosis of stroke and/or CT scan result

- medically fit and safe to be discharged home or to regular place of residence
- consents to early supported discharge with agreement from their carer/s
- compliant with their own rehabilitation programme and goals identified prior to discharge
- those whom in the opinion of the multidisciplinary team will benefit from early supported discharge from hospital
- able to transfer safely, independently or with the assistance of 1 person. If they require assistance of 1 person to transfer they must have a live in carer who can safely assist them
- have mild or moderate disability (identified through the use of a recognised tool (Rankin as per SSNAP) for assessment of functional and cognitive capability) (Assessment used is Barthel ADL index)
- have managed continence
- if the stroke survivor has dietary needs, then these should be able to be managed at home.

Stroke survivors with cognitive impairment and/or challenging behavior should receive appropriate assessment prior to being considered for ESD.

When the mental capacity of the stroke survivor to make a decision regarding ESD is in question, the decision for discharge should be made in the best interests of the stroke survivor by the MDT following appropriate assessment.

Exclusion Criteria

- stroke survivors under the age of 16
- stroke survivors who are in the end of life stage of their stroke will be managed within end of life pathways and are therefore outside the scope of the ESD service
- stroke survivors with other illnesses/co-morbidities that make rehabilitation potential extremely limited and are not medically stable
- stroke survivors unwilling to participate in rehabilitation or where realistic achievable goals are not identified
- stroke survivors with a severe stroke, identified by using a recognised assessment tool (please define is the recognised tool)
- stroke survivors who do not have a primary diagnosis of stroke i.e. Stroke mimics
- stroke survivors who are medically unstable.

The above exclusions will be agreed as per discussion with the multidisciplinary team and the stroke survivor and their family/carers as appropriate.

There should be an opportunity for stroke survivors initially excluded to be reassessed and admitted to the service

Accessibility/acceptability

The service offered will be respectful and will not discriminate on grounds of age, sexuality, ethnicity or religion. Services will be sensitive to the needs of clients whose first language is not English, and those with sensory impairment, communication and/or other disabilities.

The service will be time limited with an average length of stay in the service of 6 weeks. Actual length of stay will be dependent upon individual goals and in discussion with the multi-disciplinary team.

3.6 Interdependence with other services/providers

Whole system relationships

The early supported discharge team will be based upon the effective relationships within the local economy between primary and secondary services, health and social care services, care homes and close working with third sector organisations providing specialist expert family support. The early supported discharge team will have a detailed knowledge and good relationships with services for on-going referral when the period of ESD involvement ends.

This service is part of a number of pathways that support stroke survivors with a specified level of functional and cognitive ability. Pathways for stroke survivors with more severe disability should be integrated to ensure stroke survivors access/move between service models as their rehabilitation potential/improvement alters as their rehabilitation journey progresses.

Opportunities will be available for dual pathways of recovery, enhanced assessment placements e.g. community/intermediate care beds.

Interdependencies

The ESD service will work closely with and establish key links within the stroke survivor pathway with the following:

- GPs
- clinical members of the MDT in secondary care
- carers
- the extended MDT team (pharmacy, psychologists, dietetics, orthoptists, orthotists and continence team, Speech and Language Therapists) in both secondary and community providers
- specialist and community/district nurses
- social care
- voluntary services
- independent sector
- home care service
- day care services
- respite care
- night sitting service
- adaptations and equipment service
- intermediate care
- care homes
- community stroke co-ordinators.

3.7 Referral Processes

- referrals can be made by any member of the multi-disciplinary team with an insight into the care and therapy needs of the stroke survivor
- stroke survivors will be identified through proactive case finding with the acute team within the stroke unit

- stroke units from neighbouring acute hospitals will contact the ESD team and an in-reach model of care will be delivered to ensure the stroke survivor meets a member of the ESD team prior to discharge
- for stroke survivors not resident on the stroke unit, referrals can be made by telephone, fax, mail or email from a secure NHS. Net account or other local method of referral.

3.8 Discharge Process

Stroke survivors will be discharged from the service, (and will follow the main stroke pathway, currently in place) when any of the following criteria are met:

- stroke survivor declines further input from the service
- goals agreed between the early supported discharge multidisciplinary team and the stroke survivor have been achieved
- on MDT and stroke survivor review of progress there is agreement that the identified goals are unlikely to be achieved through early supported discharge team input, and referral to other services may be more in line with individual needs
- the stroke survivor has a change in health status that makes early supported discharge input inappropriate and where the return to previous health status within a reasonable time cannot be predicted
- stroke survivor moves house/no longer resides in the ESD catchment area.

Where stroke survivors meet the discharge criteria the service will:

- provide a stroke survivor management plan as appropriate and onward referral to appropriate other services will be agreed and completed. A copy of the management plan should be offered/given to the stroke survivor/carer as routine practice
- ensure the stroke survivor has been referred or signposted to appropriate sources of ongoing support, information or treatment prior to discharge
- inform the stroke survivor's GP and other professional carer of the discharge
- ensure stroke survivors notes are updated with a summary of the early supported discharge team input, goals achieved, outstanding needs and other services referred or signposted
- gain stroke survivor's agreement to make relevant information available to other services where this would benefit the stroke survivor
- provide contact details so that the stroke survivor and his/her carers can contact the service directly for further advice or information at any time after discharge.

3.9 Response Times and Prioritisation

- the initial visit after discharge will occur within 24 hours after discharge, ideally on the day of discharge
- stroke survivors will be given a schedule of appointments for a minimum of the first three days after discharge
- the hours of operation shall be targeted to the hours most appropriate for the local population need. The hours of operation have been defined as: (to be locally determined)
- specialised stroke therapy provided 7 days per week, hour's negotiable dependent on stroke survivor need
- this will support delivery of the recommended 45 minutes per therapy, 5 times per week, as tolerated and deemed appropriate by the specialised stroke team (NICE 2010)

- the key worker will provide a flexible approach i.e. evening contact with relatives for those working during normal office hours.

3.10 Self-care and stroke survivor and carer information

Early supported discharge team will:

- promote independence and the construction of care plans based around the personal goals of the individual within their own, chosen environment
- act as an expert resource for stroke survivors, carers and professionals; providing information to enable stroke survivor independence through access to health, social care, voluntary and other agencies
- ensure the production of effective localised and general information, which explains stroke specific and general statutory and non-statutory service provision to enable and support effective choices in selecting the most appropriate referrals after ESD services.
 - secondary prevention – advice on healthier lifestyle
 - contact numbers for financial/benefit advice
 - local support services for:
 - equipment
 - counselling services
 - voluntary and charity organisations
 - local support groups
- provide links to the expert patient programme as part of stroke survivor education
- ensure that the right information is given at the right time to stroke survivors and carers
- ensure any written information is constructed using plain English principles, and is developed to recognise the unique needs of stroke survivors, particularly their cognitive and communication abilities/disabilities
- as a minimum, the stroke survivor and their GP should receive a discharge summary of the episode of care from the ESD service.

4. Applicable Service Standards

The Stroke ESD Service will be provided in line with the best practice National Standards and Guidelines.

At all times the organisation shall provide the Service detailed in this specification and incorporate the following general principles:

- compliance with current national and local guidance
- compliance with Standards for Better Health
- responding to notices as stipulated by the MRHA
- redesigning of stroke survivor pathways to meet the needs of service users
- implementation of professional standards
- implementation of appropriate NSF and NICE guidelines
- audit against local and national standards
- monitoring activity and staff performance
- monitoring quality outcomes for interventions with stroke survivors and implementing evidence based changes to improve stroke survivor outcomes.
- monitoring complaints and adverse incidents according to CCG Policy
- competence to practise in the clinical area
- compliance with CQC working
- people are individuals and have the right to dignity, privacy and independence. All

those involved in providing the service should acknowledge and respect service users' gender, sexual orientation, race, religion, culture, lifestyle and values

- the service will accept referrals for all stroke survivors 16 years and over (except in exceptional circumstances)
- service users should be encouraged and enabled to exercise control over the service they receive
- services should be supportive of service users and their carers
- ensure that services are able to respond sensitively and flexibly to the service user's changing needs
- this service can be accessed by people currently within the acute sector who have been newly diagnosed as having had a stroke: to include within cerebrovascular disease, both Haemorrhagic Stroke and Ischaemic Stroke
- all stroke survivors referred to the service will be assessed for suitability against the criteria in section 3.5 via an integrated discussion with the acute stroke team and the ESD team. Any referrals from the community hospital will be assessed by the ESD in integrated discussion with the referrer and any relevant community services currently being provided
- the service will be time limited, on average, 6 weeks. Actual length of stay will be dependent upon individual goals and in discussion with the multidisciplinary team
- an Equality Impact Assessment will be completed to ensure adherence with equality legislation and commissioners will work with providers to ensure complete compliance.

A stroke ESD multidisciplinary team composition should include as a minimum (WTE per 100 cases per year):

- occupational therapy (1)
- physiotherapy (1)
- speech and language therapy (0.4).

The Stroke ESD should have access to support from:

- stroke physician (0.1)
- nurse (0-1.2)
- social worker (0-0.5)
- rehabilitation assistants (0.25)
- clinical psychology
- dieticians
- orthotics
- orthoptics.

There should be co-ordinated stroke skilled ESD teams working in partnership with local authorities and other health and third sector providers

The ESD team should meet weekly as a minimum to plan and manage stroke survivor care.

Training/education/research activities:

- all staff will complete a competency framework in accordance with the national and local specifications (stroke specific education framework)
- stroke specialist within the team to provide on-going training ; mentorship and

supervision ensuring competencies are maintained.

Staff should be trained to the standards set out in the Stroke Competency Toolkit, NHS Midlands and East Workforce Education and Training Subgroup (2012) Appendix 2.

5. Applicable quality requirements and CQUIN goals

The table below captures the core metrics identified in the model of care.

Performance Indicator	Threshold	Method of Measurement and Numerator/Denominator to be used if applicable	Reporting timescales	Consequence of Breach
Activity				
Expected number of referrals	To be agreed with commissioner	Number of actual referrals/Number of expected referrals	Quarterly	Remedial Action Plan
Average and median length of stay	To be agreed with commissioner		Quarterly	Remedial Action Plan
Number of stroke survivors previously discharged who have been re-referred	To be agreed with the commissioner		Quarterly	Remedial Action Plan
Number of face to face and telephone contacts with stroke survivor or proxy in the period	Baseline required	Number of face to face contacts Number of phone contacts Data collection by ESD team. This will identify the non-stroke survivor contact time utilization and resource utilization.	Quarterly	General Condition 09

Quality				
% of appropriate stroke survivors whose treatment programme started within one working day of release from hospital	80%	Date stroke survivor referred/date stroke survivor assessed	Monthly	General Condition 09
24hrs waiting time for first appointment by therapist	95%	Length of time stroke survivors have to wait for first appointment by therapist type	Quarterly	General Condition 09
Compliance (%) against the therapy target of an average of 25.7 minutes of OT across all patients (Target = 45 Minutes x (5/7) x 0.8 which is 45 minutes of OT x 5 out of 7 days per week x 80% of patients)	TBC	TBC	In line with SSNAP requirements	General Condition 09
Compliance (%) against the therapy target of an average of 27.1 minutes of Physio across all patients (Target = 45 Minutes x (5/7) x 0.85 which is 45 minutes of Physio x 5 out of 7 days per week x 85% of patients)	TBC	TBC	In line with SSNAP requirements	General Condition 09
Compliance (%) against the therapy target of an average of 16.1 minutes of SALT across all patients (Target = 45 Minutes x (5/7) x 0.5 which is 45 minutes of SALT x 5 out of 7 days per week x 50% of patients)	TBC	TBC	In line with SSNAP requirements	General Condition 09
Number of stroke survivors readmitted	Less than 5%	Number of stroke	Quarterly	Review of stroke survivor

to acute provider within 30 days of discharge from hospital		survivors readmitted to hospital/number of strokes who were discharged with an ESD Package		management/identification of causative factors
Number of stroke survivors who are discharged from ESD who are offered ongoing support or care by a range of providers to meet their individual needs (health, social care, voluntary etc)	90%	Number of discharged stroke survivors to other services/Number of stroke survivors discharged	Quarterly	Remedial Action Plan
Proportion of stroke survivors made aware of their right to choose, accept or decline treatment	95%	Numerator: number of stroke survivors in the denominator made aware of their right to choose, accept or decline treatment Denominator: the number of stroke survivors accessing NHS services Methods of measurement can include stroke survivor experience surveys and feedback forms that evidence stroke survivor awareness around the right to choose, accept or decline	Quarterly	Remedial Action Plan

		treatment.		
% of stroke survivors referred to social care that receive an assessment within 72 hours of receipt of the referral	To be agreed with local commissioner	Joint register with Social Care	Quarterly	General Condition 09
Evidence of completion of an Equality Impact Assessment	N/A	Impact Assessment report including evidence of action plan implementation plans	Annual	To Be Confirmed Locally
Workforce				
Provide an annual stroke workforce plan to include training	Baseline required	Annual Demonstrate that workforce meets the specification. Staff have access to training (breakdown of training achievements)	Annual Report	Remedial Action Plan
All stroke clinical staff to have the opportunity to access regular clinical supervision sessions	Baseline required	Audit Breakdown of access to clinical supervisor sessions	Annual Report	Remedial Action Plan
Meet stroke workforce requirements set out in Best Practice Service Specification	Calculate expected number of referrals into service against workforce requirements	Audit to show workforce complement	Quarterly	General Condition 09
Stroke specific staff turnover rates	Baseline required	Audit of turnover record	Annual Report	Remedial Action Plan

Stroke specific staff sickness levels	Baseline required	Audit of turnover record	Annual Report	Remedial Action Plan
Stroke agency and bank spend	N/A	Audit of agency and bank spend	Annual Report	Remedial Action Plan
Stroke Survivor Outcomes				
% of appropriate stroke survivors having a subjective and objective outcome measure recorded at admission and discharge.	100%	% of appropriate stroke survivors having a subjective and objective outcome measure recorded at admission and discharge/total number of stroke survivors assessed % of appropriate stroke survivors having a subjective and objective outcome measure recorded at discharge/total number of stroke survivor discharged	Monthly	General Condition 09
Number of stroke survivors previously in work receiving vocational rehabilitation		Number of stroke survivors previously in work receiving vocational rehabilitation/total number of stroke survivors working prior to having a stroke	6 monthly	Remedial Action Plan
Within service user satisfaction	80% for each area	Achievement of satisfaction	6 monthly	To Be Confirmed Locally

questionnaire the following areas must covered: • Do stroke survivors/families /carers, who on discharge, feel supported by the service • Are stroke survivors/families /carers aware of appropriate services in the community • Do stroke survivors/families /carers understand what a stroke is, the risk factors and how to reduce the risk of further stroke/TIA through healthy lifestyle choices		for each area/total number of respondents to the questionnaire		
Stroke survivor/carer reported satisfaction evaluation to be completed	80%	TBC	Quarterly	Remedial Action Plan

A minimum data set on stroke survivor demographics needs to be captured and evaluation needs to take into consideration access in line with EQIA. Data should include:

- date of birth
- postcode
- gender
- local stroke survivor identifier
- organisation code
- NHS Number
- NHS Number Status Indicator Code
- ethnic category
- language
- GP practice
- commissioner
- referral date (sourced from referral letter)
- referral request received date
- service type referred to (e.g. Occupational Therapist, Speech and Language Therapy etc.)
- source of referral
- first contact date
- other contact dates
- clinical contact type

- attended or did not attend
- outcome of contact
- length of stay in service

All providers of an Early Supported Discharge service should ensure they can demonstrate the following policies are in place as a minimum, and that these policies are adhered to:

- Whistleblowing policy
- Consultant to consultant referral policy
- Equality and Diversity Policy
- Clinical Record Keeping
- Complaints Policy
- Consent to Examination or Treatment
- Major Incident Plan
- Risk Management Strategy
- Medicines Management Policy
- Safeguarding Adults Policy
- Information Sharing
- Environmental Waste Policy
- Formulary Process
- Emergency Preparedness Plan
- Business Continuity Plan
- Lone working Policy
- Service user transfer policy
- Service user discharge from care policy
- Mental Capacity Act Policy
- Deprivation of Liberties Policy if separate from (Safeguarding Adults Policy)

References

- National Service Framework for Older People (2005) especially Standard 5:Stroke
- National Stroke Strategy Quality Markers (2007)
- The Stroke Strategy for London (2008)
- Royal College of Physicians National Clinical Guidelines for Stroke (2012)
- NICE Stroke Quality Standards (2010)
- Stroke Rehabilitation Guide: Supporting London Commissioners to Commission Quality Services in 2010/11
- Midlands and East Service Specification (2012)
- NICE Stroke Rehabilitation – Long Term Rehabilitation after Stroke (2013)

Appendix 1 – Definition of Roles and Responsibilities for ESD

Consultant

The consultant will;

- identify stroke survivors suitable for ESD and support the smooth and timely transition from an acute setting into the ESD team
- provide specialist community intervention for stroke survivors with complex needs within the ESD team
- work with the ESD team to ensure compliance of national and local stroke and CQC standards.

Therapy Lead for Stroke

The lead therapist for stroke within ESD will:

- ensure the stroke pathway and ESD service is delivered irrespective of setting
- ensure staff working across the stroke pathway and ESD service are skilled and competent to provide specialist stroke care
- ensure collaborative working between the acute, ESD and mainstream rehabilitation services all providing stroke care across the pathway
- work with the ESD team leader and clinicians on CQC compliance
- work with the ESD team leader and clinicians on audit and monitoring of performance indicators
- ensure ESD team lead and clinicians are engaged in stroke survivor engagement to improve the service.

Clinical Team Leader

The team leader will ensure the ESD team:

- works with the therapy lead for stroke to ensure seamless high quality care across the whole pathway
- delivers the objectives and operational protocol above
- is compliant with CQC
- is compliant with national and local stroke standards
- manages the stroke pathway within ESD from acute to community settings
- maintains specialist knowledge and skills to manage stroke ESD across the pathway
- provides care within a self-care and self-management model enabling stroke survivors to be self-managing in the long term
- trains and supports reablement workers in the provision of stroke focussed care packages
- manages demand and is efficient
- provides outcome data

- supports and trains stroke survivors and their carers within stroke
- is able to implement business continuity plans when required
- collates stroke survivor experience data and implements service changes in response to data collated.

Therapy & Nursing Staff

The clinical staff within the team will:

- deliver the service against the specification and objectives
- ensure compliance with CQC and national and local stroke standards
- provide high quality stroke intervention for people referred to the service
- will work across locations to ensure a seamless service for stroke survivors
- will train reablement workers to provide high quality stroke interventions
- will ensure intervention is stroke survivor focussed, based within function and supports the philosophy of self-management
- manage demand and ensure pathways are efficient
- ensure outcomes are collated on all episodes of care
- be a resource of stroke expertise for other services working with stroke survivors
- collate and act upon stroke survivor experience feedback

They will be able to demonstrate skills and competence within stroke care to deliver:

- **assessment:** the comprehensive and holistic assessment of stroke survivors, including those with a complex presentation, using investigative and analytical skills to identify and understand problems
- **diagnosis and goal planning:** to formulate individualised management and treatment plans, using clinical reasoning, and utilising a wide range of treatment skills and options to formulate a specialised programme of care that is negotiated and agreed with each stroke survivor
- **intervention:** provide targeted interventions and individual treatment programmes delivered by the most appropriate and competent staff (including delegated tasks to reablement workers) that encourage active participation to maximise people's capacity for independent living
- **evaluation** check effectiveness of interventions with continuous review re (reassessment) of goals alongside the MDT
- **care management:** assess, plan and support others across the wider team and other agencies to provide a 're-abling' improvement focussed emphasis which will enable individuals to regain function and independence
- **education:** support the development of coping strategies and self-care and self-management plans with stroke survivors and carers and make onward referrals that will help to sustain health and wellbeing after discharge.

Reablement Workers

Reablement workers and identified stroke champions will act as key workers for the reablement care package and ensure staff delivering the care access training and support from the stroke specialists.

Staff within social care will adhere to social care standards and contribute to the team's data collection and compliance with local and national stroke standards.

Psychology

The psychologist will provide a consultative model in which

- stroke survivors with the least complex needs will be supported by mainstream lifestyle and counselling services
- those with moderate needs will be managed by all the staff working within the ESD service who have been trained and are supported by the psychologist
- those with complex needs will be assessed and treated by the psychologist.

The psychologist will work as an integral part of the ESD service and

- provide specialist psychology tailored to stroke survivors emotional and cognitive needs
- access specialist professional supervision from a neuropsychologist
- deliver the service against the specification and objectives
- ensure compliance with CQC and national and local stroke standards
- train and support the staff within the ESD service to recognise and provide front line treatment for the range of emotional and cognitive difficulties experienced by stroke survivors
- ensure intervention is stroke survivor focussed, based within function and supports the philosophy of self-management
- Manage demand and ensure pathways are efficient
- Ensure outcomes are collated on all episodes of care
- Be a resource of stroke expertise for other services working with stroke survivors
- Collate and act upon stroke survivor experience feedback

Family Support Workers (to determine who provides this service)

Family Support Service will assist in four key areas of intervention:

- prevention – reducing risk factors, preventing strokes in high risk people and assisting in maintaining stroke registers
- intermediate care – being part of specialist stroke team and the Multi- Disciplinary Assessment team
- early and continuing rehabilitation – assisting stroke survivors and carer's in planning of care and transfer of care/discharge
- long term support – working in conjunction with the ESD team, stroke co-ordinators and long term providers of care
- to respond to a new referral within 7-10 days

- to provide accessible literature to all families
- to assist reintegration into the community through facilitating access to the full range of available Health, Social and Voluntary Services
- to provide a rolling programme around stroke issues and information.

4. Appendix

Community stroke rehabilitation service specification

Schedule 2 – the services

Stroke Community Rehabilitation – Service Specification

Contributors

Name	Role/Title	Organisation
Liz Green	Senior Programme Manager – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Nighat Hussain	Programme Director – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Charlie Mason	Programme Co-ordinator – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Ruth Williams	Icares Manager	Sandwell and West Birmingham Hospital Trust
Carron Sintler	Consultant Physiotherapist for Stroke Services	Birmingham Community Healthcare Trust
Mohammed Khalil	Senior Commissioning Manager	Sandwell and West Birmingham CCG
Geraldine Child	Patient Representative	Walsall CCG
Bernice Jones	Deputy Head of Operations	Stroke Association
Anne Adams	Secretary/Trustee	Dudley Stroke Association
Alan Hackett	Patient Representative	Dudley Stroke Association
Hugh Tibbits	Regional Director of Operations	Stroke Association
Dana Tooby	Patient Representative	
David Tuplin	Carer Representative	Dudley Stroke Association
Joanne Graham		
Liz Brown	Clinical Team Leader, Community Stroke Services	Walsall Healthcare NHS Trust
Michelle Hyde		
Robert Freeman	Consultant	Walsall Healthcare NHS Trust
Sonia Jenkinson	Stroke Lead Nurse	Walsall Healthcare NHS Trust
Claire		

Finnimore		
Dawn Hicklin	Therapy Lead – Stroke	Sandwell and West Birmingham Hospitals Trust
Paulette Myers		Walsall CCG
Joanne Gutteridge		Dudley CCG
Frances Pons	Dudley Rehabilitation Service Team Manager	Dudley Group of Hospitals

Schedule 2 – the services

A. Service Specifications

Service	Stroke Specialist Community Rehabilitation
Commissioner Lead	CCG Commissioning Lead
Provider Lead	Provider Lead
Period	2015 – 2016
Date of Review	6 months/9 months

1. Population Needs

1.1 National/local context

In 2009, Stroke killed more than 40,000 people in England and over 12,000 in the Midlands and East Region. Stroke is the third biggest killer in England and the main cause of adult disability. Around two thirds of people will survive their stroke, but half of stroke survivors are left with long term disability and are dependent on others for everyday activities.

Within England:

- approximately 110,000 people experience a stroke every year
- 20-30% people die within a month of experiencing a stroke
- 25% of strokes occur to people under the age of 65
- there are approximately 900,000 people living with the effects of stroke
- 300,000 people live with moderate to severe disability as a result of experiencing a stroke.
(National Stroke Strategy, 2007)

Rehabilitation services should be commissioned to reduce impairment, promote recovery increase or maintain independence and increase ability to participate and improve quality of life using adaptive rehabilitation strategies.

Rehabilitation services should be coordinated and developed as part of the whole Stroke pathway. A Stroke survivor's rehabilitation will continue after the initial time spent in acute in-hospital rehabilitation, out into the community. With this in mind, a comprehensive and effective rehabilitation service should be developed to meet the needs of Stroke survivors following standard discharge from a stroke unit, or following discharge from Early Supported Discharge. Community Stroke Rehabilitation Services should include the transfer of care from hospital to home, and time at home provided through collaboration with health and social services, the independent and third sectors. Rehabilitation services commissioned should meet specific health, social and vocational needs of people of all ages. The services should also liaise effectively with inpatient services as recommended in the National Clinical Guideline for Stroke (RCP 2012).

This service specification is based upon a comprehensive and current evidence base and agreed best practice, including but not exhaustive to:

- National Stroke Strategy (2007) Department of Health
- National Clinical Guidelines for Stroke (2012) Royal College of Physicians
- Quality Standards Programme: Stroke (2010) National Institute for Clinical Excellence
- Stroke Service Standards (2010) British Association of Stroke Physicians
- A Public Health Outcomes Framework for England 2013-16 (2012) Department of Health

- Supporting Life after Stroke (2011) Care Quality Commission
- Stroke Rehabilitation Guide: Supporting London Commissioners to Commission Quality Services in 2010/11
- Midlands and East Service Specification
- NICE Stroke Rehabilitation – Long term rehabilitation after stroke (2013)
- any relevant new standards as and when they are published.

2. Outcomes

2.1 NHS Outcomes Framework 2014/15:

1 – Preventing people dying prematurely
Reducing premature mortality from the major causes of death
1.1 under 75 mortality rate from cardiovascular disease
2 – Enhancing quality of life for people with long term conditions
Ensuring people feel supported to manage their condition
2.1 proportion of people supported to manage their conditions
3 – Helping people to recover from episodes of ill health following injury
Improving recovery from stroke
3.4 Proportion of stroke patients reporting an improvement in activity /lifestyle on the modified Rankin Scale at 6 months

Public Health Outcomes Framework 2013-2016:

4. Healthcare public health and preventing premature mortality
4.4 Under 75 mortality rate from all cardiovascular disease (including heart disease and stroke)

2.2 Local defined outcomes

Although quality and key performance indicators are described in more detail later in this document, stroke survivors receiving care from a Community Rehabilitation service in Birmingham, Solihull and the Black Country should receive a high standard of care across the whole conurbation. Broadly, the expected outcomes are:

- improved outcomes for stroke survivors, reducing the levels of post stroke death and disability
- the services should be based upon national and international best practice and evidence
- improved health and wellbeing outcomes as measured against specific criteria (e.g. quality of life measures*)
- improved patient and carer experience
- timely discharge from acute services and seamless transfer from hospital to home
- reduction in unnecessary hospital admissions
- reduction in hospital length of stay
- quality improvements and subsequent achievement of national and local performance outcome measures
- reduced incidence and/or problems from secondary risk factors (e.g. pressure sores, chest infections, contractures)
- the service should offer equity of access and care to all stroke survivors being treated in Birmingham, Solihull and the Black Country.

3. Scope

3.1 Aims and objectives of service

Stroke survivors' rehabilitation will continue after the initial time spent in acute in hospital rehabilitation, out into the community. These services enable stroke survivors to develop a greater quality of life and independence following stroke. Community rehabilitation services may be accessed by stroke survivors following standard discharge from a stroke unit or following ESD as indicated clinically. Community stroke rehabilitation services includes the transfer of care from hospital to home and time at home provided through collaboration with health and social services, the independent and third sectors (Midlands and East Specification 2012.)

A specialist Stroke Community Rehabilitation Service will address the following issues for stroke survivors:

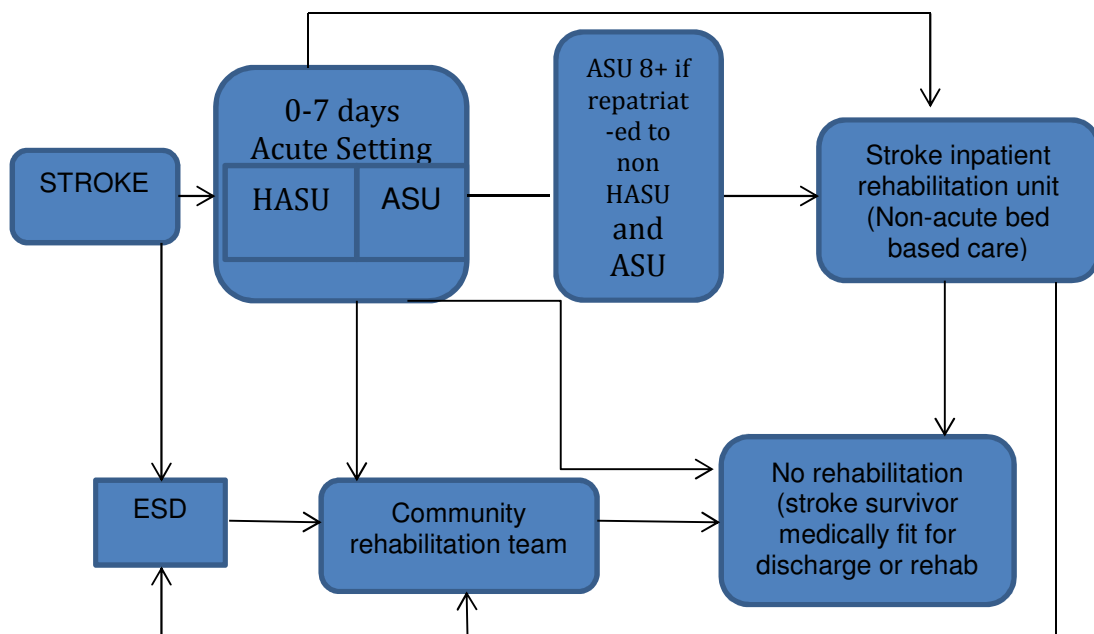
- mobility and movement
- communication
- activities of daily living (ADL)
- emotional and psychological issues
- swallowing
- nutrition
- cognitive difficulties
- vision and visual perceptual difficulties
- continence
- relationships and sex
- pain
- work/social reintegration
- return to former leisure activities

The objectives of the Stroke Community Rehabilitation Service will be to:

- provide stroke specialist, co-ordinated community rehabilitation with multiple components dedicated for all stroke survivors in the Birmingham, Solihull and Black Country, as part of a whole stroke pathway approach
- implement recognised Best Practice standards in relation to Stroke Community Rehabilitation services
- ensure Royal College of Physicians and NICE guidance standards are met for Community Rehabilitation
- provide evidenced based interventions for as long as the stroke survivor can benefit;
- offer a service that delivers specialist stroke rehabilitation at home, in a care home or residential nursing home, in liaison with inpatient services in line with national guidance
- offer working age people access to community rehabilitation service that meets their health and social needs, with access to vocation rehabilitation services
- provide access to a community stroke support worker/community stroke co-ordinator who can offer stroke survivors and carers support, advocacy and signposting
- follow an agreed care pathway for all referrals that optimises both stroke survivor outcomes and use of scarce resources
- provide access to stroke skilled care and support for stroke survivors residing in care homes. This should also include reviews and reassessment both long term and/or clinical as required. Care staff should be trained to deliver stroke competent care
- facilitate a seamless service between acute and community stroke rehabilitation teams
- ensure that all stroke survivors have access to community stroke rehabilitation that delivers improved clinical outcomes and reduced mortality and long term disability

- ensure that co-morbidities, which may have predated the stroke but will exacerbate the problems associated with the stroke (e.g. depression, hearing impairment and incontinence) are managed optimally
- ensure the needs of all stroke survivors including complex stroke are met at all times by offering specialist stroke support
- recognise and put in place provision for vulnerable adults such as homeless or illegal immigrants
- ensure equality of access is demonstrated at all times to all stroke survivors regardless of whether or not they have carer support
- enable stroke survivors to achieve mutually agreed, realistic rehabilitative goals to maximise their recovery
- include stroke survivors and their families in decision-making to improve their experience of rehabilitation
- ensure that all stroke survivors have an excellent stroke survivor experience
- ensure stroke survivor and carer satisfaction feedback and clinical outcome data is captured and reviewed as part of a cycle of performance management to ensure continuous quality improvement. To capture and act upon the views of stroke survivors and carers throughout the rehabilitation period in a meaningful way
- develop strong relationships with referrers and supporting services, including acute multi-disciplinary meetings, social care, dietetics and voluntary sector organisations
- the service should offer equity of access and care to all stroke survivors registered with a GP in the 7 CCGs in Birmingham, Solihull and the Black Country ensuring stroke survivors with protected characteristics are catered for
- work with commissioners to further develop high quality local services
- ensure joint stroke registers are in place in the community that are linked to the local acute providers in order to track stroke survivors across the entire pathway of stroke care, to facilitate access to long term review and other key resources
- participate in local and national audit programmes
- where applicable data should be entered into the SSNAP data base at all times.

3.2 Service description/care pathway



A range of services will be in place and easily accessible to support the individual long term needs of stroke survivors, their carers and families. Stroke survivor self-management will be encouraged where appropriate. Comprehensive social care will also be provided to all stroke survivors and their carers if appropriate to their needs.

Each stroke survivor should be assessed individually and individual rehabilitation goals set and reviewed as appropriate. Therapy should be tailored to the individual's rehabilitation goals. Population based studies of stroke recovery have shown that the time taken to achieve best functional performance for mild, moderate and severe strokes averages 8, 13 and 17 weeks respectively. These timescales are for guidance only and the length of time a stroke survivor spends in a service should be clinically indicated. Stroke survivors need the opportunity to access community rehabilitation and/or long term support for the remainder of their lives as their situational health may change.

Community Stroke Rehabilitation should provide:

- single point of contact provided when stroke survivors leave hospital
- an accessible service that is equitable, effective, efficient, responsive and affordable for the local stroke survivors.
- all stroke survivors discharged from hospital who have residual stroke related problems are followed up within 72 hours by specialist rehabilitation services competent to manage stroke for assessment and on-going management. Stroke survivors should be in receipt of a first community rehabilitation appointment at the point of discharge from hospital
- pathways should be in place to ensure stroke survivors referred to a social worker have access to a social care assessment within 72 hours of receipt of the referral
- all stroke survivors will have a personalised care plan which has rehabilitation goals incorporated into it. This will allow the stroke survivor to take ownership of their rehabilitation. The plan should be regularly reviewed (every 2-4 weeks) with the stroke survivor throughout the treatment period
- stroke survivors will have access to active therapy at a level appropriate to their rehabilitation needs and goals for as long as they are continuing to benefit from it and are able to tolerate it (target is 45 minutes per discipline, 5 days a week)
- there will be a clear communications pathway to ensure that the stroke survivor's GP and other relevant community services are informed of the stroke survivor's rehabilitation progress and needs
- age appropriate provision should be made for the social care requirements of the stroke survivor prior to discharge, e.g. (domestic tasks (such as shopping and laundry)
- adult social services and community stroke rehabilitation staff will provide advice on aids and adaptations to daily living as appropriate
- a review of the stroke survivor's home environment will be undertaken, usually at the stroke survivor's home by a competent professional
- screening of psychological state should be undertaken at each stage of the pathway and stroke survivors will be referred as necessary to psychology/mental health services
- a carer's assessment should also be undertaken for each carer. Links to carer support groups and family support organisations should be made and followed up
- specialist stroke rehabilitation, support and any appropriate management plans developed will address the following issues either directly or by seamless onward referral where required
- data should be entered in to the SSNAP database at all times.

Exercise classes

Signposting to community leisure and exercise classes should be available, and promoted to stroke survivors who should be supported to attend.

Vocational Rehabilitation

Community Rehabilitation teams should also assist appropriate stroke survivors to access vocational rehabilitation. Vocational rehabilitation is the focus of Quality Marker 16 in the National Stroke Strategy. Therefore, the Community Rehabilitation team will be required to ensure support is offered to individuals and their carers to enable them to return to work or to other opportunities such as volunteering whilst adhering to the Royal College of Physicians' stroke guidelines, which state that every survivor should be asked about the vocational activities they undertook before their stroke occurred. Survivors who wish to return to employment (paid or unpaid) should:

- have their work requirements established with their employer
- be assessed cognitively, linguistically and practically
- be advised on the most suitable time and method of returning to work
- receive a referral to a specialist in employment for people with disability if extra assistance or advice is required.

In supporting vocational rehabilitation, Community Rehabilitation Teams should work closely with social care partners to ensure seamless support for stroke survivors. Teams should establish links with Job Centres and Pathway to work teams as well as third sector organisations, to ensure vocational rehabilitation is accessible for all those it is appropriate.

Education and Training

- specific education and training should be developed and provided in accordance with the Stroke Specific Education Framework
- staff should be aware of the Mental Capacity Act and its implications
- carers should receive training in care, including physical and mental health aspects. E.g. moving and handling and dressing, communication, coping with cognitive difficulties etc. Carers should also receive written information on the management plan for the stroke survivor and details of the point of contact to obtain further stroke information
- staff working with the community rehabilitation service should ensure all care staff either at home or in care homes are competent to work with the stroke survivor.

Staff should be trained to the standards set out in the Stroke Competency Toolkit, NHS Midlands and East Workforce Education and Training Subgroup (2012) Appendix 1.

Workforce

- there should be an established stroke competent multidisciplinary community rehabilitation team which should comprise as a minimum:
- physiotherapist
- occupational therapist
- speech and language therapist
- nursing
- rehabilitation assistants
- clinical psychology
- dieticians
- stroke co-ordinator

- the team should have access to support from:
- GP
- consultant
- orthoptics
- orthotics
- vocational rehabilitation
- community stroke co-ordinators.

It should be noted that initial assessment of a stroke survivor should be undertaken by a qualified professional; however some of the care may be delivered by rehabilitation assistants under the supervision of a qualified therapist or nurse.

Equipment and aids

- all equipment and aids should be available at discharge (e.g. wheelchairs, continence equipment, etc.) This will require partnership working with social services for assessment of home adaptations and equipment needs. Stroke survivors and their carers should be provided with appropriate training to operate this equipment to ensure a safe environment.

3.3 Population covered

The service will be provided for all stroke survivors who are registered with a General Practitioner within the Clinical Commissioning Group Boundary. Services to out of area registered stroke survivors, will be reviewed pending reciprocal arrangements with commissioners from neighbouring CCGs.

The service is for stroke survivors aged over 16 who have had a stroke (and/or other neurological condition if commissioning a community neuro service inclusive of stroke). Referrals are accepted from any source: the stroke survivors themselves, their relatives, GPs, district nurses, social workers or any other health or social care professional.

The service must not discriminate on the grounds of race, disability, gender, sexual orientation, religion, belief or age (N.B. Stroke services are only for those aged over 16yrs of age).

Services should provide equal access for all and be responsive to diverse needs, free from stereotyping and discriminatory practice.

Stroke rehabilitation should be available 7 days per week within sub-acute stroke unit settings and as a minimum of 6 days a week in early/timely supported discharge team and 5 days a week in community stroke rehabilitation teams.

3.4 Any acceptance and exclusion criteria and thresholds

Inclusion Criteria

- adults aged 16 and above
- stroke survivors registered with a CCG GP.

Exclusion Criteria

- stroke survivors under the age of 16
- all stroke survivors who have had a stroke should be managed in line with the pathways and models outlined. However, stroke survivors with a dominant co-morbidity may be treated on that conditions pathway if deemed clinically appropriate

- stroke survivors with other severe illnesses/co-morbidities that make rehabilitation potential extremely limited. These survivors should be signposted to other services
- stroke survivors unwilling to participate in rehabilitation or where realistic achievable goals are not identified, the reason should be clearly documented in the patient's notes and on the data base. These stroke survivors should be able access rehabilitation at any time in the future if their situation and/or motivation changes
- stroke survivors who do not have a primary diagnosis of stroke i.e. Stroke mimics
- stroke survivors not registered with GP in agreed geographical boundary (to be determined locally)
- stroke survivors who are medically unstable.

There should be an opportunity for stroke survivors who do not meet the criteria to be reassessed and admitted to the service.

The service offered will be respectful and will not discriminate on grounds of age, sexuality, ethnicity or religion. Services will be sensitive to the needs of clients whose first language is not English, and those with sensory impairment, communication and/or other disabilities.

Actual length of stay will be dependent upon individual goals and in discussion with the multi-disciplinary team.

3.5 Interdependence with other services/providers

The Community Rehabilitation service will work closely with and establish key links within the stroke survivor pathway with the following:

- speech and language therapy
- occupational therapy
- physiotherapy
- specialist medical input
- nursing
- social work/care
- housing
- dietetics
- psychology
- rehabilitation assistants and enabling carers
- GPs
- community stroke co-ordinators.

3.6 Referral Processes

- referrals can be made by any member of the multi-disciplinary team with an insight into the care and therapy needs of the patient
- stroke survivors will be identified through proactive case finding with the acute team within the stroke unit
- stroke units from neighbouring acute hospitals will contact the stroke community speciality team
- for stroke survivors not resident on the stroke unit, referrals can be made by telephone, fax, mail or email from a secure NHS. Net account or other local method of referral (detail of contact details).

3.7 Discharge Process

Stroke survivors will be discharged from the service, (and will follow the main stroke pathway, currently in place) when any of the following criteria are met:

- stroke survivor declines further input from the service
- goals agreed between the early supported discharge multidisciplinary team and the stroke survivor have been achieved
- on MDT and stroke survivor review of progress there is agreement that the identified goals are unlikely to be achieved through early supported discharge team input, and referral to other services may be more in line with individual needs
- the stroke survivor has a change in health status that makes early supported discharge input inappropriate and where the return to previous health status within a reasonable time cannot be predicted
- stroke survivor moves house/no longer resides in the catchment area.

Where stroke survivors meet the discharge criteria the service will:

- provide a patient management plan as appropriate and onward referral to appropriate other services will be agreed and completed. A copy of the management plan should be offered/given to the patient/carer as routine practice
- ensure the stroke survivor has been referred or signposted to appropriate sources of on-going support, information or treatment prior to discharge.
- inform the stroke survivor's GP and other professional carer of the discharge
- ensure stroke survivors notes are updated with a summary of the early supported discharge team input, goals achieved, outstanding needs and other services referred or signposted
- gain stroke survivor's agreement to make relevant information available to other services where this would benefit the patient
- provide contact details so that the stroke survivor and his/her carers can contact the service directly for further advice or information at any time after discharge
- stroke survivors should have open access back to community services via the single point of access, and the stroke survivor will be signposted to the most appropriate service to meet their needs.

3.8 Response Times and Prioritisation

- The initial visit after discharge will occur within 24 hours after discharge, ideally on the day of discharge
- Stroke survivors will be given a schedule of appointments for a minimum of the first three days after discharge
- The hours of operation shall be targeted to the hours most appropriate for the local population need. The hours of operation have been defined as: (to be locally determined)
- Specialised Stroke therapy provided 7 days per week, hour's negotiable dependent on stroke survivor need
- This will support delivery of the recommended 45 minutes per therapist, per day x 5, as tolerated and deemed appropriate by the specialised stroke team (NICE 2010)
- The key worker will provide a flexible approach i.e. evening contact with relatives for those working during normal office hours.

3.9 Self-care and patient and carer information

Stroke specialist team will:

- promote independence and the construction of care plans based around the personal goals of the individual within their own, chosen environment
- act as an expert resource for stroke survivors, carers and professionals; providing information to enable stroke survivor independence through access to health, social care, voluntary and other agencies
- ensure the production of effective localised and general information, which explains stroke specific and general statutory and non-statutory service provision to enable and support effective choices in selecting the most appropriate referrals after CRST services
 - secondary prevention – advice on healthier lifestyle
 - contact numbers for financial/benefit advice
 - local support services for:
 - equipment
 - counselling services
 - voluntary and charity organisations
 - local support groups.
- provide links to the expert patient programme as part of stroke survivor education
- ensure that the right information is given at the right time to stroke survivors and carers
- ensure any written information is constructed using plain English principles, and is developed to recognise the unique needs of stroke survivors, particularly their cognitive and communication abilities/disabilities
- as a minimum, the stroke survivor and their GP should receive a discharge summary of the episode of care from the CRST service.

3.10 End point of Community Rehabilitation

The end point of specialist stroke rehabilitation should be determined by joint agreement between the stroke survivor, carer and MDT agreement that goals incorporated into the care plan have been achieved.

Where there is disagreement regarding the achievement of goals, the stroke survivor may request a second opinion to identify future rehabilitation needs and provision.

Stroke survivors should have open access back to community services via the single point of access, and the stroke survivor will be signposted to the most appropriate service to meet their needs.

4. Applicable Service Standards

4.1 Applicable national standards (e.g. NICE)

The Stroke Community Rehabilitation Service will be provided in line with the best practice National Standards and Guidelines.

At all times the organisation shall provide the Service detailed in this specification and incorporate the following general principles:

- compliance with current national and local guidance
- compliance with Standards for Better Health
- responding to notices as stipulated by the Medicines and Healthcare Products Regulatory Agency
- redesigning stroke survivor pathways to meet the needs of service users
- implementation of professional standards
- implementation of appropriate National Service Frameworks (NSF) and National Institute for Healthcare and Clinical Excellence (NICE) guidelines

- audit against local and national standards
- monitoring activity and staff performance
- monitoring quality outcomes for interventions with stroke survivors and implementing evidence based changes to improve stroke survivor's outcomes.
- monitoring complaints and adverse incidents according to CCG Complaints policy
- competence to practise in the clinical area
- compliance with CQC working
- people are individuals and have the right to dignity, privacy and independence. All those involved in providing the Service should acknowledge and respect Service Users gender, sexual orientation, race, religion, culture, lifestyle and values
- the service will accept referrals for all stroke survivors 16 years and over (except in exceptional circumstances)
- service users should be encouraged and enabled to exercise control over the Service they receive
- services should be supportive of service users and their carers
- ensure that Services are able to respond sensitively and flexibly to the Service User's changing needs
- this service can be accessed by people currently within the acute sector who have been newly diagnosed as having had a stroke: to include within cerebrovascular disease, both Haemorrhagic Stroke and Ischaemic Stroke
- all stroke survivors referred to the service will be assessed for suitability against the criteria in section X via an integrated discussion with the acute stroke team and the Community Rehabilitation team
- an Equality Impact Assessment will be completed to ensure adherence with equality legislation and commissioners will work with providers to ensure complete compliance.
- there should be co-ordinated stroke skilled Community Rehabilitation teams working in partnership with local authorities and other health and third sector providers
- the Community Rehabilitation team should meet weekly as a minimum to plan and manage stroke survivor care.

5. Applicable quality requirements and CQUIN goals

5.1 Applicable quality requirements

Performance Indicator	Initial Threshold	Method of Measurement Numerator/Denominator to be confirmed	Reporting timescales	Consequence of Breach
Activity				
Expected number of referrals	To be agreed with commissioner	Number of actual referrals/Number of expected referrals	Quarterly	Remedial Action Plan
Average and median length of stay	To be agreed with commissioner		Quarterly	Remedial Action Plan
Number of stroke survivors previously discharged who have been re-referred	To be agreed with the commissioner		Quarterly	Remedial Action Plan
Number of face to face and telephone	Baseline required	Number of face to face contacts	Quarterly	General Condition 09

contacts with stroke survivor or proxy in the period		Number of phone contacts Data collection by Community Rehabilitation team. This will identify the non-stroke survivor contact time utilization and resource utilization.			
Quality					
% of stroke survivors contacted by a member of community rehabilitation team within 24 hours and assessed within 3 days/72 hours (exception to this if patients have already been assessed by ESD)	95% for both measures	a) % of stroke survivors contacted by a member of the community rehabilitation team within 24 hours/Total number of stroke survivors referred b) % of stroke survivors assessed within 3 days/72 hours/Total number of stroke survivors referred	Monthly	General Condition 09	
% of appropriate stroke survivors whose treatment programme started within 72 hours	80%	% of appropriate patients whose treatment programme started within 24 hours/Total number of stroke survivors referred	Monthly	General Condition 09	
% of appropriate patients having a subjective and objective outcome measure recorded at admission and discharge.	100%	% of appropriate stroke survivors having a subjective and objective outcome measure recorded at admission and discharge/Total number of stroke survivors assessed % of appropriate stroke survivors having a subjective and objective outcome measure recorded at discharge/Total number of stroke survivors discharged	Monthly	General Condition 09	
Number of stroke survivors previously in work receiving vocational rehabilitation.		Number of stroke survivors previously in work receiving vocational rehabilitation/Total number of stroke survivors working prior to having a stroke	6 monthly	Remedial Action Plan	
% of stroke survivors	95%	% of stroke survivors	6 monthly	General	

receiving cognitive/perceptual screening within one week of assessment and full assessment within 2 weeks if required		receiving cognitive/perceptual screening within 1 week of assessment and full assessment within 2 weeks if required/Total number of stroke survivors on caseload		Condition 09	
% of stroke survivors with jointly agreed goals of which they receive an accessible copy, within one week of assessment by the community rehabilitation service	95%	% of stroke survivors with jointly agreed goals of which they receive an accessible copy, within one week of assessment to the community rehabilitation service/Total number of stroke survivors on caseload	20% Quarterly Audit	General Condition 09	
% of stroke survivors with named support worker within one week of assessment by community therapy service	90%	% of patients with named support worker within one week of assessment to community therapy service/Total number of stroke survivors on caseload	Monthly	General Condition 09	
% of stroke survivors referred to social care that receive an assessment within 72 hours of receipt of the referral	To be agreed with local commissioner	Joint register with social care	Quarterly	General Condition 09	
Evidence of completion of an Equality Impact Assessment	N/A	Impact Assessment report including evidence of action plan implementation plans	Annual	To Be Confirmed Locally	
Stroke Survivor Outcomes					
Within service user satisfaction questionnaire the following areas must covered: - Do stroke survivors/families/carers, who on discharge, feel supported by the service - Are stroke	80% for each area	Achievement of satisfaction for each area/total number of respondents to the questionnaire	6 monthly	To Be Confirmed Locally	

survivors/families/ carers aware of appropriate services in the community Do stroke survivors/families/ carers understand what a stroke is, the risk factors and how to reduce the risk of further stroke/TIA through healthy lifestyle choices					
Stroke survivor/carer reported satisfaction evaluation to be completed	80%	TBC	6 monthly	Remedial Action Plan	
Workforce					
Provide an annual stroke workforce plan to include training	Baseline required	Annual Demonstrate that workforce meets the specification. Staff have access to training (breakdown of training achievements)	Annual Report	Remedial Action Plan	
All stroke clinical staff to have the opportunity to access regular clinical supervision sessions	Baseline required	Audit Breakdown of access to clinical supervisor sessions	Annual Report	Remedial Action Plan	
Stroke specific staff turnover rates	Baseline required	Audit of turnover record	Annual Report	Remedial Action Plan	
Stroke specific sickness levels	Baseline required	Audit of sickness record	Annual Report	Remedial Action Plan	
Stroke specific agency and bank spend	N/A	Audit of agency and bank record	Annual Report	Remedial Action Plan	
Number of contacts by WTE	Baseline required	TBC	Quarterly	Remedial Action Plan	
A minimum data set on stroke survivor demographics needs to be captured and evaluation needs to take into consideration access in line with the EQIA. Data should include: - date of birth - postcode - gender - local patient identifier - organisation code - NHS Number					

- NHS Number Status Indicator Code
- ethnic category
- language
- GP Practice
- commissioner
- referral date (sourced from referral letter)
- referral request received date
- service type referred to (e.g. Occupational Therapist, Speech and Language Therapy etc.)
- source of referral
- first contact date
- other contact dates
- clinical contact type
- attended or did not attend
- length of stay in service.

All providers of a Community Rehabilitation Service should ensure they can demonstrate the following policies are in place as a minimum, and that these policies are adhered to:

- Whistleblowing policy
- Consultant to consultant referral policy
- Equality and Diversity Policy
- Clinical Record Keeping
- Complaints Policy
- Consent to Examination or Treatment
- Major Incident Plan
- Risk Management Strategy
- Medicines Management Policy
- Safeguarding Adults Policy
- Information Sharing
- Environmental Waste Policy
- Formulary Process
- Emergency Preparedness Plan
- Business Continuity Plan
- Lone working Policy
- Service user transfer policy
- Service user discharge from care policy
- Mental Capacity Act Policy
- Deprivation of Liberty Policy if separate from (Safeguarding Adults Policy).

6. Location of Service Delivery

6.1 Services will be provided in a variety of locations including:

- patient's usual place of residence e.g. home, residential or nursing home
- healthcare clinic environment e.g. clinic room or gym
- other premises/locations to enable the delivery of the service e.g. workplaces, religious centres.

References

- National Service Framework for Older People (2005) especially Standard 5:Stroke
- National Stroke Strategy Quality Markers (2007)

- The Stroke Strategy for London (2008)
- Royal College of Physicians National Clinical Guidelines for Stroke (2012)
- NICE Stroke Quality Standards (2010)
- Stroke Rehabilitation Guide: Supporting London Commissioners to Commission Quality Services in 2010/11
- Midlands and East Service Specification (2012)
- NICE Stroke Rehabilitation – Long Term Rehabilitation after Stroke (2013)

5. Appendix

Long term care support and review service specification

Schedule 2 – the services

Stroke Long Term Support and Review – Service Specification

Contributors

Name	Role/Title	Organisation
Charlie Mason	Stroke Programme Coordinator	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Liz Green	Senior Programme Manager – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Nighat Hussain	Programme Director – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Bernice Jones	Deputy Head of Operations – West Midlands	Stroke Association
Hugh Tibbits	Regional Head of Operations	Stroke Association
Suzanne Thornton	Community Stroke Coordinator	Royal Wolverhampton NHS Foundation Trust
Jo Chesson	Community Stroke Coordinator	Royal Wolverhampton NHS Foundation Trust
Mohammed Khalil	Senior Commissioning Manager	Sandwell and West Birmingham CCG
Harvey Brown	Contract Manager	Birmingham Cross City CCG
Lesley Pattenson		Healthwatch Birmingham/ Northfield Stroke Club
Anne Adams	Secretary/Trustee	Dudley Stroke Association
Geraldine Child	Carer Representative	Healthwatch Walsall
Alan Hackett	Patient Representative	Dudley Stroke Association
David Tuplin	Carer Representative	
Liz Brown	Clinical Team Leader, Community Stroke Services	Walsall Healthcare

Schedule 2 – the services

A. Service Specifications

Service Specification No.	1.0
Service	Long Term Stroke Support and Review Service
Commissioner Lead	CCG Commissioner Lead
Provider Lead	Provider Lead
Period	2015-2016
Date of Review	6 months/9 months

1. Population Needs

1.1 National/local context

In 2009, Stroke killed more than 40,000 people in England and over 12,000 in the Midlands and East Region. Stroke is the third biggest killer in England and the main cause of adult disability. Around two thirds of people will survive their stroke, but half of stroke survivors are left with long term disability and are dependent on others for everyday activities.

Within England:

- approximately 110,000 people experience a stroke every year
- 20-30% people die within a month of experiencing a stroke
- 25% of strokes occur to people under the age of 65
- there are approximately 900,000 people living with the effects of stroke
- 300,000 people live with moderate to severe disability as a result of experiencing a stroke (National Stroke Strategy, 2007).

In England, strokes are a major health problem. The brain damage caused by strokes means that they are the largest cause of adult disability in the UK. During hospital stay stroke survivors have access to on-call help and care; however after discharge they have to adjust suddenly to the impact of stroke and changes to their life at home.

This service specification is based upon a comprehensive and current evidence base and agreed best practice, including but not exhaustive to :

Services should aim to meet the following standards and guidelines:

- National Service Framework for Older People (2005) especially Standard 5: Stroke
- National Stroke Strategy Quality Markers (2007)
- The Stroke Strategy for London (2008)
- Royal College of Physicians National Clinical Guidelines for Stroke (2012)
- NICE Stroke Quality Standards (2010)
- Stroke Rehabilitation Guide: Supporting London Commissioners to Commission Quality Services in 2010/11
- Midlands and East Service Specification
- NICE Stroke Rehabilitation – Long term rehabilitation after stroke (2013)
- any relevant new standards as and when they are published.

2. Outcomes

2.1

NHS Outcomes Framework Domains & Indicators

1 – Preventing people dying prematurely	X
Reducing premature mortality from the major causes of death	X
1.1 under 75 mortality rate from cardiovascular disease	
2 – Enhancing quality of life for people with long term conditions	X
Ensuring people feel supported to manage their condition	X
2.1 proportion of people supported to manage their conditions	
3 – Helping people to recover from episodes of ill health following injury	X
Improving recovery from stroke	X
3.4 Proportion of stroke patients reporting an improvement in activity /lifestyle on the modified Rankin Scale at 6 months	

Public Health Outcomes Framework 2013-2016

4. Healthcare public health and preventing premature mortality	X
4.4 Under 75 mortality rate from all cardiovascular disease (including heart disease and stroke)	X

2.2 Local defined outcomes

Although quality and key performance indicators are described in more detail later in this document, stroke survivors receiving long term support in Birmingham, Solihull and the Black Country should receive a generic high standard of care across the whole conurbation. Broadly, the expected outcomes are:

- improved long term quality of life for stroke survivors
- the services should be based upon national and international best practice and evidence
- the service should offer equity of access and care to all stroke survivors being treated in Birmingham, Solihull and the Black Country conurbation.

3. Scope

Stroke is the third biggest killer in England and the main cause of adult disability. Around two thirds of people will survive their stroke, but half of stroke survivors are left with long term disability and dependent on others for everyday activities.

Many stroke survivors will need further community based rehabilitation to assist them to regain function and independence and support to reduce their chance of having another stroke, such as medication review and lifestyle modification. Some will need long term palliative care, providing symptom control and pain relief. The Provider must work in conjunction with the End of Life Service and provide a seamless transition for the stroke survivor into the End of Life Service when appropriate. Many stroke survivors and carers also need broader support to help them manage life after stroke, such as the support and advice provided by local stroke and carer groups, or help to take part in community activities.

Stroke survivors and their carers should be enabled to live a full life in the community over the medium and long term (>3 months). Support is required from local services including health, social care and

housing to ensure appropriate, tailored support is provided to assist re-integration into the community and maximise the quality of life experienced by stroke survivors, their carer/s and families.

3.1 Aims and objectives of service

- to improve quality of life for stroke survivors
- to ensure that all stroke survivors have an excellent stroke survivor experience with the ability to cope and self-manage with increased independence
- to ensure good communication and smooth transitions at all points of the stroke pathway
- to provide a flexible service that is tailored to meet the needs of the stroke survivor, carer and family
- to reduce/avoid hospital re-admissions by being an integral part of the multi-disciplinary team and being actively included in the decision making process
- to improve support for carers
- to ensure equity of access to quality Stroke Long Term Care Support services across Birmingham, Solihull and the Black Country
- to undertake a review within 6 weeks, at 6 months and 12 months with onward referral as appropriate
- to provide information, advice, practical and emotional support to stroke survivors, their families/carers in their own home, residential or nursing homes. It is recognised that residential and nursing home staff may be able to provide support and advice to their stroke survivors however the provider must ensure that they are accessible to residential and nursing homes to offer additional stroke specific support if there is an identified stroke survivor need
- to organise support such as additional rehabilitation and signpost stroke survivors/carers to other support services appropriate to their individual needs
- to assess and refer for vocational support for stroke survivors who wish to return to work or undertake volunteering
- to encourage and support participation in community activities such as peer support groups
- to educate stroke survivors/carers/families on the risks of further stroke, warning signs and symptoms as well as encouraging stroke survivors to be proactive in having a healthy lifestyle
- to contact the GP/ Secondary Care as soon as the Provider is aware of any concerns for the health or wellbeing of the stroke survivor or carer in order to prevent a possible crisis
- to complete and implement a support care plan with the stroke survivor which is updated and amended as required based on any change to their needs.

3.2 Service description/outcomes

The Long Term Care Support service will provide information, advice, practical and emotional support to stroke survivors, their families and carers for up to 12 months post stroke dependent on individual need. All information will be available in various formats and in various languages.

The Provider may meet the stroke survivor in the stroke unit/ward for introductions and to explain what support is available. All stroke survivors that are discharged will be referred to the Long Term Care Support service with their consent and a service information pack will be given. The key essentials that must be included in the information pack are:

- key contact name and contact details including telephone number of service provider
- key information about stroke
- details of local statutory and voluntary sector services that are available to the stroke survivor and carer/family
- what is considered an emergency and who can help.

As detailed in the Midlands and East Stroke Services Specification all stroke survivors will receive a review and onward referral as appropriate within 6 weeks (from date of discharge), 6 months and 12

months. Information from each review will be inputted directly into SSNAP. Information from the reviews is to be shared with the team delivering care, the stroke survivor and their carer (with permission from the stroke survivor themselves) and their GP.

The Provider should use an algorithm tool such as the Greater Manchester Stroke Assessment Tool to support in undertaking the 6 week, 6 month and 12 month reviews.

http://clahrc-gm.nihr.ac.uk/stroke/GM-SAT_The_Greater_Manchester_Stroke_Assessment_Tool-1.pdf

Along with supporting stroke survivors and their families, the Provider must also support the carers ensuring that a carer's assessment has taken place when appropriate and that their health and wellbeing is reviewed along with the stroke survivor at the 6 week, 6 month and 12 month reviews. The Provider must promote psychological health among carers and provide reassurance of ongoing support with practical advice, emotional support and signposting to other support services.

Please see Appendix 1 for the areas that each review must cover for both the stroke survivor and their carer.

After the initial assessment a support plan will be created with the stroke survivor/family/carers with set goals, the Provider will support the stroke survivor in order for them to achieve these. The support plan will then be updated and amended as required based on any change to their needs at each contact.

The support needed will vary depending on the individual needs of the stroke survivor and so the service is to be flexible and the support given tailored to their needs. This may range from face to face contacts, telephone support and peer support/participation groups.

The provider shall ensure that stroke survivors, their families and carer(s) have a contact number for the service.

The Long Term Care Support service will run 5 days a week and will aim to respond to ad hoc contact from stroke survivors or their families as soon as possible but within a maximum of 72 hrs.

A person who has had a stroke can improve or deteriorate over a long period of time and stroke survivors should be able to request a review if their needs or circumstances change. This includes re-entry into the service after 12 months if there is an individual stroke survivor need.

Referrals will also be accepted from all areas of the stroke pathway, the acute, GPs, Community Nurses, Voluntary Agencies, Social Services and self-referral.

Along with providing advice and support the service must educate stroke survivors/their families and carers on the risk factors of stroke and encouraging them to reduce the risk of further stroke by making suitable changes to their lifestyle.

Please see Appendix 2 for the discharge process.

Training

- staff seeing stroke survivors know where to go to obtain information on other local services, charities in the area and how the stroke survivor may access financial, emotional, social and vocational support
- staff are aware of the Mental Capacity Act and its implications
- health and social care professionals should ensure that they are up to date with the current guidance from the DVLA
- care home staff should be familiar with stroke care strategies and options (including physical, psychological and social) and the needs and aspirations of those in their care

- staff have the details of the local IAPT service so that those that need it can access the service
- carers involved with the care management process from the outset, and encouraged to participate in an educational programme (on stroke, care and management, prevention)
- service should include staff with expertise and competence in assessing, treating and monitoring people with behavioural and cognitive disturbance

Staff should be trained to the standards set out in the Stroke Competency Toolkit, NHS Midlands and East Workforce Education and Training Subgroup (2012) Appendix 4.

Staff must be trained to undertake blood pressure and atrial fibrillation checks at each review and must be in line with NICE Guidance.

<http://www.nice.org.uk/guidance/CG127/chapter/1-Guidance##measuring-blood-pressure>

<http://www.nice.org.uk/guidance/CG180/chapter/1-Recommendations##diagnosis-and-assessment>

3.3 Any acceptance and exclusion criteria and thresholds

Inclusion Criteria

- stroke survivors aged 16+.

Exclusion Criteria

- stroke survivors under the age of 16.

3.4 Interdependence with other services/providers

- GPs
- practice nurses
- district nurses
- HASU services
- TIA services
- therapy services
- mental health
- dieticians
- residential and nursing homes
- social services
- early supported discharge and community rehabilitation providers
- voluntary services
- Department of Work and Pensions
- housing

3.5 Access to Services

The service will be provided for all stroke survivors who are registered with a General Practitioner within the Clinical Commissioning Group boundary. Services to out of area registered stroke survivors will be reviewed pending reciprocal arrangements with Commissioners from neighboring CCGs.

4. Applicable Service Standards

4.1 Applicable national standards (e.g. NICE)

The National Stroke Strategy sets out a number of quality markers (QM) needed for raising the quality of

treatment and care, and improving outcomes for stroke survivors and their carers.

- QM3 – ‘People who have had a stroke, and their relatives and carers have access to practical advice, emotional support, advocacy and information throughout the care pathway and lifelong’
- QM10 – ‘People who have had strokes access high quality rehabilitation and, with their carer, receive support from stroke-skilled services as soon as possible after they have a stroke, available in hospital, immediately after transfer from hospital and for as long as they need it’
- QM13 – ‘A range of services are in place and easily accessible to support the individual long-term needs of individuals and their carers’.

At all times the organisation shall provide the Service detailed in this specification and incorporate the following general principles:

- compliance with current national and local guidance
- compliance with Standards for Better Health
- responding to notices as stipulated by the Medicines and Healthcare products Regulatory Agency
- redesigning of patient pathways to meet the needs of service users
- implementation of professional standards
- implementation of appropriate National Service Framework and National Institute for Health and Care Excellence guidelines
- audit against local and national standards
- monitoring activity and staff performance
- monitoring quality outcomes for interventions with patients and implementing evidence based changes to improve patient outcomes
- monitoring complaints and adverse incidents according to CCG Policy
- competence to practise in the clinical area
- compliance with Care Quality Commission working
- people are individuals and have the right to dignity, privacy and independence. All those involved in providing the Service should acknowledge and respect Service Users gender, sexual orientation, race, religion, culture, lifestyle and values
- the service will accept referrals for all stroke survivors 16 years and over (except in exceptional circumstances)
- service users should be encouraged and enabled to exercise control over the service they receive
- services should be supportive of service users and their carers
- ensure that services are able to respond sensitively and flexibly to the service user’s changing needs
- this service can be accessed by people currently within the acute sector who have been newly diagnosed as having had a stroke: to include within cerebrovascular disease, both Haemorrhagic Stroke and Ischaemic Stroke
- an Equality Impact Assessment will be completed to ensure adherence with equality legislation and commissioners will work with providers to ensure complete compliance.

5. Applicable quality requirements and CQUIN goals

5.1 Applicable quality requirements (See Schedule 4 Parts A-D)

Performance Indicator	Initial Threshold	Method of Measurement and Numerator/Denominator to be used if applicable	Reporting timescales	Consequence of Breach
Activity				

Expected number of referrals	To be agreed with commissioner	Total number of referrals/Number of expected referrals	Quarterly	To Be Confirmed Locally
Number of stroke survivors seen at 6 weeks from discharge		Total number of stroke survivors seen at 6 weeks		
Number of stroke survivors seen at 6 months (minimum 4 – maximum 8)		Total number of stroke survivors seen at 6 months		
Number of stroke survivors seen at 12 months		Total number of stroke survivors seen at 12 months		
Quality				
% of stroke survivors reviewed within 6 months (minimum 4 – maximum 8)	95%	SSNAP Total number of stroke survivors seen for 6 month review/ total number of stroke survivors admitted for stroke as per activity monthly plan	Quarterly	To Be Confirmed Locally
Proportion of stroke survivors made aware of their right to choose, accept or decline treatment	95%	Numerator: number of stroke survivors in the denominator made aware of their right to choose, accept or decline treatment. Denominator: the number of stroke survivors accessing NHS services Methods of measurements can include stroke survivor experience surveys and feedback forms that evidence stroke survivor awareness around the right to choose, accept or decline treatment	Quarterly	To Be Confirmed Locally
Evidence of completion of an Equality Impact Assessment	N/A	Impact Assessment report including evidence of action plan implementation plans	Annual	To Be Confirmed Locally
Stroke Survivor Outcomes – See appendix 3 for feedback form				
Within service user satisfaction questionnaire the following areas must covered: - Do stroke survivors/families/carers, who on discharge, feel supported by the service - Are stroke survivors/families/carers	80% for each area	Achievement of satisfaction for each area/total number of respondents to the questionnaire	6 monthly	To Be Confirmed Locally

s aware of appropriate services in the community				
Do stroke survivors/families/carers understand what a stroke is, the risk factors and how to reduce the risk of further stroke/TIA through healthy lifestyle choices				
% of stroke survivors who have achieved the goals set out in their support care plan	80%	Number of stroke survivors who have achieved the goals set out in their support care plan / Total number of stroke survivors	Quarterly	To Be Confirmed Locally
% of stroke survivors who believe that their wellbeing has improved from point of referral to discharge from the service	80%	Number of stroke survivors who believe that their wellbeing has improved from point of referral to discharge from the service / Total number of stroke survivors	Quarterly	To Be Confirmed Locally
Workforce				
Provide an annual workforce plan to include training	Baseline required	Annual report to include number of staff	Annual Report	To Be Confirmed Locally
All clinical staff to have the opportunity to access regular clinical supervision sessions for clinical services only	Baseline required	Audit to include number of sessions attended by WTE	Annual Report	To Be Confirmed Locally
Register of safeguarding issues identified and actions taken	None expected	Reported in real-time with the respective action plan by the reviewer irrespective of organization and in line with local Health and Social Care Safeguarding Policy	Quarterly Report	To Be Confirmed Locally

A minimum data set on stroke survivor demographics needs to be captured and evaluation needs to take into consideration access in line EQIA.

Data should include:

- date of birth
- postcode
- gender
- local patient identifier
- organisation code
- NHS Number
- NHS Number Status Indicator Code
- ethnic category
- language
- GP practice

- commissioner
- referral date (sourced from referral letter)
- referral request received date
- service type referred to (e.g. occupational therapist, speech and language therapy etc.)
- source of referral
- first contact date
- other contact dates
- clinical contact type
- attended or did not attend
- outcome of contact
- length of stay in service.

All providers of a Long Term Care Support service should ensure they can demonstrate the following policies are in place as a minimum, and that these policies are adhered to:

- Whistleblowing policy
- Equality and Diversity Policy
- Record Keeping
- Complaints Policy
- Consent for Review/Consultation
- Risk Management Strategy
- Medicines Management Policy (if applicable)
- Safeguarding Adults Policy
- Information Sharing
- Formulary Process (if qualified to prescribe)
- Business Continuity/Contingency Plan
- Lone working Policy
- Service user transfer policy
- Service user discharge from care policy
- Mental Capacity Act Policy
- Deprivation of Liberty Policy if separate from (Safeguarding Adults Policy).

6. Location of Service Delivery

6.1 Long Term Care Service will be provided in:

- stroke survivor's usual place of residence e.g. home, residential or nursing home.

References

- National Service Framework for Older People (2005) especially Standard 5:Stroke
- National Stroke Strategy Quality Markers (2007)
- The Stroke Strategy for London (2008)
- Royal College of Physicians National Clinical Guidelines for Stroke (2012)
- NICE Stroke Quality Standards (2010)
- Stroke Rehabilitation Guide: Supporting London Commissioners to Commission Quality Services in 2010/11
- Midlands and East Service Specification (2012)
- NICE Stroke Rehabilitation – Long Term Rehabilitation after Stroke (2013)
- Stroke Association – Stroke Survivors Feedback Form
- Stroke Information, Advice & Support Service for Adults Service Specification – NHS Wirral Clinical Commissioning Group (2012)

Appendix 1

Review Checklist

At each review the Provider should check the following and ask if the checks have been completed by other services such as their GP, with onward referral if abnormalities found:

- **blood pressure**
- **atrial fibrillation**
- **weight.**

History of Stroke

- understanding of the condition
- affected side.

Previous Medical History

The stroke survivor's 6 week, 6 month and 12 month reviews must cover the following areas:

Medication

- medication prescribed
- understanding of the medication they are taking
- are they taking their medication as prescribed?
- any difficulties getting or taking medication?
- allergies

Pain and Pain Management

- nature of the pain? – neuropathic/MSK
- establishing if the pain is manageable with onward referral if not
- headaches and migraines.

Healthy Lifestyle

Healthy Eating

- healthy diet – eating frequently, balanced diet, frequency of convenience food
- advice on healthy eating
- BMI.

Smoking

- do they smoke?
- how many do they smoke?
- explain the risk factors
- have they thought about reducing?
- would they like information and support with smoking cessation?

Alcohol

- how many units do they drink?
- do they understand units of alcohol and the recommendation/risk factor?

Exercise

- level of physical activity
- regular exercise
- joining therapy and exercise groups
- classes or activities

Leisure and Social Activity

- levels of social contact at home and outside the home
- combatting isolation
- information on joining activity and social support groups

Mobility and Movement

- establish any difficulties associated with being bed bound,
- establish any difficulties with their wheelchair
- walking
- balance
- stairs
- level of physical activity
- falls
- would the stroke survivor benefit from aids?
 - adaptations to the environment
 - personal aids
 - practical aids.

Communication and Swallowing

Establishing any difficulties with:

- speech
- reading
- writing
- memory
- attention
- concentration.

Continence

- bladder and bowel issues
- functional ability to go to the toilet.

Neurological Issues

- seizures
- loss of consciousness.

Vision

- establishing visual difficulties and onward referral.

Hearing

- establishing hearing difficulties and onward referral.

Psychological Issues

- mood – any changes in the way they feel
- low or depressed
- self-confidence and self-esteem
- anxiety and stress
- personality/behavioral changes.

Relationships

- establishing any issues and facilitating support.

Daily Activities

- dressing
- preparing meals
- eating meals
- drinking
- washing
- sleep and fatigue.

Weight Management

- weight loss
- weight increase.

Social History

Work

- do they want to go back to work?
- support with going back to work
- advice on benefits they may be entitled to.

Finances and Housing

- support with finding out benefits that they may be entitled to.

Driving

- did the patient drive before their stroke and would like to drive again?
- information and support with:
 - blue badge scheme
 - adapted car
 - regional driving assessment centre
 - ring and ride
 - taxis for wheelchairs.

Carers Checklist

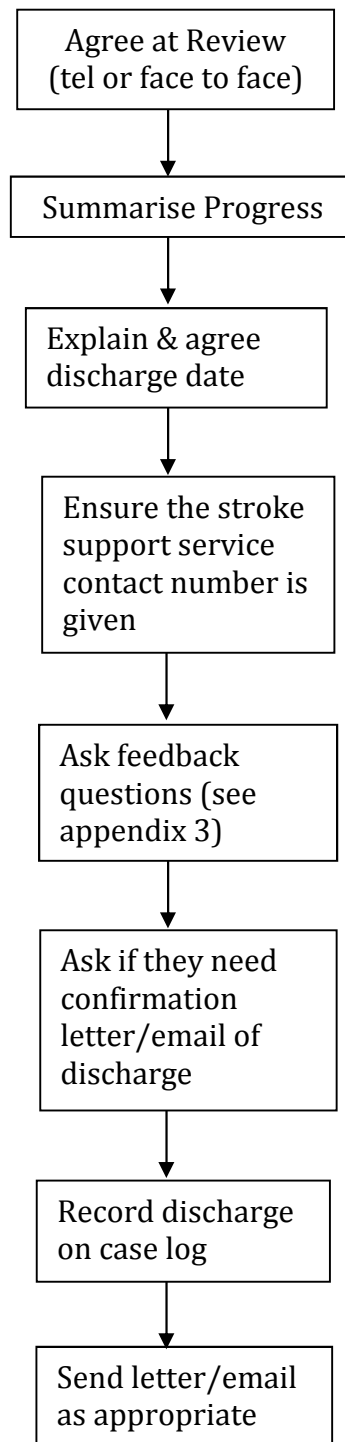
At times being a carer can be challenging and sometimes carers feel overwhelmed, exhausted and isolated. It is important that at the 6 week, 6 month and 12 month reviews, the Provider spends time to check the health and wellbeing of the stroke survivor's carer.

Below is a checklist of areas that should be discussed with the carer:

- have they had a carers assessment?
- respite care – signposting and referral
- counselling
- carer support groups – signposting – are they aware of local support groups they can attend?
- carer training – are there any training courses they could attend?
- socialising – hobbies, friends – is there support groups they may like to attend?
- eating regularly, balanced diet, frequency of convenience food including fluid intake
- alcohol consumption
- physical activity – how often do they exercise?
- tiredness – how much are they sleeping?
- smoking
- vision
- health problems
 - arthritis
 - migraine/headaches
 - hearing difficulties
 - high blood pressure
 - fainting/giddy attacks
 - heart problems
 - diabetes
 - weight management
 - continence
- emotional wellbeing
 - anxiety
 - insomnia
 - difficulty concentrating
 - feeling low
 - loss of self-esteem and confidence
 - loneliness and isolation.

Appendix 2

Discharge Process



Appendix 3

Long Term Support and Review Service Feedback Form

Page 1 only should be completed at each review. All 3 pages should be completed at the 12 month review/at the last review before discharge.

Service User Name:

carer/stroke survivor (please delete)

Question/Score ☹️	1	2	3	4	5 😊	Comments and examples of what has changed
How would you rate your current wellbeing?						
How much do you feel you understand about how to try and prevent a stroke/ risk factors?						
How aware are you of services and support available to you as a carer/stroke survivor?						
How much do you feel the information, advice and support you have received from us has enabled you						Info:

to continue in your caring role/lead a more positive life after stroke?						Advice:
						Support:

Coordinator name:

Date:

6. Appendix

Designation criteria for provision of a hyperacute stroke unit service

Healthcare for London

Acute Stroke Service Designation

6.1 Designation criteria for provision of a HASU Service

October 2008

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1. INTRODUCTION

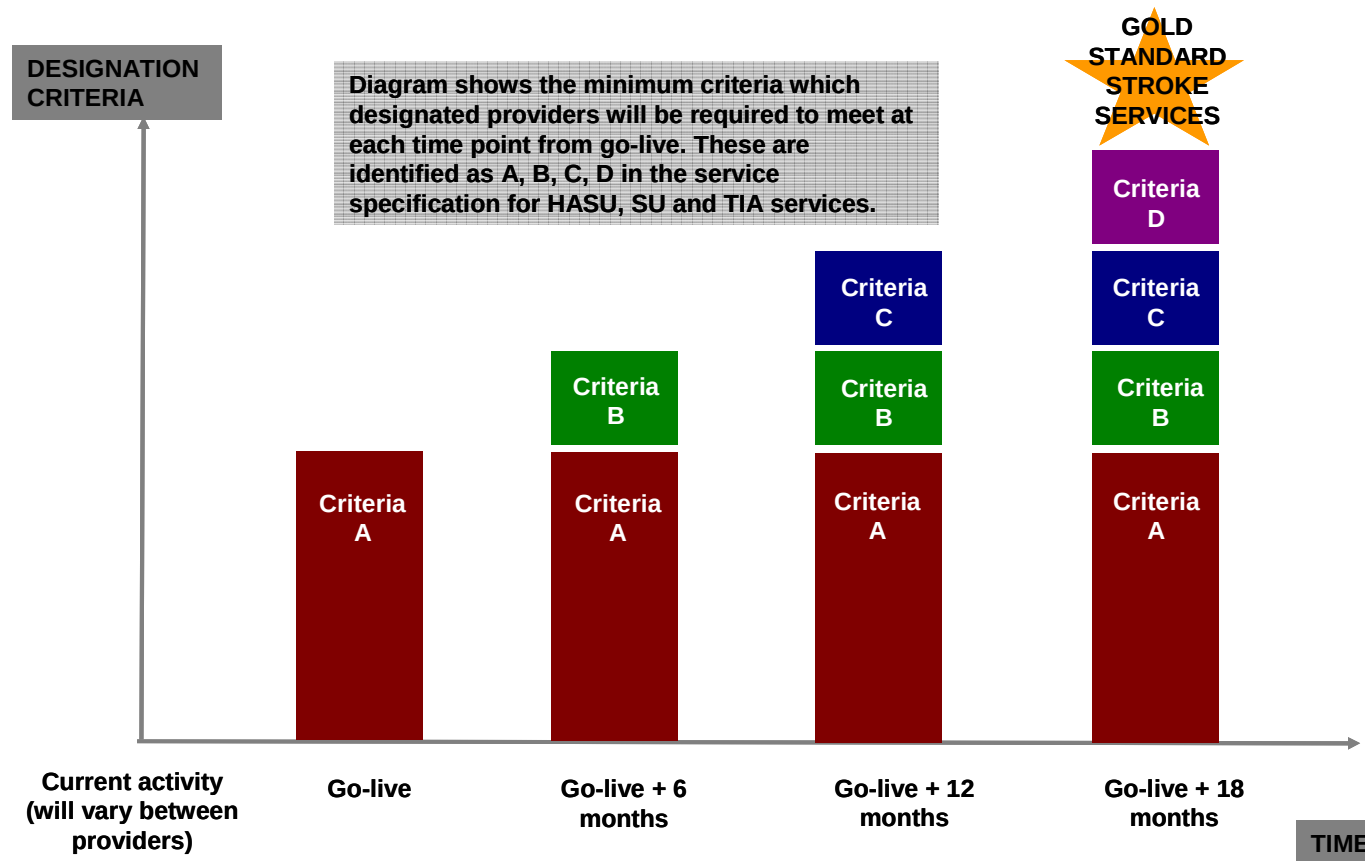
This designation criteria document outlines the service specification required to be met by providers intending to bid for the future provision of a hyper acute stroke unit (HASU) service. A HASU service provides the immediate response to a stroke, where the patient is stabilised and receives primary intervention. The length of stay in a HASU is typically no longer than 72 hours. Provision of a stroke unit (SU) service is mandatory for a provider if they intend to bid for provision of a HASU service. Providers who bid for the provision of HASU services must also ensure that they have read and understood the criteria outlined in the SU designation criteria document (6.2). It is expected that HASU and SU services will be co-located. Exceptionally, where local arrangements are in operation or planned, supplementary evidence of the seamless transfer of patients between care settings must be provided at bid submission stage. Providers may also bid for provision of a transient ischaemic attack (TIA) service. The designation criteria for this service are outlined in the TIA designation criteria document (6.3).

This document sets out the criteria which will be used to designate London's acute stroke service providers. The designation criteria for the provision of a HASU service have been developed in collaboration with clinical experts, Sentinel data, National Stroke Strategy and NICE guidelines, underpinned by established evidence of good clinical practice, and are divided into 3 sections: Quality of Service, Continuous Improvement of Service and Network Working. These criteria include performance standards which providers will be expected to deliver by April 2011. Healthcare for London (HfL) recognise that the proposed acute stroke service providers may not currently have the entire infrastructure in place to meet all of the designation criteria by 'go live' (October 2009). Therefore providers will have a period of up to 18 months after the 'go live' date to complete their implementation plans to deliver all designation criteria, thus achieving a gold standard HASU service. In accordance with this staged implementation approach, each criterion has been graded by HfL according to when it is to be met, as follows:

HfL Grading

- A Criteria must be implemented by 'go live' (October 2009)
- B Criteria must be implemented by 6 months from 'go live' (April 2010)
- C Criteria must be implemented by 12 months from 'go live' (October 2010)
- D Criteria must be implemented by 18 months from 'go live' (April 2011)

This approach is shown diagrammatically in the figure below:



As part of the bidding process providers will be required to estimate when they will meet each criterion, as follows:

Bidder Grading

- 5 Criteria currently implemented
- 4 Criteria will be implemented by 'go live' (October 2009)
- 3 Criteria will be implemented by 6 months from 'go live' (April 2010)
- 2 Criteria will be implemented by 12 months from 'go live' (October 2010)
- 1 Criteria will be implemented by 18 months from 'go live' (April 2011)
- 0 Criteria will not be implemented until after 18 months from 'go live'

For each criterion graded as 5, providers will be expected to produce a concise qualitative summary of how they currently meet the criterion and how they intend to maintain this provision in the future. Please include a concise summary of any processes and protocols in place, inputs and outputs e.g audits, future improvement plans. Suitable evidence that may be documented as part of the summary are listed against each criterion in the tables below.

For criterion graded as 1-4, providers will be expected to provide a concise qualitative plan for establishing the infrastructure to meet the criterion in full within the timeline of that grading. As part of this plan, please include provide details of the current status of each criteria, any processes and protocols to be put in place, and intended inputs and outputs. Suitable evidence that may be documented as part of the summary are listed against each criterion in the tables below.

For criterion graded 0, providers should estimate when this will be met, providing plans as outlined above.

Please note, summaries/plans for each criterion will be limited to 300 words. Extension of wording beyond this limit or additional/supplementary documentation may not be considered by the evaluation panel. Please note that bid submissions for the three independent lots (HASU, SU and TIA) will be marked in isolation; therefore please refrain from cross-referencing between bid submissions. However, if a provider bids for a combination of Lots, the quality score for the overall service will be considered alongside individual Lot scores

At bid submission stage, providers will be asked to provide copies of Sentinel audit data for 2004 and 2006, and organisational data from 2008. Please note that the Healthcare Commission rating (2007/8) for each institution will be reviewed as part of the evaluation process. If you have any queries or comments regarding this document please contact: stroke@london.nhs.uk

2. QUALITY OF SERVICE

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
1.	An A&E service responsible for receiving suspected stroke patients, performing an initial assessment to determine if stroke has occurred, alerting HASU team of suspected stroke patient admission and transferring stroke patients to HASU	Protocol for management of suspected stroke patients in A&E department	A
2.	A radiology service responsible for provision of the following: - CT scanning for suspected stroke patients (24/7) - CT reporting by radiology or stroke consultant (24/7) - A contingency plan to ensure continuity of provision of CT scanning service in case of breakdown	Protocol for CT scan prioritisation for suspected stroke patients Rota to demonstrate immediate availability of CT scanning operatives and of consultant to report Evidence of CT scan interpretation skills, competencies/training by non-radiologists Contingency protocol for CT scanner breakdown	A
3.	Established high-level thrombolysis treatment pathway	High level pathway Evidence of protocols to underpin and support pathway for example thrombolysis assessment, CT scanning, continuous monitoring e.g. protocol index	A

4.	24/7 availability of appropriately trained staff in eligibility assessment and administering thrombolysis treatment	Rota to demonstrate 24/7 on-site availability of staff trained in thrombolysis eligibility assessment and administering thrombolysis treatment Associated training records of staff to demonstrate competency in performing eligibility assessment and thrombolysis administration	A
5.	100 % of stroke patients, identified as potentially eligible for thrombolysis treatment, to be scanned within next available CT slot (this must support a door to needle time of 30 mins) (performance standard)	Protocol for CT scan prioritisation for suspected stroke patients	A
6.	100 % of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 30 mins of entry to A&E (door to needle time) (performance standard)	Evidence of door to needle time e.g. SITS database report	B
7.	100 % of stroke patients eligible for thrombolysis to receive thrombolysis within 3 h or as soon as possible of symptom onset (performance standard/Hfl Stroke Strategy)	Evidence of onset to needle time e.g. SITS database report	A
8.	100 % of stroke patients, identified as ineligible for thrombolysis treatment, to be scanned within 24 h of admission to A&E (performance standard)	Protocol for CT scan prioritisation for suspected stroke patients Evidence of achievement of target e.g. Sentinel audit data	A

9.	24/7 availability of appropriately trained staff in assessment of suspected stroke patients who are ineligible for thrombolysis treatment	Rota to demonstrate 24 h, 7 day on-site availability of staff trained in assessment of suspected stroke patients who are ineligible for thrombolysis treatment Associated training records to demonstrate competency in performing assessment	A
10.	95 % of all stroke patients to be admitted to HASU directly from A+E (performance standard)	Evidence of % of patients admitted to HASU directly from A&E e.g. local/Sentinel audit	A
11.	100 % appropriate stroke patients to receive a swallow test within 24 h of admission (performance standard)	Protocol for performing a swallow test on stroke patients Evidence of audit of timing of swallow test, and reasons for delay/inaccuracies Evidence of protocols for management of hydration and nutrition	A
12.	100 % of appropriate stroke patients to be weighed during admission (performance standard)	Evidence of audit of performance of body weight measurement	B
13.	100 % of appropriate patients to receive physiotherapist assessment within 72 h of admission (performance standard)	Evidence of compliance against performance standard e.g. local/Sentinel audit	A

14.	100% of appropriate patients to receive continuous physiological monitoring (ECG, oximetry, blood pressure) by appropriately trained staff (performance standard)	Protocol(s) for performing physiological measurements on stroke patients Evidence of compliance against performance standard e.g. local audit Associated training records to demonstrate competency in performing continuous physiological monitoring Evidence of protocols for management of diabetes and hypertension	A
15.	Daily consultant level ward rounds (performance standard)	Rota outlining ward round schedule (7 days)	B
16.	Provision of 1 WTE physiotherapist/5 beds (respiratory & neuro) (BSRM & RCP (2003))	Evidence of availability of staff to deliver these services	A
17.	Provision of 1 WTE Occupational Therapist/5 beds (BSRM & RCP (2003))	Evidence of availability of staff to deliver these services	A
18.	Provision of 0.35 sessions of SALT/bed (equivalent to 1 WTE SALT/10 beds (RCP (2008))	Evidence of availability of staff to deliver these services	A
19.	Patient access to a social worker as an inpatient	Evidence of availability of staff to deliver these services	C
20.	Arrangements for timely repatriation to appropriate local or co-located SU	Protocol for transfer of patients to SU	A

21.	Sharing of information between HASU and SU	Protocol for sharing information with SU e.g. transfer of patient notes and scans	B
22.	Consultant led HASU team	Named lead clinician and remit	A
23.	Provision of 24/7 consultant cover provided by at least 6 consultants on a rota able to make thrombolysis and hyper acute treatment decisions (performance standard)	Rota demonstrating 24//7 HASU consultant cover	A
24.	Provision of 24/7 nursing workforce to provide: 3.5 WTE nurses/bed giving a staffing ratio of 1:2 (performance standard) 80: 20 trained to untrained skill mix (performance standard)	Rota demonstrating 24/7 HASU nursing cover	A
25.	Recruitment plan for vacant positions and success in filling vacant positions	HASU recruitment plan Length of time posts vacant e.g. HR report of past year vacancies	C
26.	Plan for rotation of posts across the professional groups along the patient pathway	Staff rotation plan	D
27.	100 % appropriate patients and carers to receive contemporary patient information provided in a variety of formats (performance standard)	Protocol for communicating with patients and carers e.g. verbal consultation, distribution of leaflets	B

28.	Evidence of management plan for access to neurosurgery, interventional neuroradiology and vascular surgery for appropriate patients	Protocols for referral to neurosurgery	A
29.	Urgent access to investigations e.g. cardiac echo in selected patients, carotid imaging	Evidence of protocols for immediate access to these supporting services	B

3. CONTINUOUS IMPROVEMENT OF SERVICE

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
30.	Process for obtaining and incorporating patient feedback into HASU services development	Proof of incorporation of patient and carer views in development of stroke services e.g. patient surveys results, focus group outcomes	C
31.	Patient and carer involvement in development of stroke services	Evidence of patient and carer representation in stroke management group e.g. meeting minutes to include membership	C
32.	Demonstration of a stroke management group to oversee service delivery and improvement e.g. review of performance standards, impact of new guidance and methods for improvement of service	Schedule of meetings Meeting minutes to include membership	B
33.	Evidence of timely implementation of service delivery improvements e.g. new guidance, performance standard compliance improvements	Action plans from Stroke Management group e.g. meeting minutes covering implementation records Demonstration of implementation of service improvements identified by stroke management group	C
34.	Completion of leadership training by key members of the stroke team to support stroke service improvement	Training records for key members of stroke team showing successful completion of training Demonstration of putting leadership training into practice	D

35.	Demonstration of participation in stroke related research, as a key part of HASU services	Proof of active participation in Stroke Research Network e.g. membership Number of active trials involving HASU patients	C
36.	Provision of structured training plan for new and rotational staff to ensure a competent understanding of the stroke pathway and compliance to Performance Standards	Training plans for new and rotational staff	B
37.	Stroke physician attendance at British Association of Stroke Physicians (BASP) thrombolysis training	Proof that all physicians providing thrombolysis treatment have attended BASP training or other specific thrombolysis training e.g. training records/certificates Stroke SpR trainees to have documentary evidence of specific training on thrombolysis	A
38.	Provision of, and attendance at, MDT stroke training programmes	Training programme and MDT involvement topics and attendance	A

4. NETWORK WORKING

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
39.	Active involvement in local stroke networks	Proof of involvement in developing service provision in network Network structure	B

7. Appendix

Designation criteria for provision of a stroke unit service

Healthcare for London

Acute Stroke Service Designation

6.2 Designation criteria for provision of an SU service

October 2008

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1. INTRODUCTION

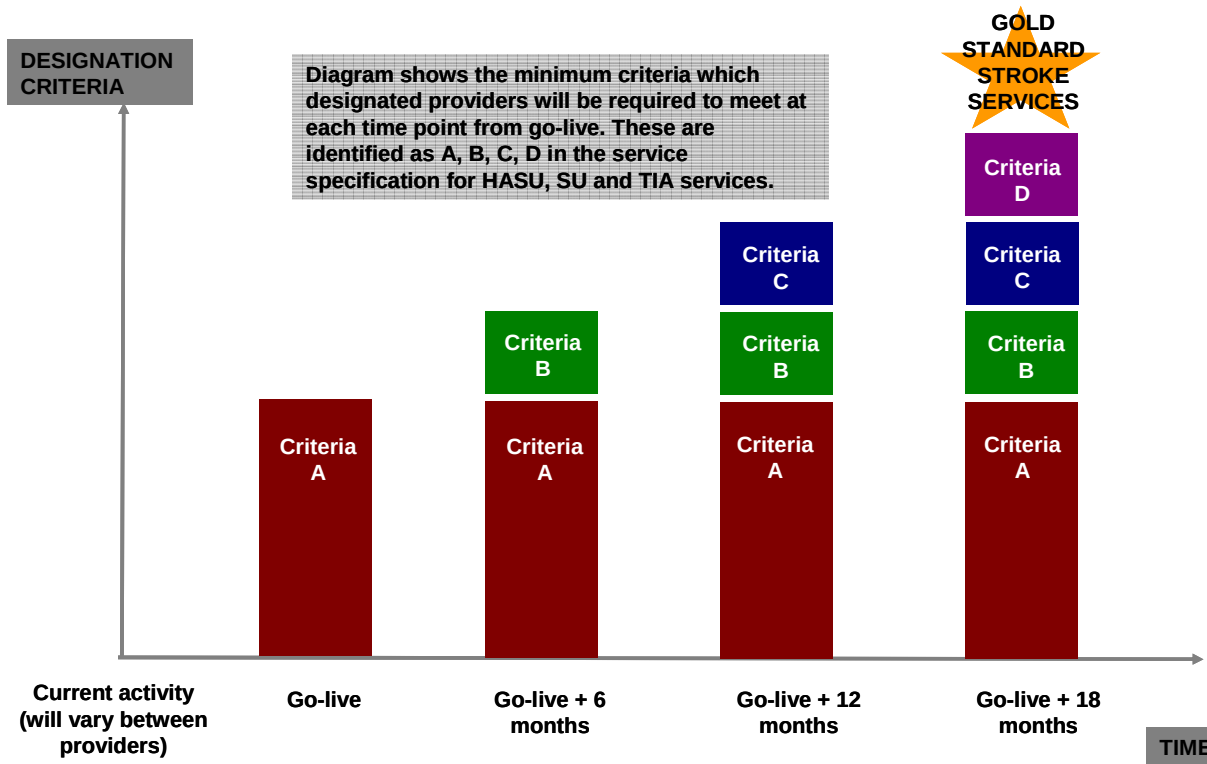
This designation criteria document outlines the service specification required to be met by providers intending to bid for the future provision of a stroke unit (SU) service. An SU service provides multi-therapy rehabilitation and ongoing medical supervision following a patient's hyper-acute stabilisation, where length of stay varies and will last until the patient is well enough for discharge from an acute inpatient setting. Provision of a stroke unit (SU) service is mandatory for a provider if they intend to bid for provision of a HASU service. Exceptionally, where local arrangements are in operation or are planned, supplementary evidence of the seamless transfer of patients between care settings must be provided at bid submission stage. Providers may also bid for provision of a transient ischaemic attack (TIA) service. The designation criteria for this service are outlined in the TIA designation criteria document (6.3). However, some providers may choose to bid only for Lot 2 (SU services).

This document sets out the criteria which will be used to designate London's acute stroke service providers. These criteria include performance standards which providers will be expected to deliver by April 2011. The designation criteria for the provision of an SU service have been developed in collaboration with clinical experts, Sentinel data, National Stroke Strategy and NICE guidelines, underpinned by established evidence of good clinical practice, and are divided into 3 sections: Quality of Service, Continuous Improvement of Service and Network Working. Healthcare for London (HfL) recognise that the proposed acute stroke service providers may not currently have the entire infrastructure in place to meet all of the designation criteria by 'go live' (October 2009). Therefore providers will have a period of up to 18 months after the 'go live' date to complete their implementation plans to deliver all designation criteria, thus achieving a gold standard SU service. In accordance with this staged implementation approach, each criterion has been graded by HfL according to when it is to be met, as follows:

HfL Grading

- A Criteria must be implemented by 'go live' (October 2009)
- B Criteria must be implemented by 6 months from 'go live' (April 2010)
- C Criteria must be implemented by 12 months from 'go live' (October 2010)
- D Criteria must be implemented by 18 months from 'go live' (April 2011)

This approach is shown diagrammatically in the figure below:



As part of the bidding process providers will be required to estimate when they will meet each criterion, as follows:

Bidder Grading

- 5 Criteria currently implemented
- 4 Criteria will be implemented by 'go live' (October 2009)
- 3 Criteria will be implemented by 6 months from 'go live' (April 2010)
- 2 Criteria will be implemented by 12 months from 'go live' (October 2010)
- 1 Criteria will be implemented by 18 months from 'go live' (April 2011)
- 0 Criteria will not be implemented until after 18 months from 'go live'

For each criterion graded as 5, providers will be expected to produce a concise qualitative summary of how they currently meet the criterion and how they intend to maintain this provision in the future. Please include a concise summary of any processes and protocols in place, inputs and outputs e.g audits, future improvement plans. Suitable evidence that may be documented as part of the summary are listed against each criterion in the tables below.

For criterion graded as 1-4, providers will be expected to provide a concise qualitative plan for establishing the infrastructure to meet the criterion in full within the timeline of that grading. As part of this plan, please include provide details of the current status of each criteria, any processes and protocols to be put in place, and intended inputs and outputs. Suitable evidence that may be documented as part of the summary are listed against each criterion in the tables below.

For criterion graded 0, providers should estimate when this will be met, providing plans as outlined above.

Please note, summaries/plans for each criterion will be limited to 300 words. Extension of wording beyond this limit or additional/supplementary documentation may not be considered by the evaluation panel. Please note that bid submissions for the three independent lots (HASU, SU and TIA) will be marked in isolation; therefore please refrain from cross-referencing between bid submissions. However, if a provider bids for a combination of Lots, the quality score for the overall service will be considered alongside individual Lot scores.

At bid submission stage, providers will be asked to provide copies of Sentinel audit data for 2004 and 2006, and organisational data from 2008. Please note that the Healthcare Commission rating (2007/8) for each institution will be reviewed as part of the evaluation process. If you have any queries or comments regarding this document please contact: stroke@london.nhs.uk

2. QUALITY OF SERVICE

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
1.	Timely admission of patients from HASU	Protocol for receiving patients from HASU (local and co-located) Agreed protocol for transfer of patients from HASU to SU when not part of the same service area (external to network)	A
2.	95 % of all stroke patients to be admitted directly to SU on HASU transfer (performance standard)	Protocol for direct transfer of patients from HASU (located or co-located)	A
3.	95 % of patients to spend all of their in-hospital time in SU (performance standard)	Evidence of compliance against performance standard e.g. local/Sentinel audit	A
4.	100 % of appropriate patients to receive a physiotherapist assessment within 72 h of admission to SU (performance standard)	Evidence of compliance against performance standard e.g. local/Sentinel audit	A
5.	95 % of appropriate patients to receive an occupational therapy assessment within 7 days of admission to SU (performance standard)	Evidence of compliance against performance standard e.g. local/Sentinel audit	A
6.	100 % appropriate patients to be weighed within 72 h of admission to SU (performance standard)	Evidence of compliance against performance standard e.g. local audit	A
7.	100 % of appropriate patients to receive weekly nutritional screening	Evidence of protocol and compliance e.g. local audit	B

8.	Evidence of a protocol to initiate suitable secondary prevention measures in all appropriate patients	Evidence of protocol and compliance e.g. local audit	A
9.	A radiology service responsible for provision of the following: ▪ CT scanning and reporting ▪ MRI scanning ▪ Ultrasonic angiology	Evidence of on-site service availability	A
10.	100 % appropriate of patients to have their mood assessed by time of discharge (performance standard)	Evidence of compliance against performance standard e.g. local/Sentinel audit	A
11.	Provision of 1 WTE physiotherapist/5 beds (BSRM & RCP (2003))	Evidence of availability of staff to deliver these services (including cover for staff absence)	A
12.	Provision of 1 WTE Occupational Therapist/5 beds (BSRM & RCP (2003))	Evidence of availability of staff to deliver these services (including cover for staff absence)	A
13.	Provision of 0.35 sessions of SALT/bed (equivalent to 1 WTE SALT/10 beds (RCP (2008))	Evidence of availability of staff to deliver these services (including cover for staff absence)	A
14.	Patient access to a social worker (performance standard)	Evidence of availability of staff to deliver these services (including cover for staff absence)	A
15.	Availability of supporting services e.g. orthotics, podiatry, orthoptics, dietetics	Evidence of availability of staff to deliver these services (including cover for staff absence)	B

16.	Availability of rehabilitation facilities e.g. access to physio gym, OT kitchen, SALT equipment	Evidence of availability of resources and appropriate staff to deliver accompanying services	A
17.	Demonstration of maintenance of all '5 characteristics of a good stroke unit': - Multi-disciplinary meetings at least weekly to plan care - Provision of information to patients about stroke - Continuing education programmes for staff - Consultant physician with responsibility for stroke - Formal links with patient and carer organisations	Evidence of compliance against standard e.g. local/Sentinel audit	A
18.	Demonstration of agreed referral pathways from SU to community rehabilitation providers	Protocol for rehabilitation referral	A
19.	Arrangements for timely discharge of patient from SU with appropriate support	Protocol for discharge of patients Protocol for training of carers Discharge planning leaflet	B
20.	Plan for management of average length of stay (LOS)	LOS management plan Evidence of compliance e.g. local/Sentinel audit	B

21.	Sharing of information between SU and GP and rehabilitation provider (if applicable)	Protocol for sharing information with rehabilitation provider/GP e.g. transfer of patient notes and scans	A
22.	Consultant led SU team 5 Consultant or equivalent led ward rounds per week Dedicated junior medical team trained in stroke management	Named lead clinician and remit Evidence of availability of staff to deliver these services	A
23.	Provision of 24/7 nursing workforce to provide: 1.5 WTE nurses/bed (performance standard) 65:35 trained to untrained skill mix (performance standard)	Rota demonstrating 24/7 SU nursing cover Education or competency plans to ensure skilled nursing workforce	A
24.	Recruitment plan for vacant positions plan and success in filling vacant positions	SU recruitment plan Length of time posts vacant e.g. HR report of past year vacancies	B
25.	Plan for rotation of posts across the professional groups along the patient pathway	Staff rotation plan	D
26.	100 % appropriate patients and carers to receive contemporary patient information and care plans provided in a variety of formats (performance standard)	Protocol for communicating with patients and carers e.g. verbal consultation, distribution of leaflets, care plans	B

27.	Provision of a named contact within the care setting for each patient	Evidence of availability of staff to deliver these services (including cover for staff absence)	B

3. CONTINUOUS IMPROVEMENT OF SERVICE

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
28.	Process for obtaining and incorporating patient feedback into SU service development	Proof of incorporation of patient and carer views in development of stroke services e.g. patient surveys results, focus group outcomes	C
29.	Patient and carer involvement in development of stroke services	Evidence of patient and carer representation in stroke management group e.g. meeting minutes to include membership	C
30.	Demonstration of a stroke management group to oversee service delivery and improvement e.g. review of performance standards, impact of new guidance and methods for improvement of service	Schedule of meetings Meeting minutes to include membership	B
31.	Evidence of timely implementation of service delivery improvements e.g. new guidance, performance standard compliance improvements	Action plans from Stroke Management group e.g. meeting minutes covering implementation records	C
32.	Completion of leadership training by key members of the stroke team to support stroke service improvement	Training records for key members of stroke team	D
33.	Demonstration of participation in stroke related research, as a key part of SU services	Proof of active participation in Stroke Research Network e.g. membership Number of active trials involving SU patients	C

34.	Provision of structured training plan for new and rotational staff to ensure a competent understanding of the stroke pathway and compliance to Performance Standards	Training plans for new and rotational staff	B
35.	Provision of, and attendance at, MDT stroke training programmes	Training programme and MDT involvement topics and attendance	A
36.	Evidence of the use of outcome measures e.g. RANKIN score or Barthel Index	Evidence of protocol and compliance	B

4. NETWORK WORKING

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
37.	Active involvement in local stroke networks	Proof of attendance at network meetings Network structure	B

8. Appendix

Designation criteria for provision of transient ischaemic attack service

Healthcare for London

Acute Stroke Service Designation

6.3 Designation criteria for the provision of a TIA service

October 2008

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1. INTRODUCTION

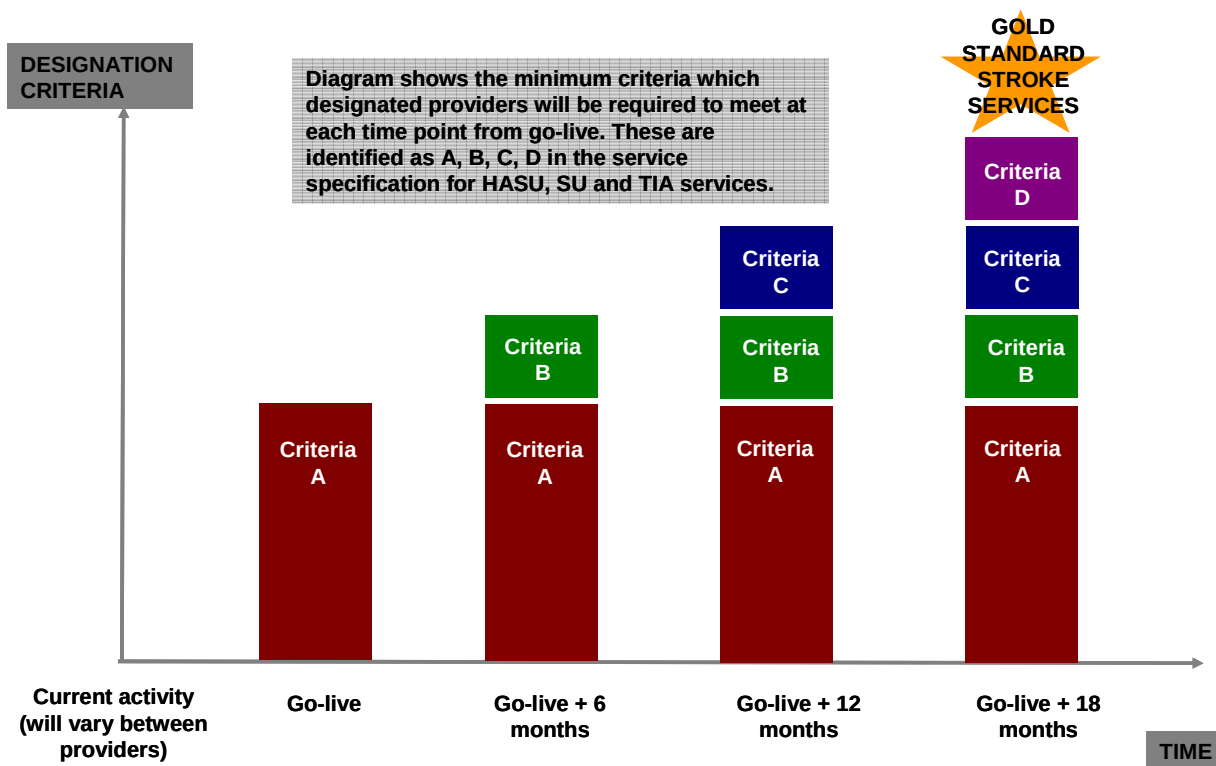
This designation criteria document outlines the service specification required to be met by providers intending to bid for the future provision of a transient ischaemic attack (TIA) service. A TIA service provides rapid diagnostic assessment and access to a specialist within 24 hours for high risk patients following a TIA, and within seven days for low risk. Provision of a hyper acute stroke unit (HASU) and/or stroke unit (SU) service is mandatory for a provider if they intend to bid for provision of a TIA service. Providers must ensure that they have read and understood the criteria outlined in the relevant HASU and/or SU designation criteria documents (6.1 & 6.2 respectively).

This document sets out the criteria which will be used to designate London's acute stroke service providers. The designation criteria for the provision of a TIA service have been developed in collaboration with clinical experts, Sentinel data, National Stroke Strategy and NICE guidelines, underpinned by established evidence of good clinical practice, and are divided into 3 sections: Quality of Service, Continuous Improvement of Service and Network Working. These criteria include performance standards which you will be expected to deliver by April 2011. Healthcare for London (HfL) recognise that the proposed acute stroke service providers may not currently have the entire infrastructure in place to meet all of the designation criteria by 'go live' (October 2009). Therefore providers will have a period of up to 18 months after the 'go live' date to complete their implementation plans to deliver all designation criteria, thus achieving a gold standard TIA service. In accordance with this staged implementation approach, each criterion has been graded by HfL according to when it is to be met, as follows:

HfL Grading

- A Criteria must be implemented by 'go live' (October 2009)
- B Criteria must be implemented by 6 months from 'go live' (April 2010)
- C Criteria must be implemented by 12 months from 'go live' (October 2010)
- D Criteria must be implemented by 18 months from 'go live' (April 2011)

This approach is shown diagrammatically in the figure below:



As part of the bidding process providers will be required to estimate when they will meet each criterion, as follows:

Bidder Grading

- 5 Criteria currently met
- 4 Criteria will be implemented by 'go live' (October 2009)
- 3 Criteria will be implemented by 6 months from 'go live' (April 2010)
- 2 Criteria will be implemented by 12 months from 'go live' (October 2010)
- 1 Criteria will be implemented by 18 months from 'go live' (April 2011)
- 0 Criteria will not be implemented until after 18 months from 'go live'

For each criterion graded as 5, providers will be expected to produce a concise qualitative summary of how they currently meet the criterion and how they intend to maintain this provision in the future. Please include a concise summary of any processes and protocols in place, inputs and outputs e.g audits, future improvement plans. Suitable evidence that may be documented as part of the summary are listed against each criterion in the tables below.

For criterion graded as 1-4, providers will be expected to provide a concise qualitative plan for establishing the infrastructure to meet the criterion in full within the timeline of that grading. As part of this plan, please include provide details of the current status of each criteria, any processes and protocols to be put in place, and intended inputs and outputs. Suitable evidence that may be documented as part of the summary are listed against each criterion in the tables below.

For criterion graded 0, providers should estimate when this will be met, providing plans as outlined above.

Please note, summaries/plans for each criterion will be limited to 300 words. Extension of wording beyond this limit or additional/supplementary documentation may not be considered by the evaluation panel. Please note that bid submissions for the three independent lots (HASU, SU and TIA) will be marked in isolation; therefore please refrain from cross-referencing between bid submissions. However, if a provider bids for a combination of Lots, the quality score for the overall service will be considered alongside individual Lot scores.

At bid submission stage, providers will be asked to provide copies of Sentinel audit data for 2004 and 2006, and organisational data from 2008. Please note that the Healthcare Commission rating (2007/8) for each institution will be reviewed as part of the evaluation process. If you have any queries or comments regarding this document please contact: stroke@london.nhs.uk

2. QUALITY OF SERVICE

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
1.	An A&E service able to carry out emergency assessment and initial management of TIA patients according to agreed protocols.	Protocol for management of suspected TIA patients in A&E department	A
2.	Provision of TIA pathway (including initial assessment and use of ABCD ² risk stratification tool) to all local GPs and recommendations in place for referral of all high risk patients	Protocol for management of suspected TIA patients for GPs Evidence of distribution of protocol to all local GPs	A
3.	100% of appropriate TIA patients to be started immediately on aspirin (300mg/day)	Evidence of compliance e.g. local audit	A
4.	Established TIA pathway for treatment of high and low risk patients	TIA pathway to cover both high and low risk treatment arms Evidence of protocols to underpin and support pathway	A
5.	90% of high risk TIA patients to receive a specialist assessment and treatment within 24 h of onset of symptoms (performance standard)	TIA pathway to cover both high and low risk treatment arms Evidence of compliance against performance standard e.g. local audit	A

6.	90 % of appropriate (according to NICE guidelines) high risk TIA patients to receive brain imaging within 24 h of onset of symptoms (performance standard)	Protocol for accessing brain imaging for suspected TIA patients Evidence of compliance against performance standard e.g. local audit	A
7.	90% of low risk TIA patients to receive a specialist assessment and treatment within 7 days of onset of symptoms (performance standard)	TIA pathway to cover both high and low risk treatment arms Evidence of compliance against performance standard e.g. local audit	A
8.	90 % of appropriate (according to NICE guidelines) low risk TIA patients to receive brain imaging within 7 days of onset of symptoms (performance standard)	Protocol for accessing brain imaging for suspected TIA patients Evidence of compliance against performance standard e.g. local audit	A
9.	90% of appropriate TIA patients to have carotid imaging within 7 days of onset of symptoms	Protocol for accessing carotid imaging (e.g. MRA, CTA, carotid ultrasound) for suspected TIA patients Evidence of compliance e.g. local audit	A
10.	90 % of appropriate TIA patients with symptomatic carotid stenosis to be assessed and referred for Carotid Endarterectomy (CEA) within 7 days of onset of symptoms	Protocol for CEA assessment and referral Evidence of compliance e.g. local audit	A
11.	90 % of appropriate TIA patients with symptomatic carotid stenosis to undergo CEA within 14 days of onset of symptoms (NICE guidelines)	Evidence of compliance e.g. local audit	A

12.	A radiology service responsible for provision of the following: ▪ MRI, MRA, CTA and/or carotid ultrasound service for suspected TIA patients ▪ Timely interpretation and reporting by competent clinician ▪ A contingency plan to ensure continuity of provision of brain and carotid imaging service in case of breakdown	Protocol for accessing brain and carotid imaging (e.g. MRI, MRA, CTA, carotid ultrasound) for suspected TIA patients Contingency protocol for brain and carotid imaging service breakdown	A
13.	100 % of confirmed TIA patients to receive secondary prevention advice including medication management and lifestyle advice	Evidence of compliance e.g. local audit	A
14.	Availability of appropriately trained staff in TIA specialist assessment and early management	Rota to demonstrate 7 day availability of staff trained in TIA assessment	A
15.	Sharing of information between TIA service and GP	Protocol for sharing information with GP e.g. clinic letter, discharge summary	B
16.	Consultant led TIA service	Named lead clinician and remit	A

3. CONTINUOUS IMPROVEMENT OF SERVICE

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
17.	Process for obtaining and incorporating patient feedback into TIA service development	Proof of incorporation of patient and carer views in development of TIA services e.g. patient surveys results, focus group outcomes	C
18.	Patient and carer involvement in development of TIA services	Evidence of patient and carer representation in TIA/stroke management group e.g. meeting minutes to include membership	C
19.	Demonstration of a TIA/stroke management group to oversee service delivery and improvement e.g. review of performance standards, impact of new guidance and methods for improvement of service	Schedule of meetings Meeting minutes to include membership	B
20.	Evidence of timely implementation of service delivery improvements e.g. new guidance, performance standard compliance improvements	Action plans from TIA/Stroke Management group e.g. meeting minutes covering implementation records Demonstration of implementation of service improvements identified by TIA/stroke management group	C
21.	Process to monitor and manage delays to assessment and treatment of suspected TIA patients	Evidence from TIA/Stroke Management group of action plan and implementation of service improvements e.g. meeting minutes covering implementation records Demonstration of performance of Critical incident analysis process	B

22.	Evidence of a system to identify and manage inappropriate referrals to TIA services	Local evidence of % of inappropriate referrals Action plan to reduce high levels of inappropriate referrals Track record to demonstrate improvement in inappropriate referral level	C
23.	Provision of structured training plan for new and rotational staff to ensure a competent understanding of the stroke pathway and compliance to performance standards	Training plans for new and rotational staff	B
24.	Evidence of A&E staff and GP education on the TIA pathway including TIA recognition and assessment	Training plans for A&E and GP staff	A

4. NETWORK WORKING

Criteria number	Criteria	Suggested evidence to support criteria	HfL Grading
25.	Active involvement in local stroke networks	Proof of involvement in developing service provision in network Network structure	B

9. Appendix

Draft guidelines for accessing stroke services in Birmingham
and the Black Country

Draft guidelines for accessing stroke services in Birmingham and the Black Country

Version control:

Date	Version	Author	Comments
30.06.2014	V1	Dr Don Sims	Initial Outline
14.07.2014	V2	Dr Don Sims	Comments from Nighat Hussain and Matt Ward
17.07.2014	V3	Dr Don Sims	Local Clinical Advisory Group

Contributors:

Name	Role/Title	Organisation
Dr Don Sims	Stroke Consultant - Clinical Service Lead for Stroke Medicine	University Hospital Birmingham
Nighat Hussain	Programme Director – Birmingham, Black Country and Solihull Stroke Services Review	Sandwell and West Birmingham Clinical Commissioning Group – Lead CCG
Matt Ward	Head of Clinical Practice	West Midlands Ambulance Service NHS Foundation Trust

Protocol for the management of possible stroke patients presenting to health services

The reconfiguration of stroke services in Birmingham & the Black Country will mean that five acute trusts will have Hyper-Acute Stroke Unit (HASU) and co-located Acute Stroke Units (ASU). The remaining hospital trusts in Birmingham & the Black Country will have sub-acute (post-7 day care) and/or rehabilitation stroke units in addition to community rehabilitation teams for post-discharge care.

As a result of these changes generally all acute stroke patients should start their care in a HASU before moving onwards as needed to ASUs and in-patient and community rehabilitation care.

There will now be three main reasons for patients to need to move hospitals with varying degrees of urgency.

- **patients with an acute stroke in a non-HASU hospital**
 - patients who present at a hospital without a Hyper-Acute Stroke Unit (HASU) either as self-presenters; current in-patients with other conditions who then suffer a stroke in a non-HASU hospital; or patients who are taken there by ambulance who then subsequently have a stroke diagnosed.
- **patients requiring neurosurgery in a hospital without these services on site**
 - patients who require neurosurgical intervention who present to any hospital including those with a HASU which are not able to offer neurosurgical interventions on site such as decompressive craniectomy and haematoma evacuation.
- **patients requiring mechanical thrombectomy in a hospital without these services on site**
 - patients who require an intervention which can only be delivered at a HASU with a co-located interventional neuroradiology department.

The first reason is the new reason following the reconfiguration. The second and third reason exist already and this guideline is intended to clarify the pathway in those scenarios.

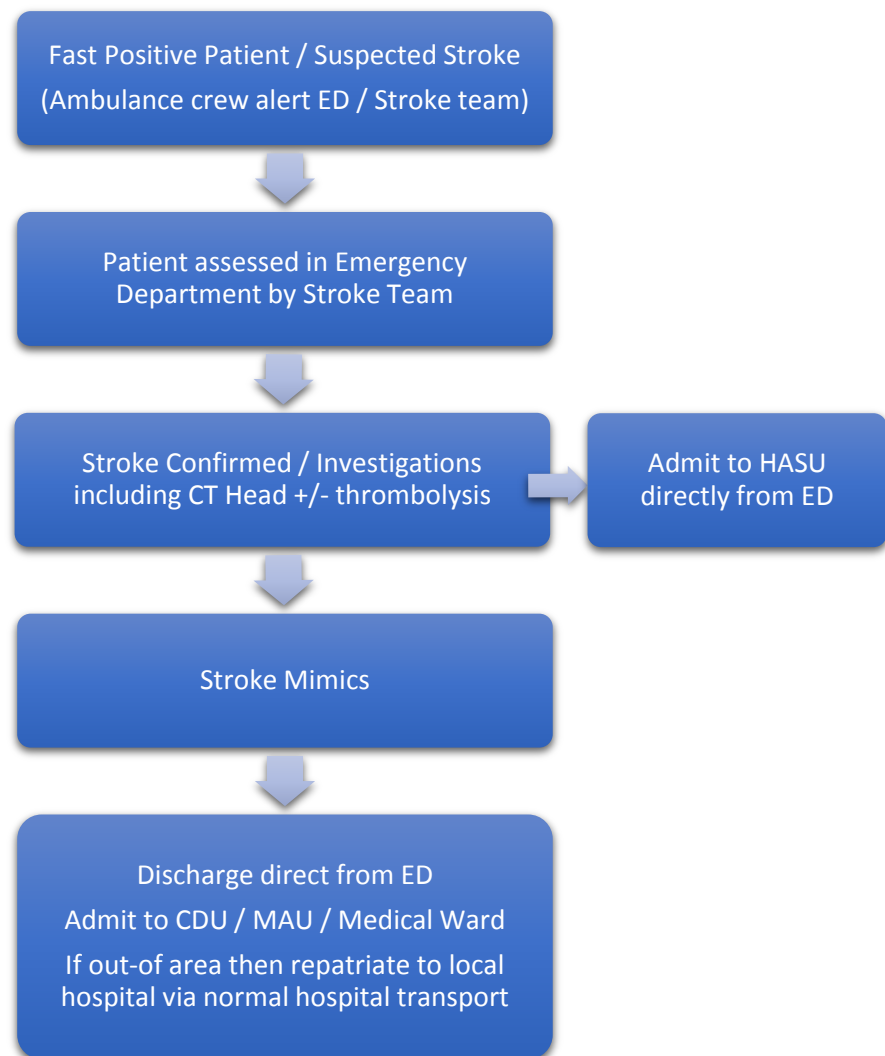
This guideline is intended to show how to transfer a patient and with what urgency following the reconfiguration of stroke services. It is not intended as a clinical guideline as the indications for various interventions change with time. All decisions regarding transfer should be decided by physicians with expertise in stroke medicine in conjunction with the receiving centres stroke physicians or neurosurgeons.

This guidelines is for the use of adult stroke patients (>16 years of age) in Birmingham and the Black Country.

Stroke Patients Presenting at a HASU's Emergency Department

FAST-positive possible stroke patients presenting to WMAS should be conveyed to their nearest acute hospital with a HASU on-site without delay. Wherever possible this should be to the HASU based on the pre-agreed catchment areas though flexibility depending on capacity will be shown.

There will be a postcode look-up facility to identify the correct HASU for patients in Birmingham and the Black Country.



Repatriation delays should be escalated as per the repatriation escalation policy in Appendix xxx

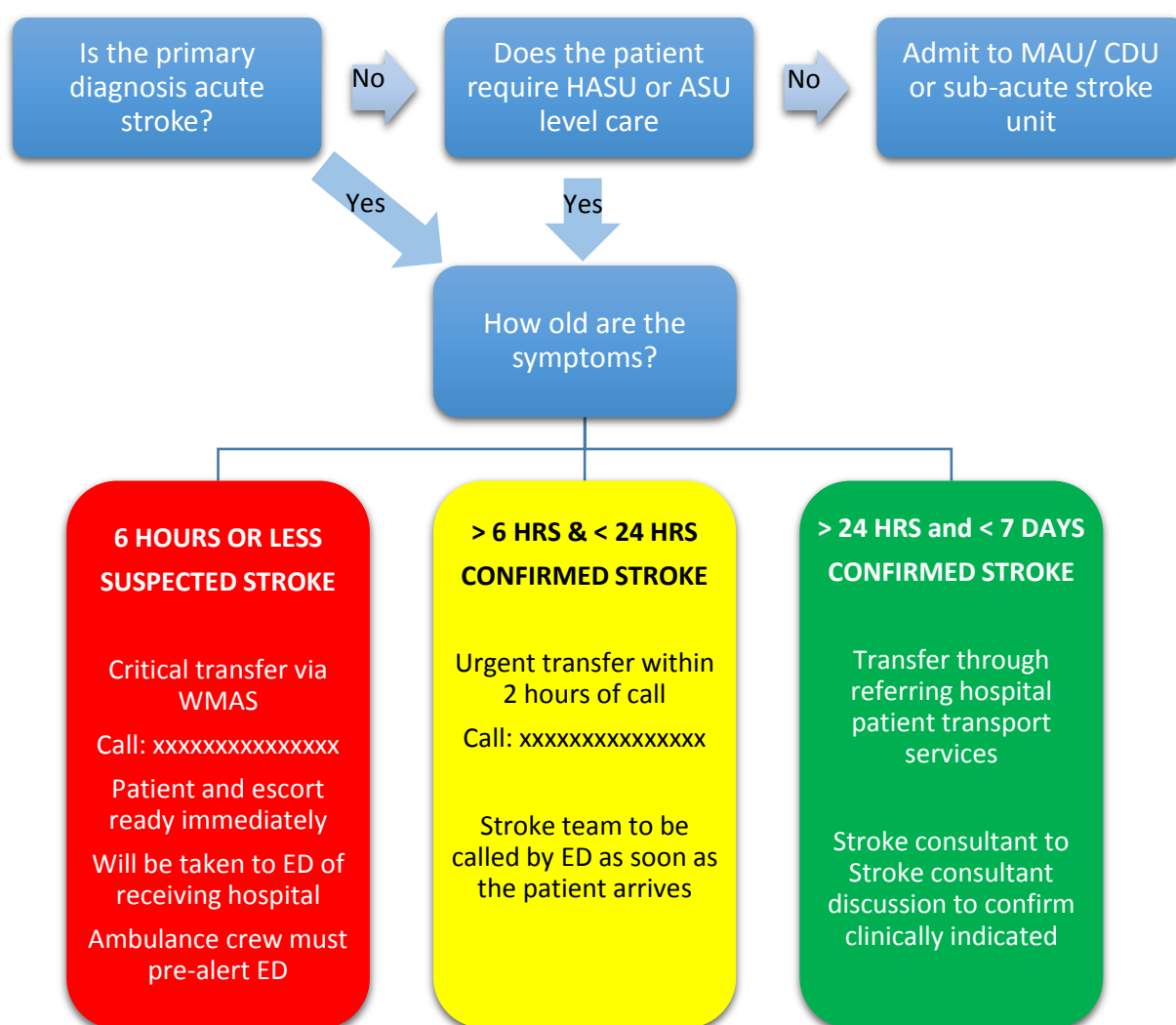
Stroke Patients Presenting at a non-HASU's Emergency Department

Self-presenters to ED of any hospital without a HASU on-site should be conveyed to a hospital with a HASU as per the flowchart below. Neuroimaging should **not** be performed locally if this will delay transfer.

Some patients arriving by ambulance but not initially recognised as stroke by the ambulance crew should also follow the pathway below.

If a patient presents at an ED of a multi-sited Trust with a HASU, the Trust should have an internal mechanism to ensure that the patient is directly admitted to the Trust's HASU.

Admission & Transfer Pathway



Clinicians can of course decide if a transfer is required more or less urgently in any given scenario

These transfers hereafter are known as the red / yellow and green transfer protocols

Patients in a non-HASU Hospital who stroke whilst an in-patient

Acute in-hospital strokes

If the main problem is stroke and then event is acute (<6 hours), there should be an urgent clinician to clinician discussion regarding referral to the nearest HASU and consideration whether the patient is suitable for thrombolysis or other intervention

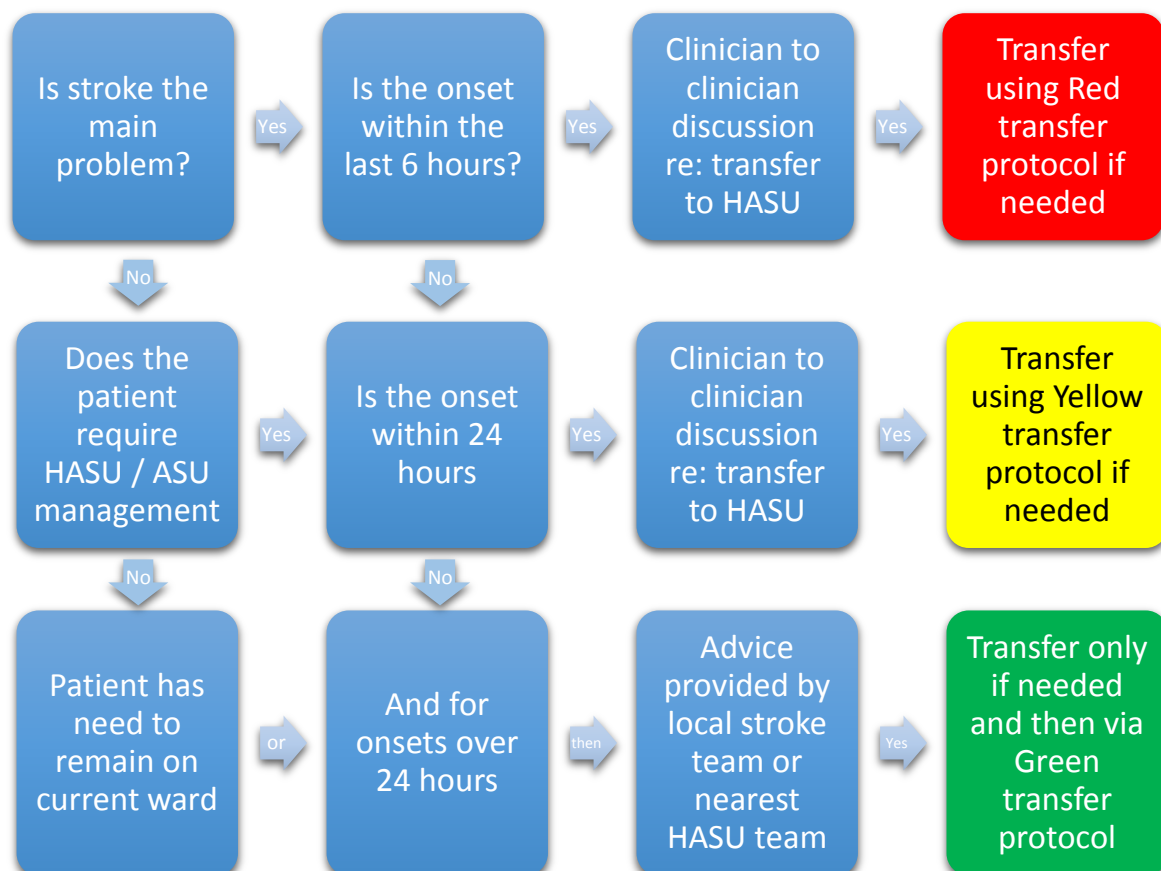
Strokes occurring in hospital on patients with other significant acute conditions (such as on intensive care units or as a post-operative complications) require consideration on an individual basis by the nearest/most appropriate HASU team as per the postcode look-up facility.

Patients may be considered for transfer to a HASU or ASU based on clinical need. Such patients may need dual specialty input into the care and the availability of such care in the receiving centre should also be a consideration.

In-hospital stroke >24 hours

Patients who are found to have had a stroke over 24 hours previously, in a hospital without HASU services, there should be a same day assessment by an on-site stroke physician wherever possible and discussion with the nearest/local HASU team, as above, about the need for transfer.

If there is no on-site stroke physician, there should be a discussion with a clinician in the nearest/local HASU to decide whether the patient needs transfer to the HASU, ASU or whether they should remain in the current hospital under the admitting team with specialist advice, if required, from the HASU team.



Stroke patients who need neurosurgical interventions

Neurosurgery and Acute Ischaemic stroke

Patients who suffer a large ischaemic stroke can develop the malignant MCA syndrome which is a potentially, life threatening complication of ischaemic stroke.

Patients with MCA infarction who meet all of the criteria below should be considered for decompressive hemicraniectomy. They should be referred as soon as possible and certainly within 24 hours of onset of symptoms, the intention being to treat within a maximum of 48 hours. Frail patients with multiple co-morbidities are often not suitable.

- age up to 60 years (NICE guidance)
- within 48 hours of stroke onset
- total NIHSS score >15
- drowsy (NIHSS item 1a should score ≥ 1)
- imaging evidence of >50% MCA territory infarction with or without additional infarction in the territory of the ipsilateral anterior or posterior cerebral artery.

Neurosurgery and Spontaneous Intracerebral Haemorrhage

Cerebellar haemorrhage

This can be a neurosurgical emergency. Refer to the neurosurgical team immediately. Especially if:

- the patient has signs of a brain stem syndrome (e.g. dysarthria, diplopia etc.)
- there is progressive neurological deterioration, including agitation
- there is evidence of hydrocephalus on CT
- there is brainstem compression on CT
- the tectal cisterns are obliterated on CT (risk of brain stem compression).

Supratentorial haemorrhage

There is limited evidence for evacuation of haemorrhages although possibly superficial cortical haemorrhages should be considered in selected cases. An urgent discussion with a neurosurgeon should occur in the case of:

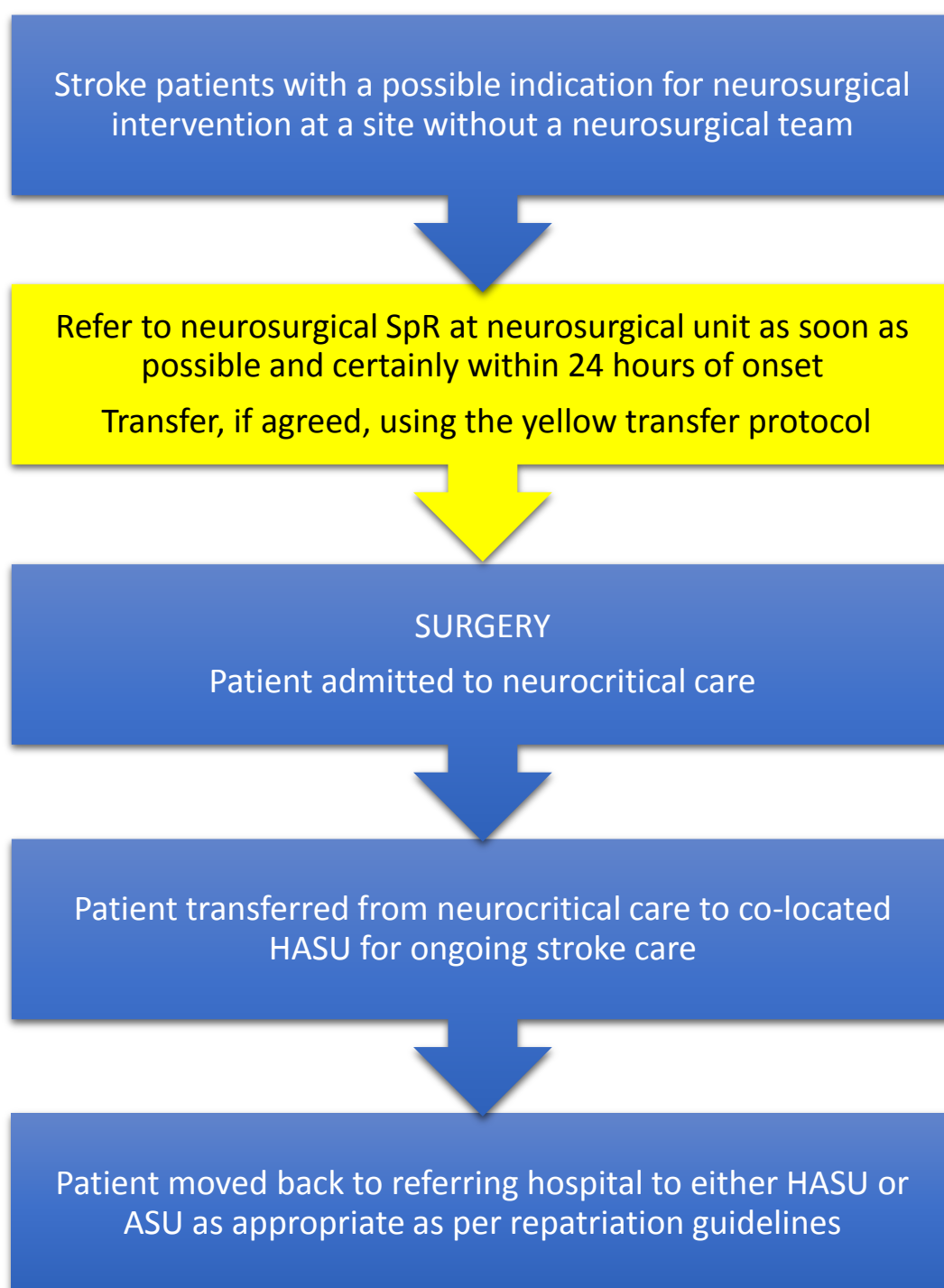
- progressive neurologic deterioration
- hydrocephalus
- appearance on plain CT suggesting structural underlying cause.

Subarachnoid and intraventricular haemorrhages (IVH)

All subarachnoid haemorrhages should generally be discussed with neurosurgery. Intraventricular haemorrhages should be referred, in case of hydrocephalus or an underlying aneurysm or arteriovenous malformation (AVM) as a cause.

The indications for neurosurgical interventions change as research emerges so this page is for guidance only. Please refer to existing RCP and NICE guidance for the latest protocols. All decisions regarding interventions rest with the treating clinician and the neurosurgical team.

Protocol for stroke patients requiring neurosurgical intervention



Some patients may be sent direct to a specialised neuro-rehabilitation unit direct from the neuroscience centre.

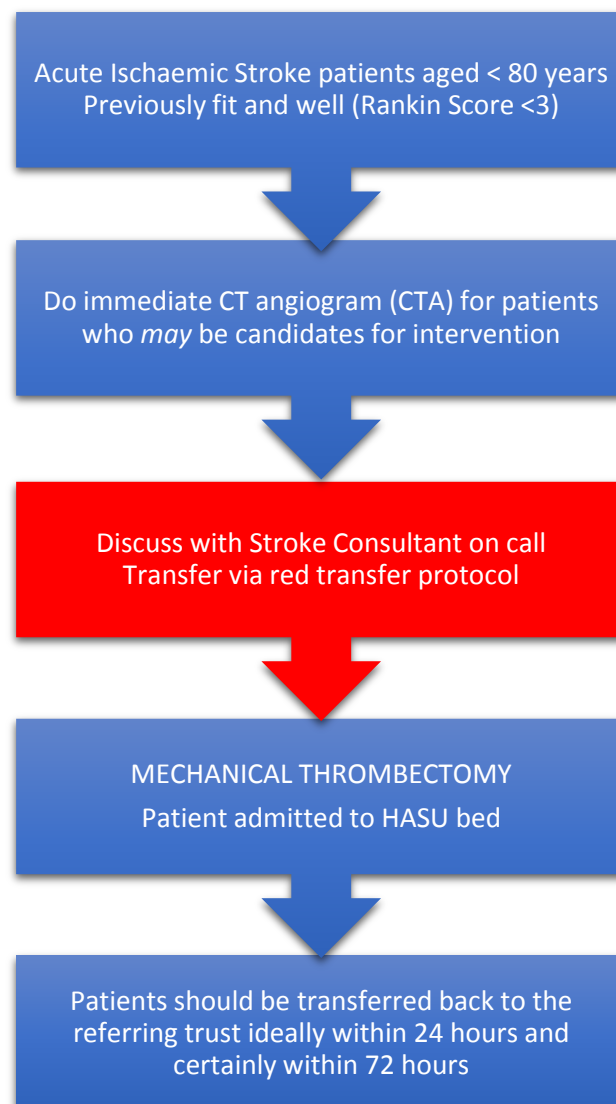
Patients whose local hospital does not have a HASU or ASU may need to wait longer in the neuroscience centre to allow transfer to a sub-acute stroke ward when medically more stable.

Protocol for stroke patients who need mechanical thrombectomy

Mechanical thrombectomy is still being evaluated as an intervention and generally patients should be entered into a randomized trial or at least a national registry to allow monitoring of outcomes. Two centres currently offer the intervention, North Staffordshire Hospital, Stoke and Queen Elizabeth Hospital, Birmingham. Contact should be direct to the stroke consultant on-call via switchboard.

The three main reasons to consider mechanical thrombectomy are:

- **primary intra-arterial thrombolysis**
 - severe disabling neurological deficit (NIHSS > 8) **and**
 - contraindications to iv thrombolysis (e.g. recent surgery), 4.5 hrs - 6 hrs from onset.
- **rescue thrombolysis**
 - severe disabling neurological deficit (NIHSS > 8) **and**
 - no improvement (or worsening without bleed) with iv thrombolysis.
- **brain stem stroke**
 - treatment can be delivered within 9 hrs of onset and occlusion of basilar artery
 - potentially eligible even if consciousness impaired and or patient ventilated.

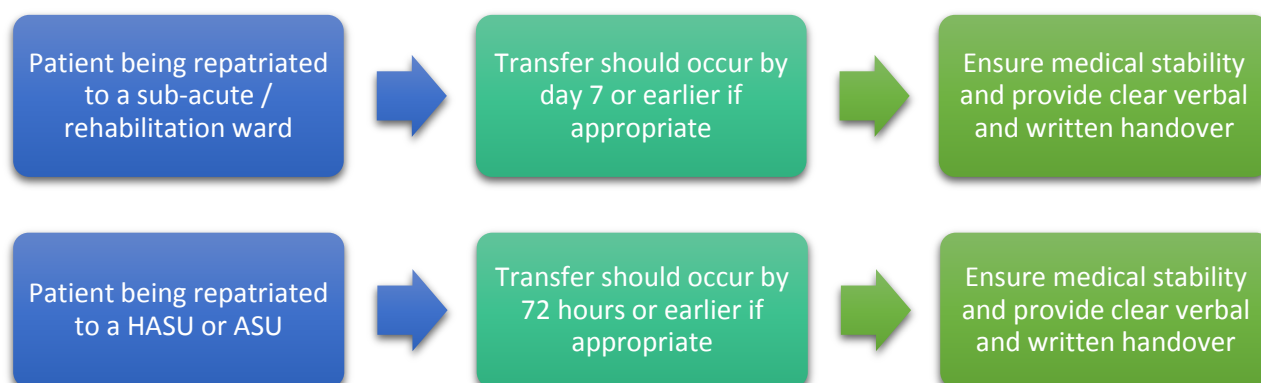


Repatriation of stroke patients to their local HASU/ASU

Patients who have for whatever reason presented at a hospital other than their local HASU as per the agreed catchment areas or have received interventions at a hospital other than their own; these patients should ideally be repatriated as soon as appropriate.

Repatriation to their local HASU/ASU following a neurosurgical or other intervention which should certainly happen within 72 hours or earlier if appropriate. Alternatively this will be repatriation to local in-patient sub-acute or rehabilitation in-patient stroke wards within 7 days or earlier if appropriate.

- patients should be accepted promptly and a clear escalation policy should exist if this does not occur which may include financial penalties
- there must be clinician-to-clinician communication to agree the transfer and confirm medical stability with clear written communication to back this up including a discharge summary and access to results of investigation undertaken
- patients should be transferred during daylight hours whenever possible
- repatriation should take place seven days a week.



Criteria for medical stability for transfer of patient to ASU

- clear diagnosis of stroke and secondary prevention plan (including referral for carotid intervention if indicated)
- not dependent on inotropic or ventilatory support
- stable level of consciousness
- reliable route of hydration and nutrition established (NG and IVI would suffice).

In addition to above, for transfer to a sub-acute/rehabilitation ward

- stable baseline physiology
- not on intravenous antihypertensives.

Process of transfer of patients to local units

Within first 24 hours

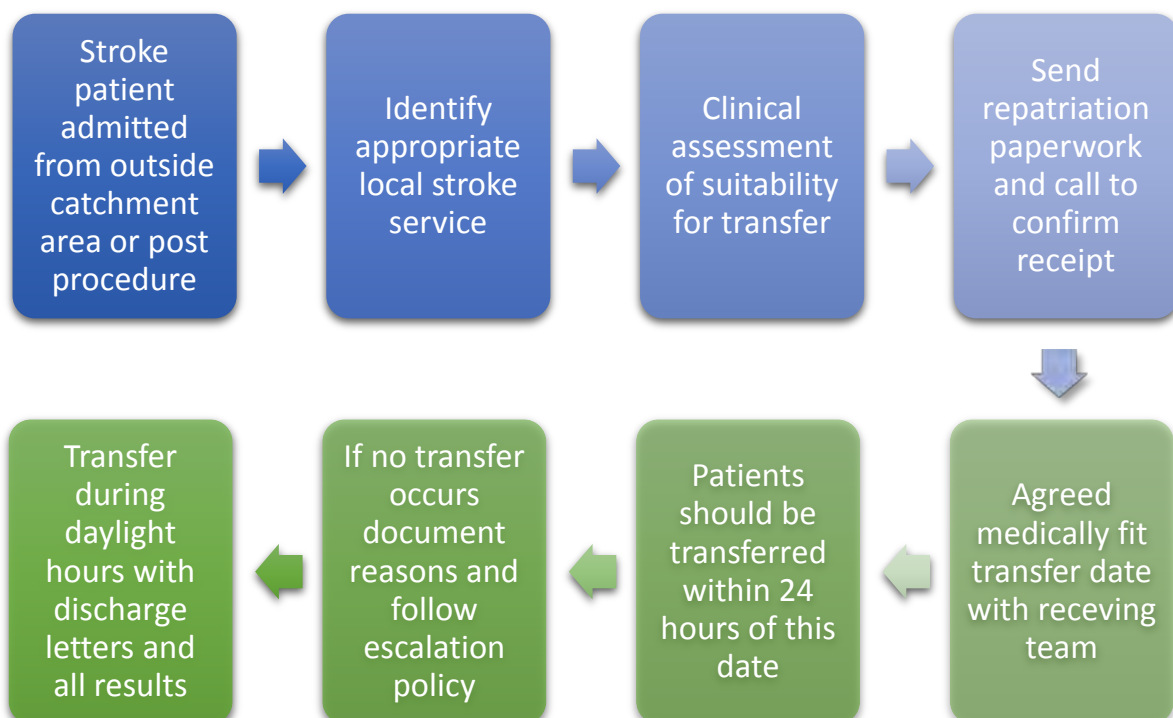
- identify appropriate local stroke unit using postcode lookup
- complete repatriation paperwork
- clinical assessment for suitability for transfer

- medical assessment (confirm stability)
- nursing assessment (complete transfer form)
- therapy assessment (complete rehabilitation plan and goals).

Stroke coordinator or lead to send paperwork to local stroke unit and call to confirm receipt and discuss clinical stability and date of planned transfer. Host trust confirms arrangement in place to accept transfer and book transport.

See Appendix X - Escalation process for delayed transfers to SU if SU unable to accept patient.

Patients that have not been conveyed to the closest HASU due to them being out of area when they have their stroke should be repatriated within 24 hours of referral date or date fit for transfer.



Patients/carers should be provided with written information regarding the Birmingham, Solihull and Black Country acute stroke model, repatriation and choice.

Overseas visitors

Patients who live outside the UK requiring further stroke unit care before repatriation will be managed in one of Birmingham and the Black Country's stroke units. The patient would usually stay in the HASU/ASU where they first presented unless there are pressing reasons why this should not be the case.

Birmingham and the Black Country patients who stroke outside the region or abroad

Patients who have a stroke completely outside the region should be repatriated to their local stroke unit within the region using the agreed catchment areas for each trust. If the patient requires HASU/ASU services which are not available locally they should be transferred to the nearest trust with these services on site.

Patients with no fixed abode

Every effort should be made to establish an address of usual residence. If a patient is unable to give an address and they are not registered with a GP practice, the host Trust should be determined by the terms of 'usual residence'. If patients consider themselves to be resident at an address, which is for example a hostel, then this should be accepted.

'Usually resident' is largely determined by the person's own perception of where they are resident (either currently, or failing that, most recently) as evidenced by the address they give. If a person is unable to give an address, and their place of residence cannot be established by any other means, the responsible commissioner is the CCG in whose area the unit providing treatment is located.

When dealing with social services, the term is 'ordinary residence', but the same basic rules apply, where a person is not ordinarily resident in any local authority (a person of 'no settled residence'), the NHS Trust should notify the local authority in which the hospital is situated.

Mixed accommodation guidance

The NHS Operating Framework for 2011-2012 confirmed that all providers of NHS funded care are expected to eliminate mixed-sex accommodation, except where it is in the overall best interest of the patient. Information on mixed sex accommodation is available on the Department of Health website.

Infection control guidance

No patient should knowingly be transferred with contagious infectious illness (such as norovirus) without clinician-to-clinician discussion and appropriate infection control measures. However, this should not prevent timely repatriation outside of the context of a patient being in a clinically unstable condition.

It is accepted that on occasion, in such circumstances, patients may not be repatriated direct to a Stroke Unit (MAU/CDU if mimic) in order to meet the infection control requirements and maintain patient safety.

As soon as the period of infectious illness has passed - provided stroke is the predominant medical problem – such patients should be transferred to complete their inpatient stay on a Stroke Unit.

General contracting rules for HASUs

Stroke units must accept a patient from a HASU for which they are the defined stroke unit as per the Healthcare for Birmingham, Solihull and Black Country mapping table. HASUs have the authority to repatriate patients to the relevant stroke unit and are expected to follow the agreed protocol when doing so. If a patient transfer is delayed in excess of 24 hours after the agreed transfer time by a stroke unit, a HASU can:

- keep the patient in the HASU
- transfer the patient to the ASU or rehabilitation stroke unit in the same trust as the HASU
- seek an alternative stroke unit for the patient's post ongoing stay.

A HASU can claim £350 per day (based on the stroke unit spell divided by the trimmed average length of stay) from the relevant CCG for patients who are not accepted by the relevant stroke unit. The CCG, in turn, can deduct this from its payment to the delaying stroke unit. This should very much be the exception and LCAG should monitor the situation. This rule may be modified at a later date.

(Finalised details and processes need to be agreed with the CCG and Provider Finance directors before this is signed off)

Protocol for Transfer of Stroke Mimics

This protocol is for FAST+ patients who are not found to suffer an acute stroke. Stroke mimics should be discharged home directly from ED, HASU or MAU/CDU where possible.

Stroke mimics who cannot be discharged directly home if from outside the agreed catchment areas should be repatriated within 24 hours of a non-stroke diagnosis being made to the patient's local hospital MAU or equivalent unit/ward, if clinically appropriate. The patient's local receiving hospital has a responsibility to accept these patients from the HASU or MAU of the HASU hospital.

Operational Policy for Stroke Mimic patients (Fast Positive) brought to a HASU

In the Emergency Department

Patients should be met and assessed by stroke/neurology consultant/registrar or stroke nurse.

If the patient has a suspected/confirmed stroke, the existing pathway of assessment for thrombolysis and/or HASU admission is unchanged. All patients admitted with a stroke (suspected or confirmed) go direct to the HASU.

If a stroke is excluded in the ED phase of their assessment the patient is referred to the Registrar of the appropriate specialty/A&E and admitted (MAU/CDU) **within the same trust** or **discharged home** as appropriate.

On the MAU/CDU

If the patient cannot be discharged home directly from the MAU/CDU, they should be referred to their local MAU/CDU and be repatriated within 24 hours of referral.

The Medical Bed Manager will inform the receiving MAU/CDU bed manager of the patient upon admission to the MAU/CDU.

On the HASU

If a stroke is excluded following further investigation and assessment on the HASU, the patient should be **transferred within 24 hours of referral acceptance and medical stability** in line with the referral processed outlined above.

The HASU team should hand over the patient to the receiving medical team with a completed discharge summary and telephone handover.

If over 24 hours from referral, follow the escalation policy for delayed transfers.

While patients should not be moved while awaiting repatriation, in cases that may compromise the HASU's ability to take stroke patients, mimics may be moved to an appropriate ward within the HASU hospital under the care of that speciality. This will help to ensure HASU bed availability at all times. When the receiving MAU/CDU cannot accept the patient within 24 hours, the bed manager should transfer the patient to an appropriate medical ward while awaiting transfer.

PROTOCOL FOR VASCULAR SURGERY

Carotid endarterectomies should take place as soon as possible (no more than two weeks wait). There should be local arrangements to decide where patients have this procedure, including transfer arrangements.

Sites in Birmingham and the Black Country currently offering vascular surgery are:

- Russell's Hall Hospital
- Queen Elizabeth Hospital
- Birmingham Heartlands Hospital.

If patients are identified in out-patient TIA clinics with symptomatic high grade stenosis, there should be a local arrangement in place to admit them to a vascular/stroke ward for consideration of urgent vascular surgery if needed.

High grade carotids should be discussed with the on-call stroke physicians at the HASU or the vascular team to arrange admission if required.

PROTOCOL FOR 24/7 NEURORADIOLOGY ACCESS

Local arrangements should be in place, but networked solutions should be considered where neuroradiology resources are limited.

Appendices (Details to be confirmed)

Appendix 1 - Mimics: referral process, contact for repatriation and escalation

Appendix 2 - Escalation process for delayed stroke transfers from HASU to ASU

Appendix 3 - WMAS Emergency Department to HASU transfer policy

Appendix 4 – Patient notification sheet

Appendix 5 – Acute stroke Unit Patient transfer document

Appendix 6 – Community provider contact details for ESD and community rehab sites



Procedure for patients presenting with stroke symptoms at a non-HASU site

Introduction

West Midlands Ambulance Service NHS Trust is committed to transferring patients that need HASU assessment for Stroke as quickly as possible.

To ensure that there is no delay in response the Trust has produced this guidance to ensure that there is no miscommunication when an emergency transfer is required.

Procedure

Upon identifying a patient with stroke symptoms the following should occur whilst the initial treatment for the patient is being commenced:

Contact the Ambulance Emergency Operations Centre for your area on one of the following:

01384 215 520

On the operator answering inform them that:

“I require a Paramedic crew to undertake an emergency transfer from (state the unit/ward you require the ambulance to come to) to the nearest Hyper Acute Stroke Centre”

The operator will then take you through a list of question, these questions will not delay the response of the ambulance.

If there is a significant delay expected due to operational demands you will be informed of the delay by the Emergency Operations Centre.

**WMAS HASU – 10/07/2014 MW
Version 1**

10. Appendix

High level guidelines for patients accessing stroke services
in south London

HIGH LEVEL GUIDELINES FOR PATIENTS ACCESSING STROKE SERVICES IN SOUTH LONDON

Version 1.4

Document review	Version	Comment	Initials
December 2011	1		EJH
January 2012	1.1	Updates to contact details	EJH
March 2012	1.2	Updates to guidance for overseas visitors and patients with no fixed abode	EJH
May 2012	1.3	Updates to referrals to community diagrams	EJH
April 2013	1.4	Updates to contact details	VB

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PROTOCOL FOR MANAGING POSSIBLE STROKE PATIENTS PRESENTING AT A NON-HASU ED OR URGENT CARE CENTRE

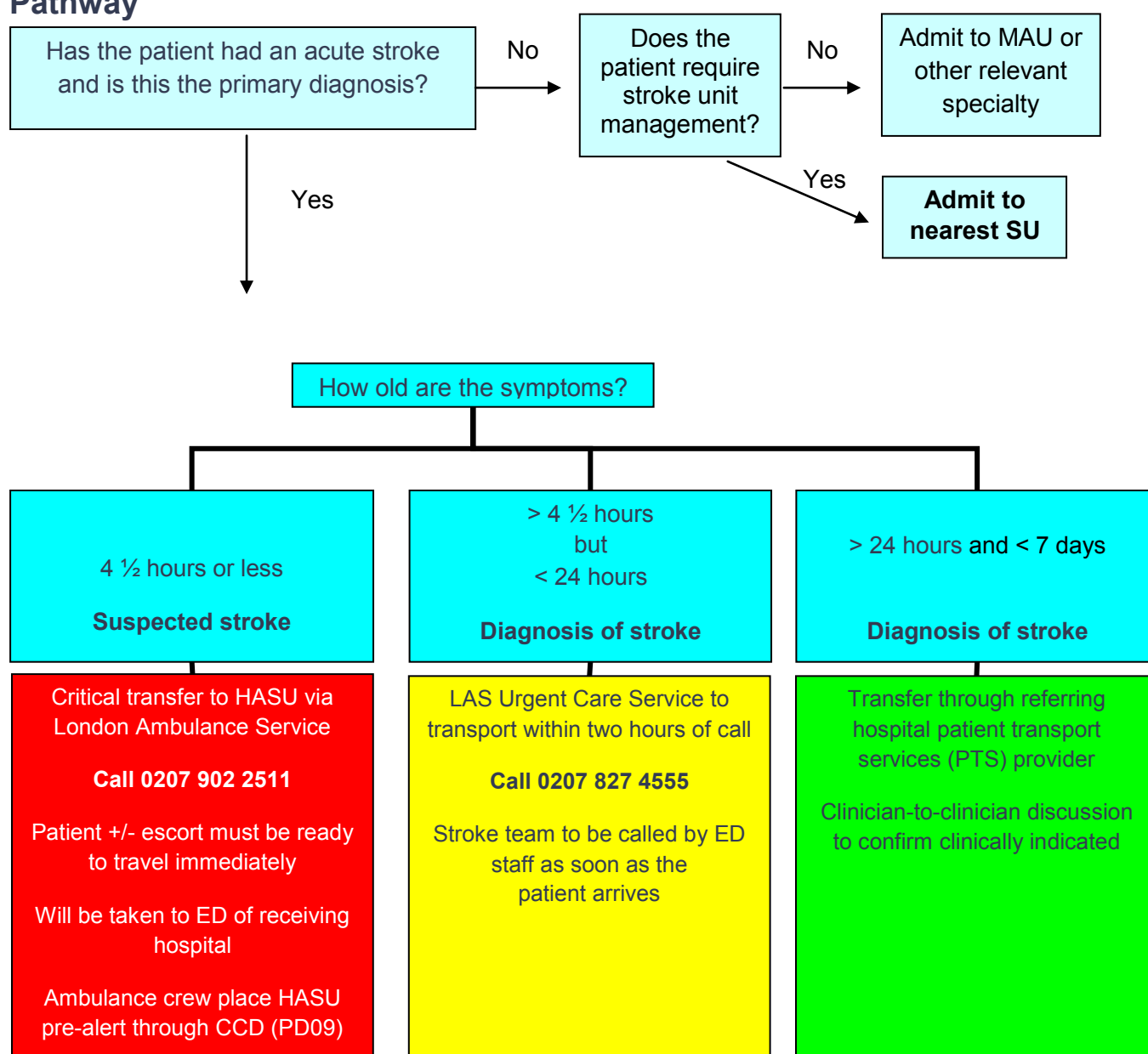
All FAST-positive patients outside hospital or at presentation to an Emergency Department (ED), either as a self-presenter or by London Ambulance Service (LAS), will be taken directly to a Hyper Acute Stroke Unit (HASU), bypassing local emergency departments.

If a patient presents at an ED of a multi-sited Trust with a HASU, the Trust should have an internal mechanism to ensure that the patient is directly admitted to the Trust's HASU.

The priority is to transfer FAST-positive patients to a HASU with the minimum of delay, as per the pathway below. (For more detailed information see [LAS ED to HASU transfer policy](#)).

Note: Neuroimaging should **not** be performed locally as this will delay transfer.

Pathway



PROTOCOL FOR MANAGING IN-PATIENT STROKES (INCLUDING PRE-OPERATIVE STROKE)

Peri-procedural acute stroke

If the main problem is stroke, there should be an urgent clinician-to-clinician discussion regarding referral to the nearest HASU and consideration whether the patient is suitable for thrombolysis.

Acute in-hospital strokes

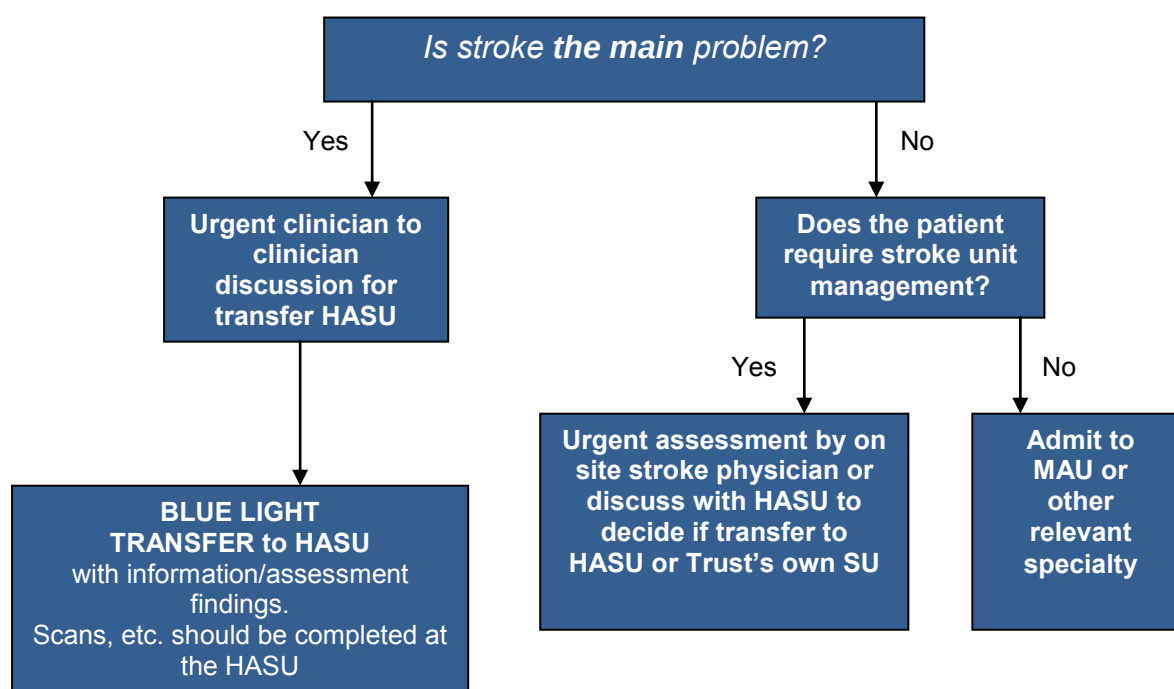
Strokes occurring in hospital on patients with other significant acute conditions (e.g. those on intensive care unit [ICU] or intensive treatment unit [ITU]) or with post-operative complications) require consideration on an individual basis by the local acute stroke physician/neurologist or HASU on-call team.

Patients may be considered for transfer to either HASU or SU, based on clinical need. It is recognised that such patients are likely to need dual specialty input to their care. This needs to be considered in any inter-hospital transfer.

In-hospital stroke > 24 hours

If the patient is found with stroke symptoms greater than 24 hours following suspected episode, there should be a same-day assessment by an on-site stroke physician wherever possible. If there is no on-site stroke physician, there should be a discussion with the nearest HASU to decide whether to send that patient to the HASU, local SU or to remain under the admitting team with specialist advice.

Patient presents with stroke whilst an in-patient (including peri-operative stroke)

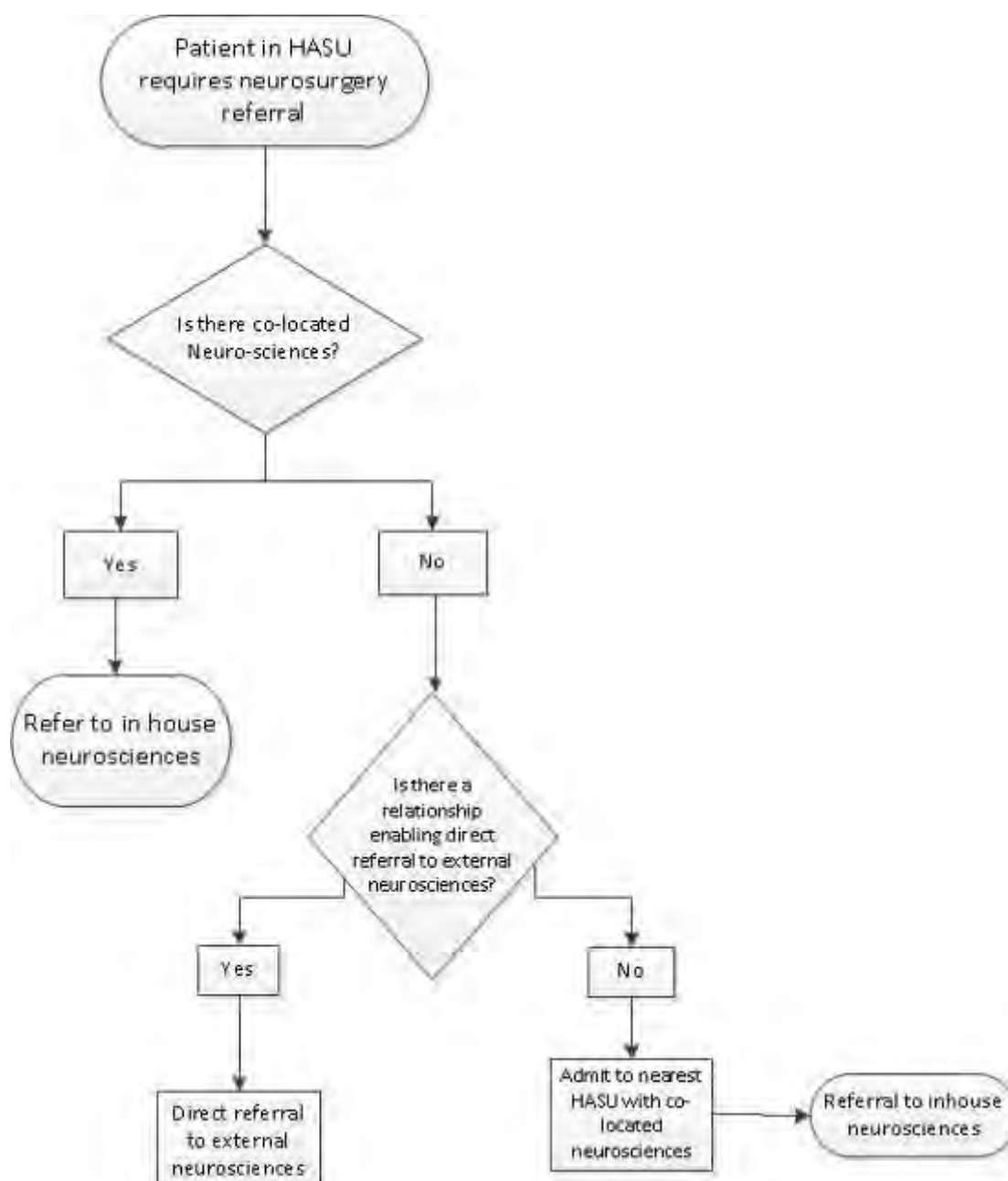


PROTOCOL FOR NEUROSURGERY REFERRALS

HASUs without a co-located neurosciences centre should either refer directly to an external neurosciences centre or to the nearest HASU with a co-located neurosciences centre.

London neuroscience centres include: St George's Hospital, King's College Hospital, The Royal London Hospital and UCL Institute of Neurology, Queen Square.

Guidelines



HASU GUIDANCE FOR REFERRING SPONTANEOUS INTRACRANIAL HAEMORRHAGES TO A NEUROSURGEON

Patients with spontaneous intracranial haemorrhages must be treated in a HASU or neuro high dependency unit (HDU)/ICU, according to clinical need.

Cerebellar haemorrhage

This can be a neurosurgical emergency. Alert a neurosurgeon immediately. Especially if:

- The patient has signs of a brainstem syndrome (e.g. dysarthria, diplopia, etc.)
- There is progressive neurological deterioration, including agitation
- There is evidence of hydrocephalus on CT
- There is brainstem compression on CT
- The tectal cisterns are obliterated on CT (risk of brain stem compression)

Supratentorial haemorrhage

The Surgical Treatment for Ischemic Heart Failure (STICH) Trial showed no clear evidence for routine **immediate** surgical evacuation of all spontaneous supratentorial intracerebral haemorrhages. However, sub-group analysis of the STICH trial suggests that there **may** be benefit in surgical evacuation of a superficial cortical haemorrhage in selected cases. STICH II aims to evaluate this problem. Protocols may be reviewed as more data becomes available.

A patient with an impaired level of consciousness and intracerebral haemorrhage should ALWAYS be discussed with the neurosurgeons (unless deemed clearly unsuitable for any surgical intervention by the referring team).

Deep supratentorial haemorrhage

This is **rarely** an indication for surgery. An **urgent discussion** with a neurosurgeon should occur in the case of:

- Progressive neurologic deterioration
- Hydrocephalus
- Appearance on plain CT suggesting structural underlying cause (see callout)

Lobar supratentorial haemorrhage

A few **selected cases** may be considered for surgery. Discussions with a neurosurgeon should occur on an individual patient basis.

Needs **urgent** discussion with neurosurgeons in case of:

- Progressive **neurologic deterioration**
- Hydrocephalus
- Appearance on plain CT suggesting structural underlying cause (see callout)

Signs on CT scan which suggest an underlying structural lesion

- Subarachnoid component of the haemorrhage
- IVH
- Abnormal calcification
- Prominent vascular structures
- Site of haemorrhage (eg in temporal lobe or close to Sylvian fissure)

Surgery would **NOT** normally be considered in the case of:

- Mild neuro deficits
- Small volume supratentorial haemorrhage
- Brain stem haemorrhage
- Pupils fixed and dilated
- GCS ≤ 4 (except in case of cerebellar haemorrhage, when surgery is still considered)

Subarachnoid and intraventricular haemorrhages (IVH)

All subarachnoid haemorrhages should be referred to neurosurgery.

Intraventricular haemorrhages should be referred immediately, in case of hydrocephalus or an underlying aneurysm or arteriovenous malformation (AVM) as cause of IVH.

PROTOCOLS FOR DECOMPRESSIVE HEMICRANIECTOMY FOR MALIGNANT MCA INFARCTION: *ST GEORGE'S HOSPITAL*

HYPERACUTE STROKE UNIT HEMICRANIECTOMY GUIDELINES

Hemicraniectomy

This is an emergency neurosurgical operation. Patients with a large middle cerebral artery (MCA) infarct are at high risk of developing severe brain swelling and death from coning, the malignant MCA syndrome. A little, high quality data is available (mainly 93 patients from three studies) to inform a decision on referral for neurosurgery. (NNT is number needed to treat. mRS is the modified Rankin Score. NIHSS is the National Institutes for Health Stroke Scale.)

- Survival in any condition: NNT is TWO patients
- Survival with mRS $\leq$ 3: NNT is FOUR patients
- The outcome in patients over the age of 50 appears very poor.
- Dominant hemisphere infarction is **NOT** a bar to surgery.
- Treatment with thrombolysis is **NOT** a bar to surgery.

REFERRAL CRITERIA

Inclusion

Patients with MCA infarction who meet all of the criteria below should be considered for decompressive Hemicraniectomy. They should be referred within 24 hours of onset of symptoms, the intention being to treat within a maximum of 48 hours.

- Age up to 60 years (NICE guidance)
- Within 48 hrs of stroke onset
- Total NIHSS score >15
- Drowsy. (NIHSS item 1a should score ≥ 1)
- Imaging evidence of $>50\%$ MCA territory infarction with or without additional infarction in the territory of the ipsilateral anterior or posterior cerebral artery.

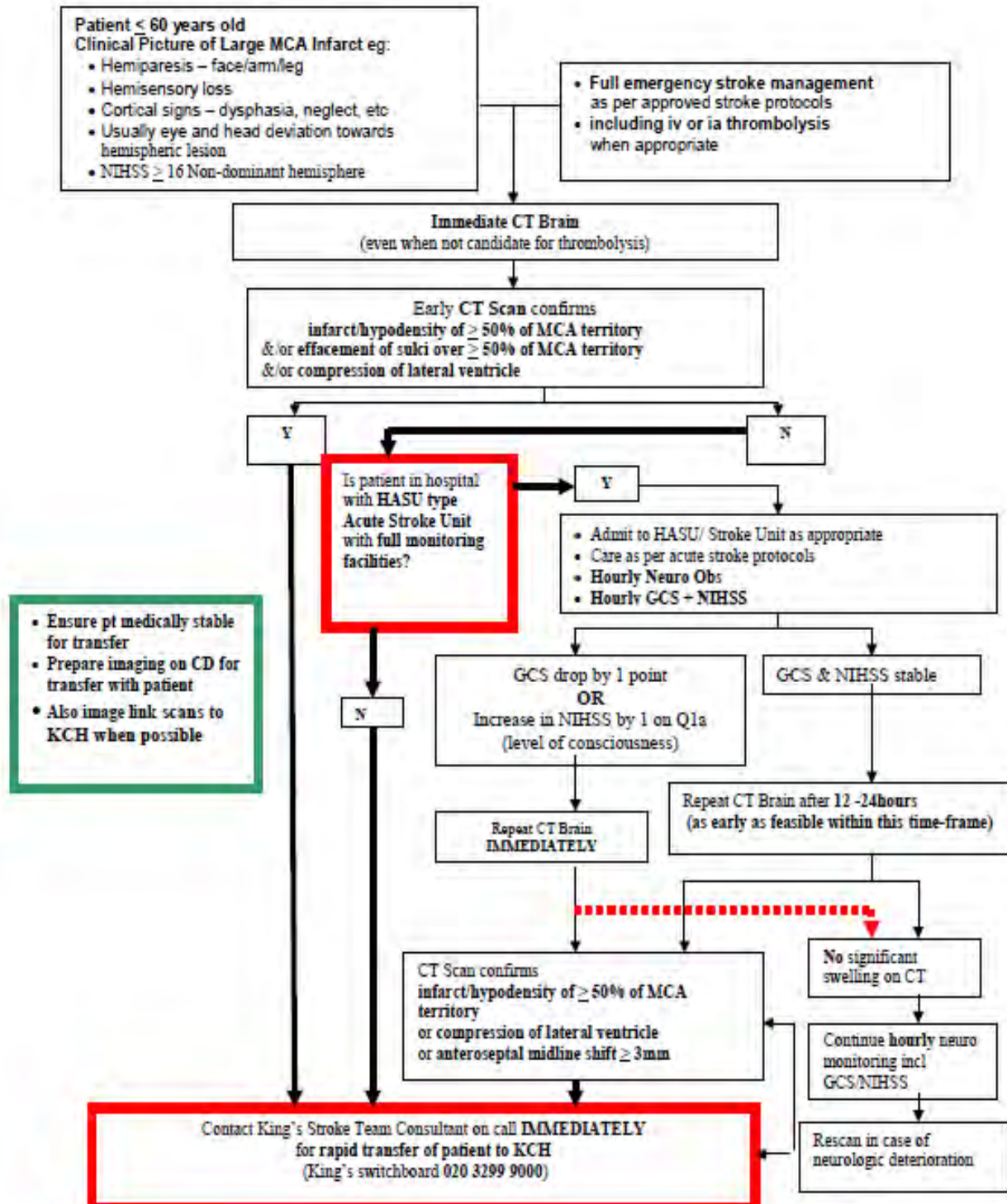
Exclusion

- Short life expectancy (<3 years).
- Pre-existing disability (pre-morbid mRS ≥ 2)
- Two fixed dilated pupils
- Major medical or neurological co-morbidity (that may worsen outcome).

REFERRAL PROCESS

- Referrals should be made to the stroke registrar holding the thrombolysis bleep (7317).
- Patients should be transferred to the HASU, William Drummond ward.
- Patients and their families will be counselled by the stroke team prior to referral for neurosurgery
- After surgery, patients will go to NITU under the care of the neurosurgeons
- From NITU, patients will return to the HASU under the care of the stroke team.
- Patients will then be transferred back to the referring hospital. Note, patients will only be accepted from a referring hospital on the understanding that the referring hospital accepts their transfer back once perioperative care has been completed.
- A separate short admission will be pre-arranged for cranioplasty in 3 months.

PROTOCOLS FOR DECOMPRESSIVE HEMICRANIECTOMY FOR MALIGNANT MCA INFARCTION: *KING'S COLLEGE HOSPITAL*

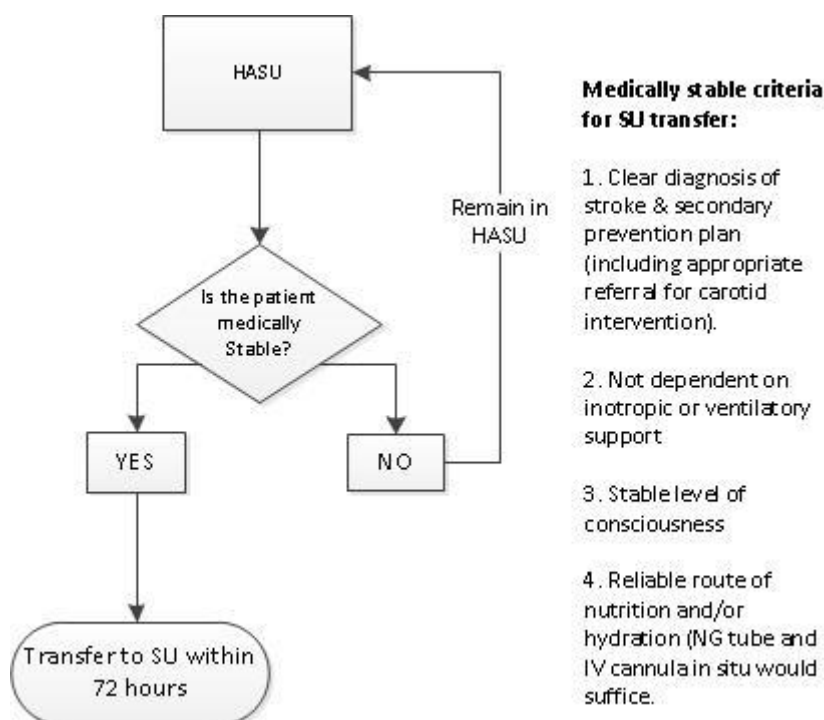


HASU TO SU TRANSFERS

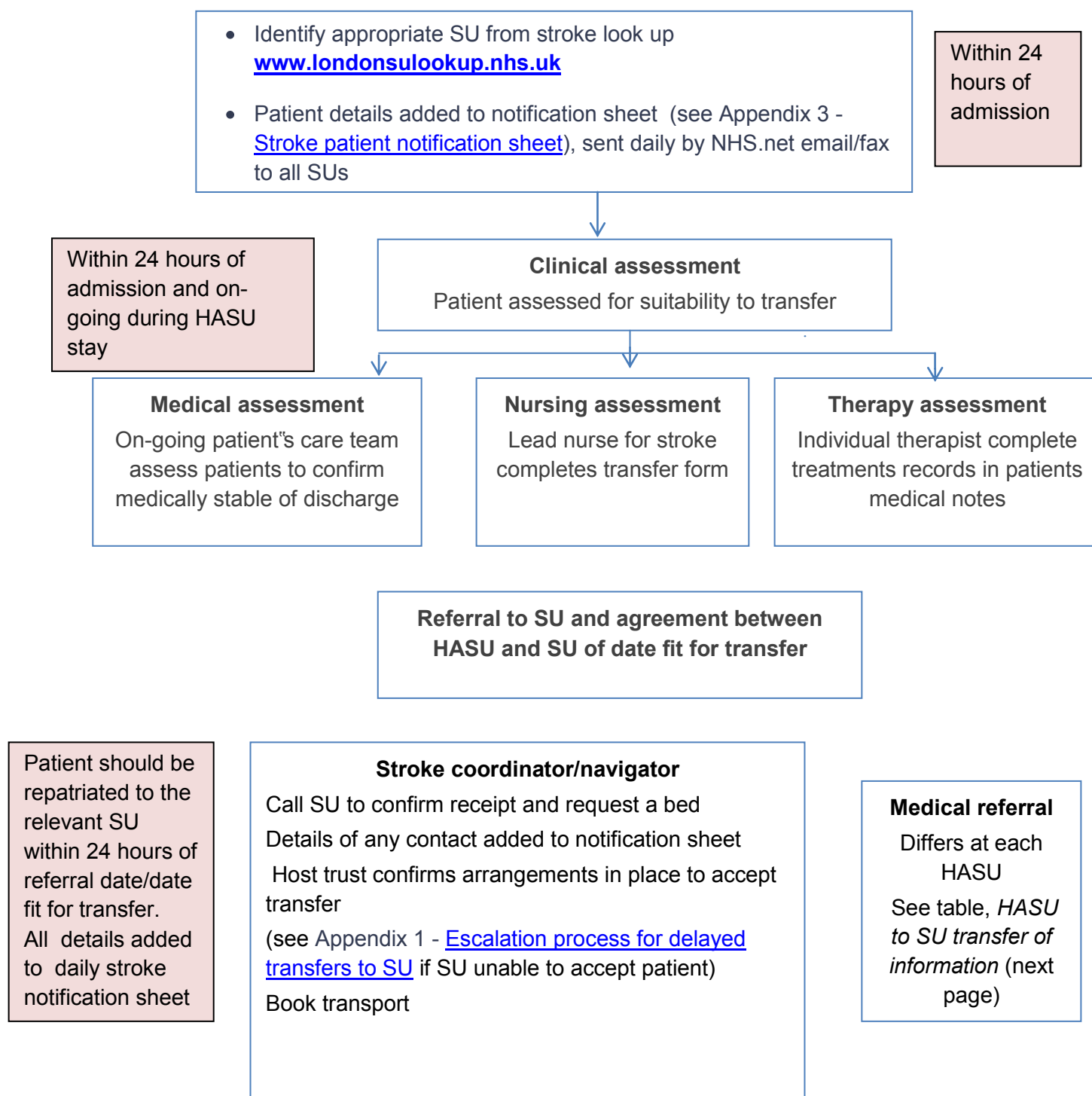
Protocol for transfer from HASU to SU

- All medically fit patients should be repatriated to an SU within 72 hours or earlier, as appropriate.
- There should be an efficient operational policy agreed, including an escalation policy (see Appendix 1 – [Escalation process for delayed transfers to SU](#)). Ideally, patients should be transferred from the HASU to the patient's local SU. If it is not possible to transfer patients to the local SU within the specified timeframe due to lack of SU capacity, this should be escalated to senior management and transfer to an alternative SU should be considered.
- There should be clinician-to-clinician communication to agree the transfer and confirm patient is "medically stable"; a discharge summary should be sent and access to scans provided.
- Patients should be transferred to the local SU within daylight hours wherever possible.
- Repatriation should take place seven days a week.

Guidelines for protocol for HASU to SU transfer



Transfer of stroke patients from HASU to SU pathway



Patients/carers should be provided with written information regarding the London acute stroke model, repatriation and choice. Where HASUs do not have their own versions, they can download the London Stroke Networks' aphasia-friendly booklet from the website. *(To be available January 2012)*

HASU to SU transfer of information

	HASU	SGH	King's	PRU
Notification	Who completes	Stroke navigator	Stroke navigator	Nurse
	How sent	Daily fax / email to SUs	Daily e-fax	Daily email
	What information included	See Appendix 3 – South London stroke notification sheet		
Referral	Who completes	Consultant or trainee		Stroke SHO
	How sent	E-fax / email Ward clerk weekdays Nurse in charge weekends	E-fax	Included in the patient's medical notes (verbal referral as well, if specific medical issues)
	What information included	Discharge summary	Referral letter	Referral letter
Information sent with patients	Who completes	Nurse	CDs	Nurse
	How sent	With patient		With patient
	What information included	See Appendix 5 – SGH transfer document	See Appendix 4 – KCH transfer sheet	See Appendix 6 – PRU transfer sheet

HASU to SU: Contact details for transfer

The London Stroke Unit Lookup tool maintains up-to-date contact details for each SU, www.londonsulookup.nhs.uk.

Each unit should ensure the details are current. Amendments can be made via the Network or by emailing the administrator at info@slcsn.nhs.uk. Details will be changed within two working days of the request.

Overseas visitors

Patients who live outside the UK requiring further SU care before repatriation will be managed in one of the cluster's SUs. The pan-London Clinical Advisory Group agreed where a local link can be

established for these patients that a detailed consultant-to-consultant discussion occur between the HASU and SU in order to provide transparency of all relevant information.

Where agreement cannot be reached between clinical teams, the matter should be passed to Trust bed managers or overseas officers, where applicable, to resolve.

Patients with no fixed abode

Every effort should be made to establish an address of usual residence. If a patient is unable to give an address and they are not registered with a GP practice, the host Trust should be determined by the terms of „usual residence“. If patients consider themselves to be resident at an address, which is for example a hostel, then this should be accepted.

„Usually resident“ is largely determined by the person’s own perception of where they are resident (either currently, or failing that, most recently) as evidenced by the address they give. If a person is unable to give an address, and their place of residence cannot be established by any other means, the responsible commissioner is the PCT in whose area the unit providing treatment is located.¹

When dealing with social services, the term is „ordinary residence“, but the same basic rules apply, where a person is not ordinarily resident in any local authority (a person of “no settled residence”), the NHS Trust should notify the local authority in which the hospital is situated.²

The network will collect the contact details of each Trust’s homeless discharge coordinator and share this.

Mixed accommodation guidance

The NHS Operating Framework for 2011-2012 confirmed that all providers of NHS funded care are expected to eliminate mixed-sex accommodation, except where it is in the overall best interest of the patient.

Information on mixed sex accommodation is available on the [Department of Health website](#).

Infection control guidance

No patient should knowingly be transferred with contagious infectious illness (such as norovirus) without clinician-to-clinician discussion and appropriate infection control measures. However, this should not prevent timely repatriation outside of the context of a patient being in a clinically unstable condition.

It is accepted that on occasion, in such circumstances patients may not be repatriated direct to a Stroke Unit (AMU if mimic) in order to meet the infection control requirements and maintain patient safety.

As soon as the period of infectious illness has passed - provided stroke is the predominant medical problem – such patients should be transferred to complete their inpatient stay on a Stroke Unit.

General contracting rules for HASUs

“Stroke units must accept a patient from a HASU for which they are the defined stroke unit as per the Healthcare for London mapping table. HASUs have the authority to repatriate patients to the

¹ [Who Pays? Establishing the responsible commissioner](#)

² [ORDINARY RESIDENCE: Guidance on the identification of the ordinary residence of people in need of community care services, England](#)

relevant stroke unit and are expected to follow the agreed protocol when doing so. If a patient transfer is delayed in excess of 24 hours after the agreed transfer time by a stroke unit, a HASU can:

- Keep the patient in the HASU
- Transfer the patient to the stroke unit in the same trust as the HASU
- Seek an alternative stroke unit for the patient's post hyper-acute stay.

A HASU can claim £350 per day (based on the stroke unit spell divided by the trimmed average length of stay) from the relevant PCT for patients who are not accepted by the relevant stroke unit. The PCT, in turn, can deduct this from its payment to the delaying stroke unit. This should very much be the exception and networks should monitor the situation. This rule may be modified at a later date."

From the [Stroke acute commissioning and tariff guidance](#), available online.

Finalised details and processes to be determined at the next repatriation meeting (early 2012).

PROTOCOL FOR TRANSFER OF MIMICS WHEN DIAGNOSIS NOT STROKE

- This protocol is for FAST+ patients who are not found to suffer an acute stroke.
- Stroke mimics should be discharged home directly from ED, HASU or AMU where possible.
- Stroke mimics who cannot be discharged directly home should be repatriated within 24 hours of a non-stroke diagnosis being made to the patient's local hospital AMU or equivalent unit/ward, if clinically appropriate.
- The patient's local receiving hospital has a responsibility to accept these patients from the HASU or AMU of the HASU hospital.

Operational Policy for FAST+ patients brought to a HASU

In the Emergency Department

- Patients should be met and assessed by stroke/neurology consultant/registrar or stroke nurse.
- If the patient has a suspected/confirmed stroke, the existing pathway of assessment for thrombolysis and/or HASU admission is unchanged. All patients admitted with a stroke (suspected or confirmed) go to the HASU.
- If a stroke is excluded in the ED phase of their assessment the patient is referred by the Stroke/Neurology Registrar to the Registrar of the appropriate specialty/A&E and admitted (AMU) **within the same trust** or **discharged home** as appropriate.

On the AMU

- If the patient cannot be discharged home directly from the AMU, they should be referred to their local AMU and be repatriated within 24 hours of referral.
- The Medical Bed Manager will inform the receiving AMU bed manager of the patient upon admission to the AMU.

On the HASU

- If a stroke is excluded following further investigation and assessment on the HASU, the patient should be **transferred within 24 hours of referral acceptance and medical stability** in line with the referral processed outlined above.
- The HASU/AMU team should hand over the patient to the receiving medical team with a completed discharge summary and telephone handover.
- **If over 24 hours from referral**, follow the escalation policy as found in [Appendix 1](#) - Escalation process for delayed transfers to SU.
- While patients should not be moved while awaiting repatriation, in cases that may compromise the HASU's ability to take stroke patients, mimics may be moved to an appropriate ward within the HASU hospital under the care of that speciality. This will help to ensure HASU bed availability at all times.
- When the receiving AMU cannot accept the patient within 24 hours, the HASU/AMU bed manager should transfer the patient to an appropriate medical ward/AMU while awaiting transfer.

Mimics: Referral process, contacts for repatriation and escalation

from a site with a HASU to South London hospital AMUs (or equivalent)

(as of 20th December)

Sector	Hospital	Referral process	Escalation after 24hrs (e.g. general managers, bed managers)
South East London	King's College Hospital 020 3299 9000	Neurosciences Bed Manager: bleep 746 via switchboard (0830-1530)- Mon-Fri and out of hours Site Management Team via switchboard 020 3299 9000	Mon-Fri Service Manager: Stroke and Rehabilitation Medicine on 020 3299 1333 Weekend Site Management Team via switchboard 020 3299 9000
	Lewisham Hospital 02083333000	Clinical site managers bleep 5705/7999 via switchboard to request a bed <u>once</u> the appropriate referral has been made and accepted by the on-call medical/surgical team (see Appendix 8)	Mon-Fri Sive Cavanagh #6676 or mobile via switchboard Weekend On call manager via switchboard
	Princess Royal University Hospital 01689 -863000	Bed site manager – Bleep 427, via switchboard on 01689-863000. To request allocation of a bed following acceptance from an appropriate on call medical/surgical team.	Mon-Fri Caroline Willis, General Manager For Emergency and Acute Medicine 01689-865880 / Mob: 7713396544 Weekend On call manager via switchboard
	Queen Elizabeth Hospital 0208-836-6000	Site Management Team, via switchboard on 0208-836-6000. To request allocation of a bed following acceptance from an appropriate on call medical/surgical team	Mon-Fri Paul White, General Manager for Emergency & Acute Medicine 02088365424 Weekend On call manager via s/board
	St Thomas' Hospital 020 7188 7188	Site Nurse Practitioner via Switchboard bleep 0162 . If necessary out of hours also contact on call medical consultant	Mon-Fri Liz McAndrew GM 0207188 0517 Weekend Site nurse practitioners bl 0162
South West London	Croydon University Hospital 0208 4013 000	Site Practitioner/Bed Management Team ext 3427 or bleep 145 via s/b to request allocation of bed. SP will identify a bed on MAU where possible. If bed not available discuss with consultant on call to determine appropriate bed.	Mon-Fri Lorraine Walton Operations Centre manager 020 8401 3427 Bleep 545 Weekend Manger on call via switchboard
	Kingston Hospital 020 8546 7711	Patient should be referred to the medical registrar on call (bleep 174 at Kingston) and the advanced site practitioner/bed manager on bleep 504 should also be contacted once the patient has been "accepted" by the on call medical team.	Mon-Fri Tracey Moore 0208 934 2622 Weekend On call manager via switchboard 020 85467711
	St George's Hospital 020 8672 1255	Bed Site Manager on bleep 6007 via switchboard to request allocation of bed AFTER referral of pt to appropriate medical/surgical team	Mon-Fri General manager for Acute Medicine (Jane Fisher) via switchboard Weekend General Manager on call via switchbd
	St Helier Hospital 020 8296 2000	Medical registrar on bleep 400 via switchboard 020 8296 2000 to refer the patient and clinical site manager (24/7) on bleep 443 (8am to 8pm) or bleep 446 (8pm to 8am) via switchboard or on 020 8296 2886 (voicemail only service to leave a message) to facilitate timely repatriation	Mon-Fri General Manager Lesley Nolan 07795540597. Weekend On call manager via switchboard

PROTOCOL FOR VASCULAR SURGERY

- Carotid endarterectomies should take place as soon as possible (no more than two weeks wait). There should be local arrangements to decide where patients have this procedure, including transfer arrangements. These will be determined as per the [London Cardiovascular Project](#): South East London services will be centralised at St Thomas' Hospital; South West London services will be centralised at St George's Hospital.
- If patients are identified in out-patient TIA clinics with symptomatic high grade stenosis, there should be a local arrangement in place to admit them to a stroke ward for consideration of urgent vascular surgery.
- High grade carotids should be discussed with the on-call stroke physicians at the HASU to arrange admission if required.

PROTOCOL FOR 24/7 NEURORADIOLOGY ACCESS

Local arrangements should be in place, but networked solutions should be considered where neuroradiology resources are limited.

APPENDIX 1 – ESCALATION PROCESS FOR DELAYED STROKE TRANSFERS FROM HASU TO SU

Stroke Unit	24hrs e.g. General manager / Bed managers	48hrs e.g. General manager, Div. Dir. Ops	72hrs e.g. COO	>72hrs e.g. CEO
St Georges Mon-Fri	Natasha Dillon (Matron) / Tara May Tyrer (Stroke coordinator) 0208 672 1255 X4783/4785 or bleep 7933	Katie Cusick (GM) / Gayathri Sivaplan (AGM) 0208 672 1255 X4483 07825116016	Chloe Cox (DDO), ? (COO) Via switchboard 0208 672 1255	(COO), Miles Scott (CEO) Via switchboard 0208 672 1255
St Georges Weekend	Nurse in charge – Brodie Stroke Ward 0208 672 1255 X4783	Site Manager 0208 672 1255 Bleep 6007	GM on call Via switchboard 0208 672 1255	Director on-call Via GM oncall Via switchboard 0208 672 1255
Kingston Mon-Fri	Advanced Site Practitioner 0208 546 7711 Bleep 504	Tracey Moore Divisional manager Via switchboard 020 85467711	Sarah Tedford COO Via switchboard 020 85467711	Sarah Tedford COO Via switchboard 020 85467711
Kingston Weekend	Advanced Site Practitioner 0208 546 7711 Bleep 504	Tracey Moore Divisional manager Via switchboard 020 85467711	Sarah Tedford COO Via switchboard 020 85467711	Sarah Tedford COO Via switchboard 020 85467711
Croydon UH Mon-Fri	Ajay Boodhoo Nurse Stroke Practitioner 0208-4013000 bleep 252	Heather Hadizad General Manager Emergency Care 0208401 3000 ext 3593, bleep 364 from June 30 th 2012 will be KatharineBrothwood	Mark Kemp ADO Emergency Care 0208401 3000 ext 3151 from 30 th June 2012 will be Elaine Clancy ADO	Richard Parker - Director of Ops Via switchboard 020 8401 3000
Croydon UH Weekend	Site Practitioner on call bleep via switchboard 020 8401 3000	On call manager Contact via switchboard 020 8401 3000	On call director Contact via switchboard 020 84013000	On call director Via switchboard 020 8401 3000

St Helier Mon-Fri	Stroke Nurse Consultant -Wendy Brooks 0208296 2000 Bleep 917 OOH On call medical SpR 020 8296 2000	Charlotte O'Brien, St Helier site GM via switchboard 020 8296 2000	Deborah Frodsham. DDO, Emergency care via switchboard 020 8296 2000	Karen Breen COO via switchboard 020 8296 2000
St Helier Weekend	OOH On call medical SpR 020 8296 2000 Bleep 400 Bed Manager 020 8296 2000, Bleep 576 (OOH bleep 443)	On-call General Manager Via Switchboard 020 8296 2000	On-call Director Via Switchboard 020 8296 2000	On-call Director Via Switchboard 020 8296 2000
GSTT Mon-Fri	Gill Cluckie, Clinical Lead and Andy Willis Via switchboard 020 7188 7188 Site Nurse Practitioner Via switchboard 020 7188 7188 / bleep 0162	Gill Cluckie, Clinical Lead and Karen Heng Via switchboard 020 7188 7188 Site Nurse Practitioner Via switchboard 020 7188 7188 / bleep 0162	Gill Cluckie, Clinical Lead and Neil Macdonald Via switchboard 020 7188 7188 Site Nurse Practitioner Via switchboard 020 7188 7188 / bleep 0162	Director of clinical services, Jon Findlay 020 7188 7073
GSTT Weekend	Site Nurse Practitioner via Switchboard and HASU consultant via switchboard 020 7188 7188 / bleep 0162	Site Nurse Practitioner via Switchboard and HASU consultant via switchboard 020 7188 7188 / bleep 0162	Site Nurse Practitioner via Switchboard and HASU consultant via switchboard 020 7188 7188 / bleep 0162	On-call Director via switchboard 020 7188 7188
PRUH Mon-Fri	Caroline Willis, 01689 865880 07713396544	Caroline Willis, 01689 865880 07713396544	Director of Operations 020 8836 5928	Jenny Hall Deputy Chief Operating Officer 020 8302 2678 ext. 2875
PRUH Weekend	Manager On Call via Switchboard 01689 863000	Manager On Call via Switchboard 01689 863000	Director On call via Switchboard 01689 863000	Director On call via Switchboard 01689 863000

KCH Mon-Fri	Consultant Nurse Maria Fitzpatrick 02032994084 or 07528977464 and HASU consultant via switchboard 020 3299 9000 Site Management Team via switchboard 020 3299 9000, bleep 333 There is an oncall manager available through switchboard OOH.	Maurizio Privitelli, Service Manager 02032991333 and HASU consultant via switchboard 020 3299 9000 Site Management Team via switchboard 020 3299 9000, bleep 333. There is an oncall manager available through switchboard OOH.	Harriet Livesey, Divisional Manager 02032992670 and HASU consultant via switchboard 020 3299 9000 Site Management Team via switchboard 020 3299 9000, bleep 333 There is an oncall manager available through switchboard OOH.	Chief Operating Office Roland Sinker or CEO Tim Smart 020 3299 3270 / 2124 and and HASU consultant via switchboard 020 3299 9000 Site Management Team via switchboard 020 3299 9000, bleep 333 There is an oncall manager available through switchboard OOH.
KCH Weekend	Site Management Team via switchboard 020 3299 9000, bleep 333and HASU consultant via switchboard. 020 3299 9000	Site Management Team via switchboard 020 3299 9000, bleep 333and HASU consultant via switchboard. 020 3299 9000 On call manager available through switchboard OOH.	Site Management Team via switchboard 020 3299 9000, bleep 333and HASU consultant via switchboard. 020 3299 9000 On call manager available through switchboard OOH.	Site Management Team via switchboard 020 3299 9000, bleep 333and HASU consultant via switchboard. 020 3299 9000 On call manager available through switchboard OOH.
Lewisham Mon-Fri	Bed Manager 020 8333 3000 Bleep 5705	Sive Cavanagh 020 8333 3000 Extension 6676 Or mobile via switchboard	Katy Wells 07768398937	Claire Champion, Director of Ops Via switchboard 020 8333 3000
Lewisham Weekend	Bed Manager Bleep 5705 via switchboard 020 8333 3000	Bed Manager Bleep 5705 via switchboard 020 8333 3000	On call Operational Manager via switchboard 020 8333 3000	On call Executive via switchboard 020 8333 3000
QEH Mon – Fri	Jemma Wells 020 8836 4334	Paul White 020 8836 5424	Director of Operations 020 8836 5928	Jenny Hall Deputy Chief Operating Officer 020 8302 2678 ext. 2875

QEH Weekend	Manager On Call via Switchboard 020 8836 6000	Manager On Call via Switchboard 020 8836 6000	Director On call via Switchboard 020 8836 6000	Director On call via Switchboard 020 8836 6000

APPENDIX 2 – LAS EMERGENCY DEPARTMENT TO HASU TRANSFER POLICY

This protocol is to be used when a stroke patient presents (either as a self presenter or by LAS) at an Emergency Department of a Trust that does not have a Hyper Acute Stroke Unit (HASU) and/or an acute Stroke Unit (SU).

If a patient presents at an Emergency Department of a multi sited Trust with a HASU the Trust should have an internal mechanism for ensuring that the patient is admitted to the Trusts HASU. That internal mechanism may involve LAS as stated below.

Actions to be taken if stroke patients present at a hospital without a HASU and/or stroke unit

There are a number of scenarios under which patients with a possible stroke may present at an Emergency Department of a Trust without a HASU and/or SU. This guidance will provide an overview of the most commonly encountered scenarios and the steps to be taken to support timely and safe transfer.

Patients presenting at ED (self-presenter or patients brought in by ambulance:

- 1. Within the thrombolysis window (currently 4 ½ hours)** - Patients presenting at an ED within the thrombolysis window (within 4 ½ hours of onset of stroke), should be transferred to a HASU using LAS as a critical transfer.
- 2. Within 24 hours of onset of symptoms but outside 4 ½ hour thrombolysis window** - Patients should be transferred to a HASU by LAS within 2 hours. These transfers will be arranged through the Urgent Operations Centre as per the flowchart.
- 3. More than 24 hours after onset of symptoms** - Following a clinician-to-clinician discussion between the medical lead at the referring trust and the lead stroke physician at a HASU, consideration should be given by the assessing clinician to transferring the patient to a HASU. In the rare circumstances that this is not considered by the assessing clinician to be appropriate the patient must be transferred to (own or nearest) stroke unit. If the assessing clinician determines the patient should go to a HASU, the HASU clinician will not refuse the patient. In the event that the HASU clinician refuses to accept the patient, the assessing clinician will escalate this to the manager on-call for the HASU host trust.

As this transfer is unlikely to be time critical, the referring hospital's Patient Transport Service (PTS) should be used for the transfer. If advice about the transfer is required the hospital should contact the Clinical Support Unit at LAS (The hospital should be aware that any LAS PTS service for which the hospital does not hold a LAS contract is chargeable).

To facilitate timely transfer, a full patient history should be taken and if immediate medical management of the patient is required, the patient must be stabilised prior to transfer. Patients will receive full investigation and acute management upon transfer to a HASU. Further examination and investigation at the hospital, which may include CT scan, should be performed only where clinically indicated. This will be dictated by clinical judgment and should not delay the transfer of the patient.

Transfers relating to paragraph 1 above should be arranged as per the flow chart below (red box). LAS Emergency Operations Centre (EOC) will coordinate conveyance to the most appropriate HASU based on real time review of capacity and demand. Capacity issues at the receiving trust will not affect patient transfer. The receiving trust is responsible for actively managing capacity to accommodate new transfers. Transfers relating to paragraph 2 above should be arranged per the flow chart below (yellow box). The Emergency Department clinician will contact the local HASU (normally the HASU local for the patient) to refer the patient and the ED staff will contact LAS to arrange the transfer.

NOTE: All transfers of patients from HASUs to SUs or to other Emergency Departments are not covered by this protocol. They are separately covered by the HASU to SU protocol and are the responsibility of the HASU hospitals' PTS except for critical transfers which will continue to be managed by the LAS. This includes patients brought to the ED of a HASU and subsequently found to not be suitable for a HASU bed.

APPENDIX 3 – SOUTH LONDON STROKE PATIENT NOTIFICATION SHEET

STROKE PATIENT NOTIFICATION RECORD												
	Date of Birth	Post code	Referral Date	Predicted Date Fit For Transfer	Hospital	Date Bed Offered	Infection Status	Side Room Required	Date fit for transfer	Date Of Transfer	Time Of Transfer	Record of contact with HASU/SU
			HASU – complete with date referral sent to SU SU – complete with date referral received	HASU determine this	HASU- complete with hospital referring patient to. SU - complete with hospital receiving patient from	HASU& SU – date SU confirm they will be able to receive the patient	show as Pos or Neg	Y or N	Agreed by both HASU and SU	HASU complete with date patient left HASU SU complete with date patient arrived on SU	HASU complete with time patient left HASU SU complete with time patient arrived on SU Record using 24 hour clock	Show Date and outcome Outcome:
A N Other	01/01/1931	CR4 2BZ	26/03/2011	27/03/2011	SGH	28/03/2011	pos	n	27/03/2011	28/03/2011	13.55	27/3 spoke with nurse in charge single room bed for MRSI positive pt not available until noon tomorrow

APPENDIX 4 – KCH ACUTE STROKE UNIT PATIENT TRANSFER DOCUMENT

Checklist to accompany transfers

Is the patient a _____ resident? Y/N

Does s/he have a diagnosis of stroke? Y/N

Discharge summary Y/N

Drugs on transfer Y/N

Nursing transfer letter Y/N

Therapy transfer letter Y/N

Copies of inpatient notes Y/N

Copies of relevant investigations attached

CT/MRI images provided: (✓)

Image linked ☐
CD with patient ☐

List of outstanding investigations

Has the patient been entered into a research trial Y/N

If so, details

Name of HASU consultant

APPENDIX 5 – SGH ACUTE STROKE UNIT PATIENT TRANSFER DOCUMENT

(Please keep a photocopy of this form on the ASU)

Except in exceptional circumstances patients should not arrive at the receiving ward after 9pm. If transport has not arrived by 8pm please discuss with bed managers and cancel transport and rearrange for transfer the following morning.

Name of Physician confirming medically stable to transfer:

Patients Name: Hospital No: Date of Birth: Property with patient: Y / N	NOK Address/Relationship: Informed of Transfer: Y / N
Date & Time transport booked by staff	Date and Time of agreed & booked transfer of patient.
Date & name of person accepting transfer	Notes with patient : Y / N Imaging details with patient : Y / N Medication with patient: Y / N
Main Diagnosis	
Relevant Past Medical History	
Care Assessments	
Neurological:	
Respiratory :	
Cardiovascular:	
Other :	
Infection Control	
MRSA Status: Y / N. If Yes state treatment plan	
Clostridium Difficile : Y / N	
Diarrhoea :Y / N in last 24 hours	
Norovirus risk: Y / N	

Risk assessments
MUST nutritional screening tool score :
Moving & Handling score :
Waterlow score : Is air mattress required? Y / N
Weight is above 120KG Y / N If Yes What special equipment is needed?
Is the patient aphasic? Y / N
Wounds
Pressure sores Y / N If Yes when did they occur & what treatment has been started
Elimination
Urinary Catheter in situ Y / N If Yes state when inserted and Why?
Bowels last opened
Nutrition
Naso- gastric tube inserted Y / N state when inserted and reason for insertion
Feeding regime attached Y / N
Circle Oral intake : Puree Easichew Soft Normal
Circle fluid consistency : Syrup thickened Thin
Intravenous cannulae Y / N If Yes date inserted
Mobility
Circle walking ability: Independent 1 nurse 2 nurses Walking Aid
Method of transfer: Independent 1 nurse 2 nurse Standing Hoist Hoist
Circle wheelchair type: Standard Tilt in space
Other relevant Information
Name and grade of ASU unit nurse giving handover about patient:
Name and grade of nurse receiving Telephone handover before leaving the stroke unit :

APPENDIX 6 – PRU ACUTE STROKE UNIT PATIENT TRANSFER DOCUMENT

**HYPER ACUTE STROKE UNIT
PRINCESS ROYAL UNIVERSITY HOSPITAL
FARNBOROUGH COMMON
ORPINGTON KENT BR6 8ND
Tel: 01689 863357
Fax: 01689 863353**

PRUH transfer sheet – Page 1

NAME	.....	REPAT HOSPITAL AND WARD:
DOB	.....	.....
ADDRESS	..... ..... ..... .....	<u>CHECKLIST:</u> COPY OF MEDICAL NOTES ☐ COPY OF NURSING NOTES ☐ COPY OF DRUG CHART ☐ TTO / MEDICATIONS ☐ SCAN CD INCLUDED ☐ FAMILY INFORMED ☐ TRANSPORT BOOKED AND TIME..... ☐
NOK / NO	..... .....	
GP	..... ..... ..... .....	DISCHARGING NURSE..... SIGNATURE..... DATE.....

ADMISSION REASON

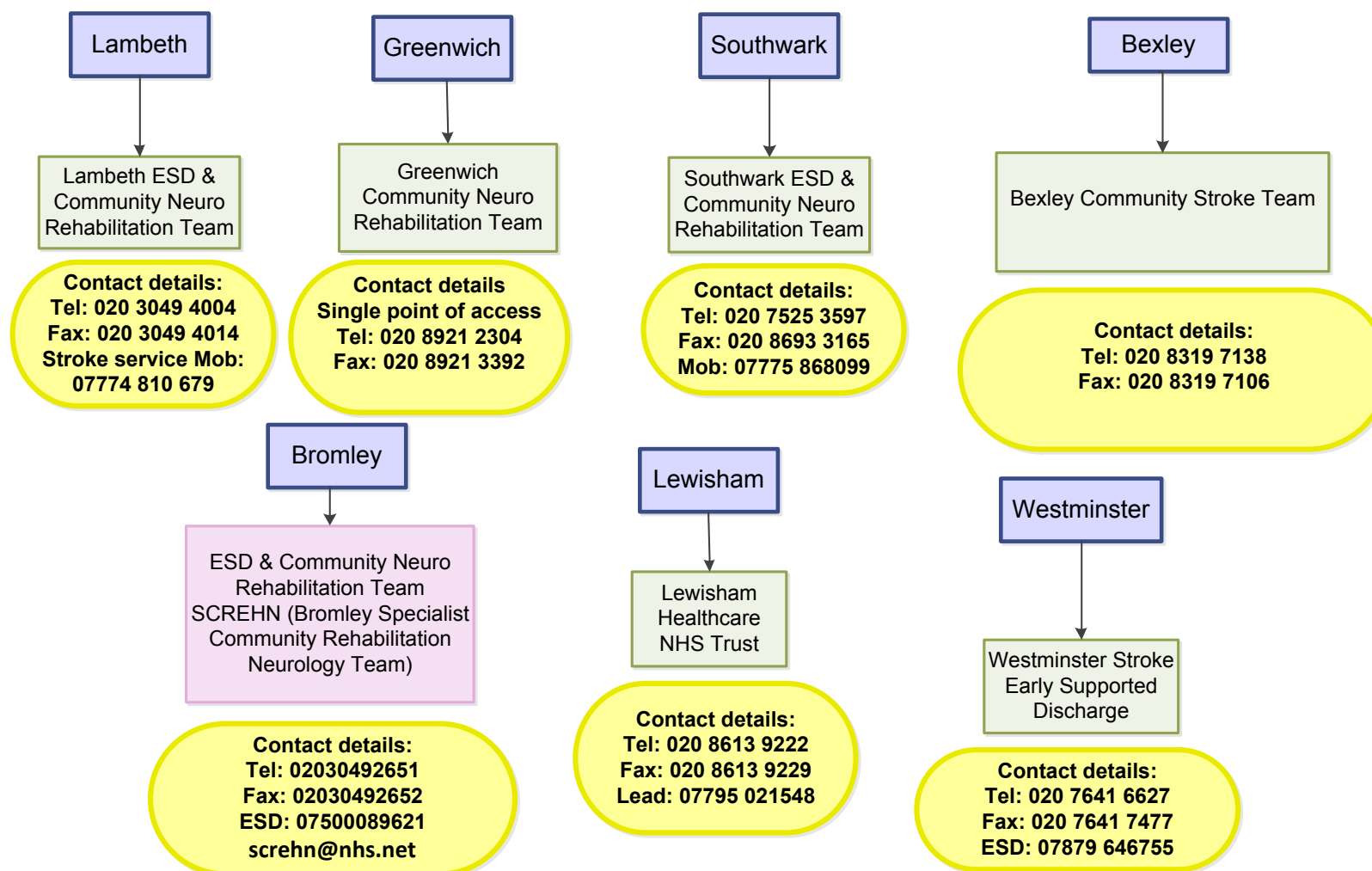
PAST MEDICAL HISTORY

I have enclosed a photocopy of their nursing and doctor's notes for this admission with us here at the PRUH.
Here is a brief outline of their capabilities:

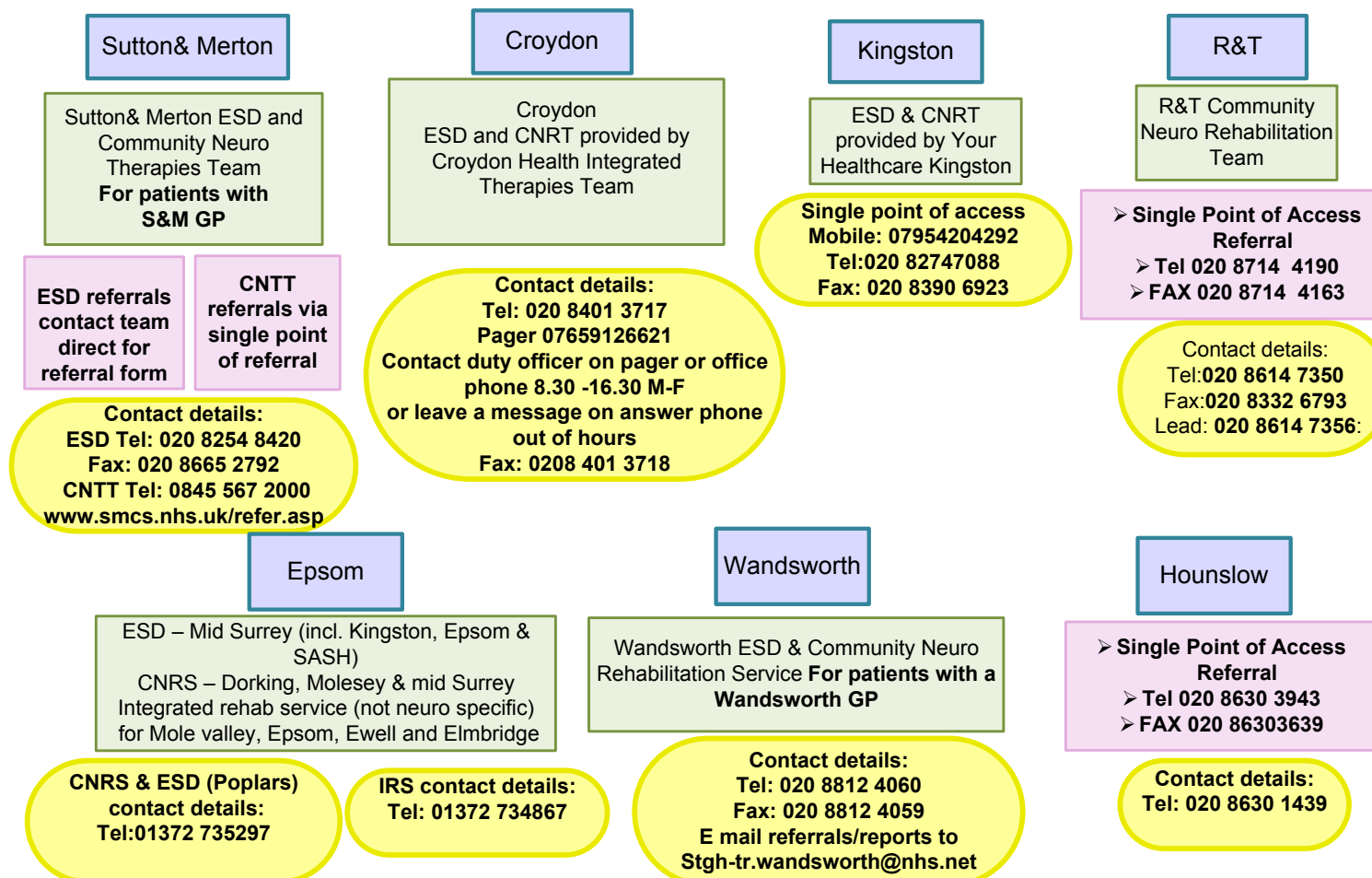
NURSING NEEDS/ NEURO ASSESSMENT	CONTINENCE
COGNITION / ORIENTATION	BREATHING AND CIRCULATION
WASHING AND DRESSING	COMMUNICATION
SWALLOW AND NUTRITION	SKIN
TRANSFERS AND MOBILITY	PAIN
SAFETY	CURRENT MEDICATIONS

Any issues do not hesitate to ring us here on the ward. Many thanks.

APPENDIX 7 - SE LONDON REFERRALS TO COMMUNITY AS AT APRIL 2013

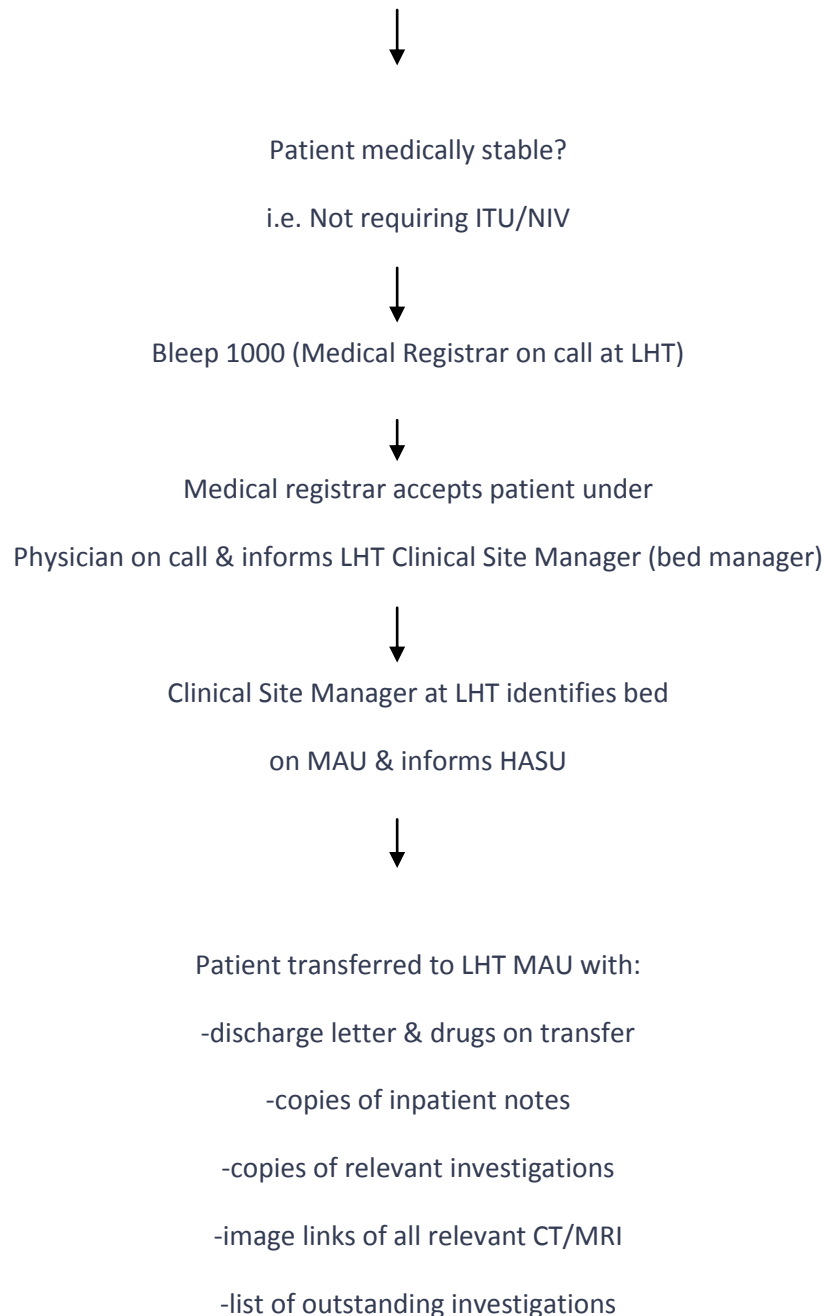


APPENDIX 8 - SW LONDON REFERRALS TO COMMUNITY AS AT APRIL 2013



APPENDIX 9 – LEWISHAM TRANSFER OF MIMICS FROM HASU TO LEWISHAM HOSPITAL

Stroke mimic on HASU site



11. Appendix

Stroke telemedicine services

Stroke Telemedicine Services

Summary of the minimum standards for an acute stroke service using telemedicine

Telemedicine can be used to assess acute stroke patients although it must be recognised that there are compromises that have to be made. It is unlikely that the quality of the assessment will be as good, in all cases, as a service where the equivalent level of clinical expertise is at the patient's bedside. Nevertheless it offers the possibility of providing expert stroke opinions to services that do not have sufficient local expertise to provide a 7 day, 24 hour service or in remote areas where it is not feasible to transport a patient to a comprehensive stroke centre.

It is essential that acute stroke services are not two tier. Patients being considered for thrombolysis and patients unsuitable for thrombolysis should receive the same level of attention and care.

Telemedicine is only able to replace the expert opinion on diagnosis and immediate management. It cannot replace the need for high quality stroke unit facilities and well-trained stroke nurses on site. All the standards defined in the National Clinical Guidelines for Stroke 5th edition (2012) need to be met regardless of the way that the hyper-acute assessment is made.

A telemedicine consultation does not remove the need to provide specialist bedside assessment of the patient on a daily basis. It is unacceptable to provide an acute assessment using telemedicine on a Friday evening and then not provide a specialist bedside opinion until the Monday. There have been no studies evaluating the effectiveness or feasibility of conducting telemedicine ward rounds.

There must always be the option of a bedside assessment of a patient where telemedicine is insufficient to address the patient's needs.

This document sets out the governance issues that need to be addressed for any stroke service that is establishing a telemedicine service.

Governance issues for telemedicine in acute stroke

First produced in August 2010 by Dr Damian Jenkinson, Clinical Lead for Stroke Improvement Programme. Revised in July 2014 by Tony Rudd and the Strategic Stroke Clinical Leads Group.

This document represents a summary of accumulated knowledge, experience and documentation relating to governance issues for telemedicine in acute stroke from stroke care networks and sites in England.

1 Introduction

1.1 Purpose of document

The purpose of this document is to help teams develop a governance framework to support the implementation and delivery of a telemedicine system in acute stroke, primarily to enable assessment of people presenting with acute stroke by a remote specialist in stroke care, to determine eligibility for thrombolysis with alteplase (recombinant tissue plasminogen activator; rtPA).

Telemedicine in acute stroke may be used to support effective 24 hour stroke specialist advice either at single sites, or across networked sites working in collaboration, within or across trusts. Many of the governance principles apply to both settings but there are special

considerations for clinicians giving and receiving opinions between trusts. These distinctions are emphasised in this document.

Guidance provided in this document represents accumulated current and planned practice across a number of networks and clinical sites across England. The guidance must be considered as recommendation only and any governance framework established within a trust, or between trusts, for the use of telemedicine in acute stroke, must be fully endorsed by local risk management and governance committees.

Attached to this document is a set of minimum standards for an acute stroke service that uses telemedicine to assess patients acutely either for the evaluation of a patient's suitability for thrombolysis or as part of a more general acute assessment service.

1.2 Strategic context

Telemedicine is a real-time audiovisual conferencing system that allows specialists in stroke care to remotely assess patients and to view their brain imaging. This enables the remote stroke clinician to advise the local team on the patient's suitability for thrombolysis and other management.

The implementation of a telemedicine system in acute stroke is supportive of a range of standards and quality markers contained in recent policy and guideline publications.

- The National Stroke Strategy (2007) contains quality markers which require patients with a suspected stroke to be transferred to, and assessed at, a hyper-acute stroke service, available 24 hours a day
- NICE Clinical Guideline 68; Acute Stroke and Transient Ischaemic Attack (2008) recommends thrombolysis as a clinically and cost effective treatment for acute stroke
- RCP National Clinical Guidelines for Stroke (2012) which supports the use of telemedicine but says that the evidence base supporting its effectiveness and safety is limited and that at present it is not possible to say definitively that it is as good as a specialist bedside assessment.

Direct delivery of acute stroke care by specialists cannot always be achieved in every hospital because of geographical issues or staffing shortages. Telemedicine allowing a stroke physician to talk to the patient and/or carer watch a clinical examination and view the imaging can be used safely for evaluation of the appropriateness of thrombolysis and other acute treatments, as an alternative to face-to-face in a specialist stroke centre. Various forms of telemedicine (using telephone consultation, video camera linkage with or without remote access to the radiology) have therefore been tested in a number of settings over recent years.

The literature consists of one underpowered randomised controlled trial: STRokEDOC (Meyer *et al.* 2008) of telemedicine for thrombolysis decision-making and many observational studies. The STRokEDOC trial compared telephone consultation to video link and found that correct treatment decisions were made significantly more often in the video link arm than the telephone consultation arm. However, there was no statistically significant difference in functional outcomes at 90 days (Meyer *et al.* 2008).

From the evidence available it is not yet possible to firmly conclude that any form of telemedicine for acute decision-making is as good as a standard bedside assessment or whether telephone consultation is better or worse than video link telemedicine services; however the consensus of the Intercollegiate Stroke Working Party developing the 4th edition of the National Clinical Guidelines was that video linked telemedicine is preferable to telephone. All telemedicine services should have immediate access to Information Technology (IT) support to ensure that the service is available whenever needed.

2 Definitions

2.1 Telemedicine

Telemedicine systems consist of a digital network including a two-way video and audio conference facility, plus brain scan image transfer using a high speed data transmission. In acute stroke, the video camera captures real-time clinical signs from the patient, enabling a remote consultant to receive images remotely and hence undertake a remote presence consultation. In addition, brain scan image transfer, typically via Picture Archive and Communication System (PACS) and broadband technology, enables the remote consultant to assess images.

Local medical teams and clinicians with the patient employ specialised mobile telecarts, typically provided in A&E or acute stroke units.

2.2 Remote telemedicine consultant

For the purpose of this document considering telemedicine in acute stroke, a remote telemedicine consultant is defined as a consultant with experience of acute stroke, who has demonstrable training, skills and experience in the procedures used to diagnose, treat and oversee patients who will benefit from thrombolysis as well as giving more general advice on the diagnosis and management of patients not suitable for thrombolysis. The competences necessary to support this have been described by national consensus – the Interprofessional Thrombolysis Framework.

Clinicians with appropriate competences may include, but are not limited to, stroke physicians, emergency medicine physicians, neurologists and specialist practitioners. Those clinicians, who do not practice stroke medicine as their major specialty, should deliver their expertise in the context of an integrated comprehensive stroke service.

2.3 Governance

Governance is the framework of accountability to users, stakeholders and the wider community, within which organisations take decisions and lead and control their functions, to achieve their objectives (Audit Commission, 2003).

2.4 Clinical governance

Clinical governance is the system through which all healthcare organisations are accountable for ensuring continuous improvement and outcomes in the quality of their services and safeguarding high standards of care, by creating an environment in which clinical excellence will flourish (Department of Health, 2003).

2.5 Information governance

Information governance is a framework for handling information in a confidential and secure manner to appropriate ethical and quality standards.

3 Clinical quality requirements

3.1 Service requirements

The specification and scope of any telemedicine system for use in acute stroke firstly needs to be defined and agreed. Consideration needs to be given to:

- if the service will be solely delivered by consultant physicians, or if other appropriately-trained and experienced grades will use the system to provide a remote opinion
- operational hours, and if the service is to be used both in-hours and out-of-hours
- if the service is to be used solely for patients presenting at the same trust as that employing, or holding an honorary contract with, the consultant providing the remote opinion
- if the service will enable remote opinions to be sought and given between different trusts
- if the service is going to be used solely for the assessment of patients with acute stroke to determine their eligibility for thrombolysis, or if it will be used for other related purposes (e.g. TIA/post-acute stroke care).

Where different trusts are collaborating to provide a network of telemedicine to support acute stroke care across a range of clinical sites, it is recommended that a lead trust should be designated to take responsibility for all governance issues: including clinical, information, and technological.

The outline of the service to be provided should be determined, referenced as much as possible to existing national guidelines and standards, such as the National Stroke Strategy, the NICE Clinical Guidelines and the RCP Clinical Guidelines (see section 3.3.1 on standards below).

The service requirements should be defined. As an example:

The service must provide the following:

- co-ordination of a rota of identified on-call remote telemedicine consultants available at all specified operational hours
- technical capability to carry out audiovisual teleconferencing and remote access to CT brain scan images during operational hours
- access to specialist advice following the initial consultation, within operational hours, for the management of complications or other queries relating to treated patients
- a framework to monitor the quality of both the clinical and technical services, to include patient experiences and opinions, and to generate regular performance reports
- an administrator facility to coordinate the rota, produce activity, performance and patient experience reports, and co-ordinate regular multidisciplinary outcome meetings and teaching updates
- a mechanism, with clear and documented lines of accountability and timing, for the handover of information regarding patients treated via telemedicine from the remote stroke specialist to local stroke consultant and team.

3.2 Patient pathways

Patient pathways will vary between sites but for the successful use of telemedicine at both single sites, and especially between networked sites, it is essential to ensure that all relevant national, local and network standards (see below) are embedded within services and adhered to. All contributors to the clinical pathway need to fully understand what should happen, where and when.

The most effective way to accomplish this, and ensure genuine engagement of all relevant stakeholders along the care pathway relevant to the use of telemedicine, is to undertake thorough process mapping and action planning exercises involving all of the specialties, departments and organisations contributing to the care pathway.

3.3 Quality

3.3.1 Standards

Thrombolysis in acute ischaemic stroke must be delivered without delay, and telemedicine must safely and effectively support a time-constrained service. Recent trial data demonstrates efficacy of alteplase for up to 4.5 hours after stroke onset. Telemedicine services should adhere to national quality standards. The National Stroke Strategy Quality Marker 7 states that all patients with suspected acute stroke are immediately transferred by ambulance to a receiving hospital providing hyper-acute stroke services (where a stroke triage system, expert clinical assessment, timely imaging and the ability to deliver intravenous thrombolysis are available throughout the 24-hour period). The National Stroke Strategy Quality Marker 8 states that patients with suspected stroke receive an immediate structured clinical assessment from the right people. Patients requiring brain imaging are scanned in the next available scan slot within usual working hours, and within 60 minutes of request out of-hours with skilled radiological and clinical interpretation being available 24 hours a day. The National Stroke Strategy Quality Marker 9 states that hyper-acute stroke services provide as a minimum, 24 hour access to brain imaging, expert interpretation and the opinion of a consultant stroke specialist and thrombolysis is given to those who would benefit.

The telemedicine service must adhere to or exceed accepted guidelines for best practice, and have been developed in line with the following:

NICE Clinical Guideline 68 – Stroke (2008) states:

- access (within a specified maximum time frame) to a remote specialist in acute stroke care who is trained and experienced in the management of acute stroke via a telemedicine service
- an assessment of the patient by the remote stroke consultant specialist using agreed documentation, protocols and policies
- real-time audiovisual conferencing, plus remote access to CT brain images, to enable the stroke specialist, working with other clinical practitioners local to the patient, to determine eligibility for thrombolysis
- local staff who are trained and experienced in both acute stroke care, and in the use of telemedicine
- assurance that the telemedicine facility, and its usage in the delivery of thrombolysis for eligible patients, is fully integrated within a comprehensive, effective and safe stroke service.

RCP National Clinical Guidelines for Stroke (2012) are broadly similar but say:

- a telemedicine service in an acute stroke unit should consist of: a video link which enables the stroke physician to observe a clinical examination and/or a telephone conversation which enables the stroke physician to discuss the case with a trained assessing clinician and talk to the patient and carer directly
- all telemedicine services should have a link which enables the stroke physician to review radiological investigations remotely
- an acute stroke unit using a telemedicine service should still include specialist stroke nurses at the admitting hospital
- staff providing care through telemedicine (at both ends of the system) should be specifically trained in:
 - the use of the technology
 - assessment of acute stroke patients, delivery of thrombolysis and other acute interventions in the context of the remote system being used

- the quality of decisions made through telemedicine should be regularly audited.

Best Practice Tariff in stroke, stipulating immediate admission to a fully-specified acute stroke unit.

3.3.2 Administration standards

Records made by the remote stroke specialist during the telemedicine consultation must be entered into the patient's health care records within a specified interval (e.g. less than 15 hours after consultation). One practical method to accomplish this is through an electronic workbook and checklist shared between the remote consultant and the clinicians at the local site. This can then be emailed to the hospital site and bound in the patient notes.

3.3.3 Monitoring process and outcomes

The treatment of people with thrombolysis should be evaluated and audited by entering data on the Sentinel Stroke National Audit Programme (SSNAP). A framework for the recording of the performance of the telemedicine technology should be made, to include a record of any episodes of technical failure of audiovisual connection or loss of digital brain image data. The outcome of cases should be reported back to appropriate divisional and/or trust clinical governance committees on a regular basis. Any major complications or serious adverse incidents should be reported to the divisional director and trust clinical governance committee.

Clinical teams should meet at regular intervals to review all cases treated through the telemedicine system, including those who are ultimately deemed to be ineligible for thrombolysis.

4 Clinical governance issues

4.1 Patient consultation via telemedicine

The telemedicine consultation should take place under the same GMC guidance as if the remote telemedicine consultant was face-to face with the patient. The patient's privacy and dignity needs to be ensured. Confidentiality of the consultation must be maintained. The consultation should be in line with GMC guidance in Good Medical Practice: Duties of a Doctor (2006).

4.2 Patient confidentiality

As with conventional consultations and examinations, how and where a teleconference takes place will be an important consideration for clinical teams to ensure confidentiality of the consultation and examination. Local guidance should be developed and issued that sets out the 'appropriate use of telemedicine'. This will include measures to ensure confidentiality of consultation. Although most telemedicine videoconferencing facilities do not record the images and sound, consideration should be given to ensuring that the patient has access to any records kept about themselves that have been generated as a result of the tele-consultation. If recordings of the teleconference, data, or images are made and transferred as part of the tele-consultation and subsequently stored, they should remain protected and secure.

4.3 Patient consent

Informed consent for the use of telemedicine in acute stroke should be sought and documented by the attending practitioner in each case. In particular, the patient and family/carers should be made clearly aware that a remote telemedicine consultant will be

consulted. If the remote telemedicine consultant is not employed by the trust where the patient is located, this should also be made clear.

Signed consent from the patient for the use of telemedicine is required where the video-consultation is recorded. Ideally, summary written information, in addition to a verbal explanation, should be made available to patients and/or their families/carers, (see Appendix 1,) who should then be asked for consent. An assessment checklist should require the practitioner to document if verbal consent has been obtained.

Many patients with acute stroke have a communication impairment, or cognitive or attention deficits, which render fully informed consent difficult to obtain. In such a situation, capacity should be assumed, and individuals should be given the opportunity to make those decisions that they have the competence to. Family and carer involvement is important where an individual cannot provide consent. In the absence of capacity to provide consent, the local physician may make the decision to employ telemedicine in the best interests of the patient, but should ensure full documentation of this.

If the video-consultation is recorded for the purposes of audit, training and research, then patients should be asked for their written consent for the digital information to be retained as soon as practicable following the stroke. The GMC guidance for making and using video and audio recording for patients is contained in Guidance for Doctors (2002).

4.4 Responsibilities of relevant staff groups

It is essential to have considered and clarified the roles and responsibilities, and required training, of all relevant staff along the acute stroke care pathway in relation to telemedicine. The precise pathway, and hence the groups of staff involved, will vary from site to site. The following is provided as an illustration of the relevant stages at one site (see also Appendix 2).

4.5 Roles and responsibilities of consultants giving remote opinion via telemedicine on patients within their own trust

The role of the remote telemedicine consultant is to advise the local team in their trust on the best management of the patient, when their advice is sought. The remote telemedicine consultant is accountable for the advice that is given. Responsibility for the care of the patient remains that of the on-call medical team, or other designated specialist team (e.g. acute stroke unit staff), at the same hospital trust.

A remote telemedicine consultant who is giving an opinion for a patient within their trust should be able to provide evidence to demonstrate that they:

- are trained in stroke thrombolysis, and receive training updates
- are regularly involved in the provision of both day-time and out-of hours thrombolysis for acute stroke (consideration will be needed to locally determine minimal levels of activity to maintain skills)
- are trained in the use of the telemedicine equipment
- are able to perform an NIHSS stroke assessment
- attend regular multidisciplinary thrombolysis outcome review meetings
- attended a stroke thrombolysis masterclass (or approved equivalent)
- attended training in interpretation of CT head scans
- a remote telemedicine consultant should possess the skills to undertake the following tasks:
 - reviewing clinical information provided on the patient
 - reviewing time of onset/time last seen well
 - assessing and conversing with patient via video-link

- reviewing physiological parameters
- reviewing inclusion and exclusion criteria
- reviewing medication
- reviewing brain imaging
- explaining to the patient and/or family the risks and benefits of thrombolysis if appropriate
- advising the local team as to whether thrombolysis is appropriate or not
- providing guidance on any other issue relevant to care of the person with acute stroke.

Additional work undertaken by consultants in providing a remote opinion via telemedicine should be reflected in their job plan. This will need to be negotiated within the trust. Additional remuneration for out of hours on-call work should be calculated on the basis of frequency, intensity and actual work (see BMA and GMC guidance).

4.6 Roles and responsibilities of clinicians seeking remote opinion

The clinician (doctor/nurse/physician assistant/therapist) seeking advice from the remote telemedicine consultant has the responsibility of having demonstrable appropriate training and skills, and a requirement to adhere to guidelines and protocols. As an example, they should:

- have completed and be certified in NIHSS scoring
- have completed an approved thrombolysis training course
- follow the procedure for contacting the remote stroke specialist
- ensure that the appropriate diagnostic scan is acquired speedily, usually within 30 minutes of the patient's arrival
- assess the patient as per protocol
- provide the remote telemedicine consultant with a detailed assessment of the patient in order to enable both clinicians to complete the approved checklist
- enable a clearly auditable process for making the decision to thrombolysed or not
- ensure that the thrombolysed patient is transferred to a bed within the hospital with the capacity to provide appropriate care for a patient with acute stroke
- ensure a thorough handover of the details of patient treatment and condition takes place.

4.7 Responsibilities of organisations providing care for people with acute stroke

- each organisation, whether a single site or part of a network of trusts, must have organised hyper-acute stroke care on a unit designated for hyper-acute stroke
- each unit must meet the seven acute criteria for units with beds providing care in the first 72 hours:
 - continuous physiological monitoring (ECG, oximetry, blood pressure) for 24 hours.
 - immediate access to scanning for urgent stroke patients.
 - direct admission from A&E/front door.
 - specialist ward rounds on seven days a week.
 - acute stroke protocols/guidelines.
 - nurses trained in swallow screening.
 - nurses trained in stroke assessment and management.
- the unit must be staffed to provide specialist 1:2 nursing for the first 24 hours and subsequently for recommended stroke unit intensity
- staff must be trained in the provision of thrombolysis for acute ischaemic stroke
- staff must be trained in the management of complications of thrombolysis

- protocols for stroke thrombolysis and the management of complications must be in place
- the unit must be able to provide care to the standards set out in the Royal College of Physicians' Intercollegiate Clinical Guidelines for Stroke 4th edition 2012, the NICE guidelines for Acute Stroke and TIA 2008.

4.8 Workforce issues

Trusts will be required to provide sufficient qualified and appropriately trained staff to support the use of telemedicine in acute stroke. The competences necessary to support this have been described by national consensus – the Interprofessional Thrombolysis Framework

4.8.1 Core skills and competences of remote telemedicine consultant

For the purpose of this document considering telemedicine in acute stroke, a remote telemedicine consultant is defined as a consultant with experience of acute stroke, who has demonstrable training, skills and experience in the procedures used to diagnose, treat and oversee patients who will benefit from thrombolysis.

The competences necessary to support this have been described by national consensus – the Interprofessional Thrombolysis Framework.

Clinicians with appropriate competences may include, but are not limited to, stroke physicians, emergency medicine physicians, neurologists and specialist practitioners. Those clinicians, who do not practice stroke medicine as their major specialty, should deliver their expertise in the context of an integrated comprehensive stroke service.

The following core skills and competences are required for such remote telemedicine consultants working in acute stroke:

- advanced clinical assessment skills in relation to acute stroke management
- in-depth knowledge and understanding of risks and benefits of thrombolysis therapy in acute ischaemic stroke, including having attended a recognised training course (e.g. thrombolysis masterclass or equivalent) and regular (e.g. annual) update courses
- a responsibility to deliver care based on current evidence, best practice and, where possible, validated research
- a responsibility to work to standards, guidelines and protocols agreed within a trust, between trusts or across a network of trusts.

4.8.2 Competency assessment

An appropriate competency assessment process for all relevant staff who will use the telemedicine system and equipment should be in place. For individual sites, the responsibility for this lies with the provider organisation. For networked sites working in collaboration, the requirement will lie with the network or designated lead provider organisation.

4.9 Contingencies for technical failure

Technical failure is the key risk in the usage of telemedicine and remote consultation in the emergency care of people with acute stroke. Contingency plans must be in place both at single sites, and particularly across multiple networked sites, to mitigate risks ensuing from technical failure.

Importantly, the remote telemedicine consultant should be provided with a mobile computer with adequate mobile broadband capability, thus enabling rota consultants to provide advice

from suitable locations. Whilst achieving the appropriate broadband speed is not problematic in hospital, speeds in a number of home and other settings for both fixed line and mobile broadband can be variable resulting in difficulties in viewing images. Remote access to PACS images is dependent on a minimum requirement for transfer speeds of 1 Mb/s.

Should the remote telemedicine consultant be unable to receive and/or transmit audiovisual information during a consultation, then documented contingency procedures should exist. These need to be agreed at a local or network level but may include:

- the remote telemedicine consultant coming to the site and directly attending the patient
- consultation by telephone only, if both an attendant physician has experience in thrombolysis in acute stroke and an opinion on the scan from a local radiology consultant can be obtained.

The technical failure should be clearly recorded in both the patient notes and any remote consultation checklist.

5 Information governance issues

5.1 Information management and technology

Where trusts are collaborating to provide a network of telemedicine to support acute stroke care, it is recommended that a lead trust should be designated to take responsibility for information governance. Individual trusts, or the designated lead provider trust across a network of trusts, have the responsibility to:

- lead on asset management and allocations, contract maintenance and system monitoring
- co-ordinate access to PACS for consultants on the telemedicine rota
- refresh equipment at appropriate intervals
- develop operational and technical handbooks
- provide IT help and service desk requirements
- manage storage of, and appropriate authorised access to, digital information.

5.2 Liability

Individual trusts, or a designated lead provider trust across a network of trusts, have the responsibility to ensure that remote stroke specialists, and associated staff using telemedicine in acute stroke, are provided with:

- employer's liability
- public liability
- professional indemnity.

12. Appendix

NHS Midlands and East stroke competency toolkit

Stroke Competency Toolkit

NHS Midlands and East

Workforce Education and Training Subgroup

Stroke Competency Toolkit

Name:

Job Title:

Place of Work:

Date received:

Introduction

This coordinated strategic approach to workforce development through education and training will enable all those who have had a stroke receive optimum care by a trained workforce. This competency framework is about working in partnership with individuals following a stroke and/or Transient Ischaemic Attack (TIA) to implement interventions in the context of their individualised management plans. It covers confirming the nature, purpose and goals of the interventions, implementing the interventions and monitoring the outcomes. This competency framework covers the whole stroke pathway from prevention through to end of life and long term care. (See table 1 below).

This framework is relevant to practitioners who are stroke specialists working in a variety of settings and also non-qualified staff working within stroke.

Users of this competency framework will need to ensure that practice reflects up to date information and policies. It is for people or groups who provide stroke-specific training and those working in health, social, voluntary and educational services who are, or who are likely to be, in contact with people who have had a stroke or a Transient Ischaemic Attack (TIA).

- ❖ Stroke-specific and stroke-relevant professional bodies
- ❖ Course designers
- ❖ Commissioners of services for those affected by stroke
- ❖ Health, social, voluntary and independent sector organisations
- ❖ People who are likely to be looking for a suitable course or training in stroke
- ❖ Independent providers of enhanced services

The SSEF has been designed for people to have easy access to information around each of the elements of care in the stroke pathway. As such, it is envisaged that whoever uses the SSEF will dip into the sections relevant to them. This framework has not been designed to be read like a book from cover to cover.

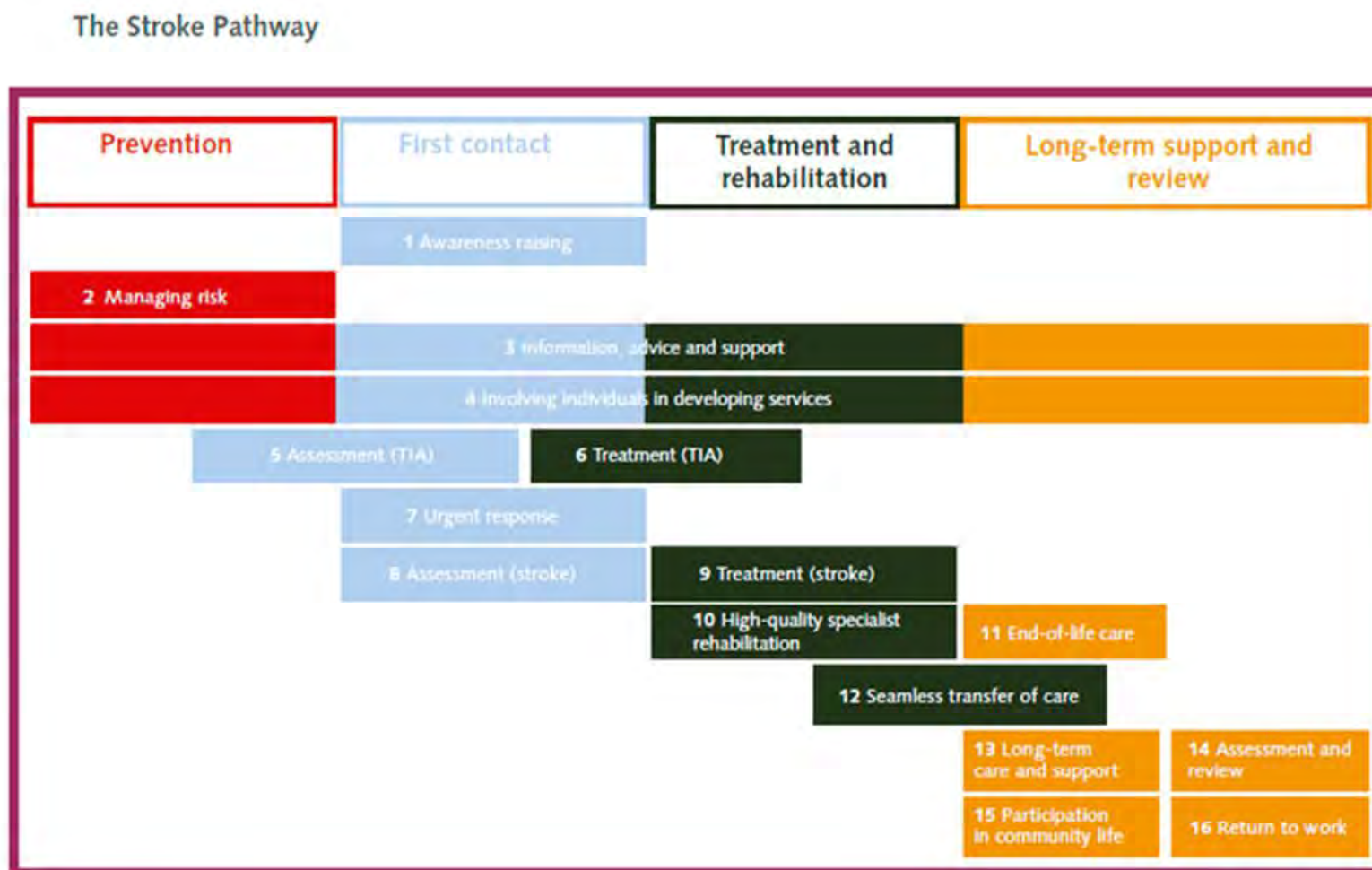
Within the **definitions icon** below you will be able to access a list of the stroke-specific knowledge and understanding that someone working in stroke should possess. The level of understanding or knowledge will be dependent on the group that is being targeted this includes non-clinical, nurses, therapists, GPs.



Definitions

It will be the remit of the manager to decide on which level is appropriate for each individual member of staff, but at each level the staff member should understand why they are doing what they are doing.

Table 1: Source: Stroke Specific Education Framework Department of Health



Developing a stroke-skilled workforce

Generic competencies

Generic competences are not stroke-specific but are expected of someone working in health or social care (or the voluntary sector) who provides a service for others. These competences relate to behaviour and skills that are not necessarily formally taught. Generic skills that an individual may have could include leadership, communication and advocacy, or the ability to train, research or manage. We should also be aware of the generic skills required for working effectively independently – or as part of a team.

Stroke-specific competencies

The SSEF is guided by the 16 elements of care in the Stroke Pathway and specifies the stroke-specific knowledge and skills that an individual should have if they are working with those affected by stroke. To co-ordinate stroke services and support, organisations and staff should work in partnership and be risk aware.

Work-based learning

The SSEF will define the knowledge and skills that should be offered to individuals through training, but these need to be translated into practice if workforce development is to be effective. The degree of independence expected from individuals for a particular task (whether a physical task or a decision-making process) will vary according to the level of learning, professional group and local clinical environment.

In many learning situations the individual will:

- ❖ observe a task or learn about a task performed by someone else;
- ❖ perform the task with help;
- ❖ perform the task themselves under supervision;
- ❖ perform the task without supervision (including the management of complications and variations); or
- ❖ gain experience such that they are able to demonstrate and supervise another learner.

To reinforce their learning, individuals should reflect on how their practice relates to the knowledge they have recently acquired. Ideally, this involves discussion of work-based practice opportunities with a clinical supervisor and keeping a written record of these developmental experiences, which will vary according to the complexity of the task.

As part of the learning experience, all individuals should be allowed to take time to reflect and consider how their practice relates to their factual knowledge and be able to ask for the advice of a supervisor who is aware of the learning outcomes of the related training. Training opportunities that include this element of work-based consolidation of learning are much more likely to be viewed as compliant with the SSEF.

Continuing Professional Development

CPD is crucial for maintaining workforce skills and developing new knowledge and new evidence, and for service redesign and progression. Health, social, voluntary and independent care providers who use the SSEF should be aware of current guidelines for stroke – as well as local pathways, services, and support for stroke and Transient Ischaemic Attack (TIA). Professionals should also maintain and update their knowledge of guidelines and be aware of new developments within the local pathway.

The document should be used alongside generic skills frameworks and/or other documents, e.g. job description, person specification, professional standards and the Knowledge and Skills Framework outlines, etc.

How to use the Framework

The competency and training frameworks are to be used by both the manager and staff member during supervision and Personal Development/ Appraisal sessions. The staff member should refer to the competency framework and the learning resources during protected learning times.

Step 1

The manager and staff member select from the Stroke Competency Framework which competencies and indicators are applicable to the Staff member's practice.

Step 2

The manager and staff member identify which competencies are a priority and set dates for completion.

Step 3

The manager and staff member identify and agree the most appropriate method to achieve and assess competencies. Self-directed learning and reflective practice are essential components of learning. If the staff member decides on this method of learning, the level of self-directed learning or reflective practice must be appropriate to the competency tier that is being worked towards.

Step 4

The manager and staff member agree a date for completion and method of assessing that the indicators and competencies have been achieved. There are a range of different methods of assessment, for example observation of practice, client feedback, production of a written piece, development of a resource, delivering a presentation/training session. The manager feeds the agreed objectives into the team's training plan to inform the annual training priorities.

Step 5

The manager and staff member evaluate whether the competencies have been achieved and decide the next steps to take that are appropriate to the successful completion of the objectives set.

Example learning and assessment methods

- ❖ Reflective practice written work
- ❖ Reported by team members from observation/joint sessions
- ❖ Written assignments/reflective piece
- ❖ Observation of written records
- ❖ Observation of practice
- ❖ Deliver training or presentation
- ❖ Able to verbalise
- ❖ Develop a resource
- ❖ Course completed
- ❖ Previous learning/competence
- ❖ Feedback from clients that have been involved with the staff member

To promote the application of learning to practice it is recommended that hands on learning and observation of skills/knowledge always be utilised as learning and assessment methods. These may be combined with other methods where applicable. This is recommended as good practice in adult learning methodologies.

Additional Stroke levels of need competencies for therapists



Stroke Levels of
Need workforce input

Stroke Competencies for Health and Social Care Staff

Competency Summary Sheet

Overview of Progress (Tick on completion)		
	Core	Specialising
1. Awareness raising		
2. Managing risk		
3. Information		
4. User involvement		
5. Assessment (TIA)		
6. Treatment (TIA)		
7. Urgent response		
8. Assessment (stroke)		
9. Treatment (stroke)		
10. Specialist rehabilitation		
11. End-of-life care		
12. Seamless transfer of care		
13. Long-term care		
14. Review		
15. Participation in community		
16. Return to work		

Competency 1: Awareness Raising

Indicator	Knowledge and skills required to meet indicator	NHS KSF
- signs and symptoms of stroke - features of less common (atypical) presentation of stroke - stroke mimics and likely presentation - stroke and TIA as medical emergencies - emergency response, investigations, interventions and treatments for stroke and TIA - timeframe for emergency investigations, interventions and treatments for stroke and TIA - anatomy and physiology of the central nervous system - timeframe of physiological and neurological changes during a stroke - advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations	- initiate emergency protocol (Stroke Improvement Programme) - communicate current event and need for emergency treatment - know when to apply screening tests for stroke (FAST) and how to act on the results - know when to apply vascular risk assessment tools for TIA (ABCD2) and how to act on the results - identify emergency interventions and treatments for stroke and TIA available locally and know how to refer patients efficiently - take and interpret thorough history, taking third party information where possible, and assess mental capacity - identify and appropriately treat stroke mimics, e.g. hypoglycaemia, epileptic seizure	Knowledge and Understanding E1K 1 to E1k9 Skills and Abilities to E1S7  1. Awareness raising

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 2: Managing risk

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. risk factors for stroke and TIA (e.g. lifestyle, socioeconomic, cultural, vascular, familial, genetic, concurrent medications, comorbidities) 2. stroke types and their aetiologies 3. risk of stroke depending on type and aetiology 4. advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations 5. who provides interventions for primary and secondary prevention of stroke 6. pharmacological and non-pharmacological interventions for primary and secondary prevention of stroke, and side effects of treatment 7. methods of changing behaviour	1. take and interpret thorough history, taking third party information where possible, and assess mental capacity 2. determine, plan and initiate appropriate assessments/investigations and interventions/treatments; provide information, relevant to individual needs and aspirations (personalise information) 3. elicit needs and aspirations of those at risk of stroke and those affected by stroke 4. identify risk factors and apply vascular risk assessment tools 5. communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, advice 6. assess services (health, social, voluntary and independent) available locally for those affected by stroke: identify the full range available; establish relevance; communicate and liaise with services; signpost service 7. assess motivation and take steps to augment management 8. monitor progress and agree or change a maintenance or management plan 9. assess and facilitate concordance	Knowledge and Understanding E2K 1-7 Skills and Abilities E2s1-9 2. Managing risk

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 3: Information

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. risk factors for further vascular events (e.g. type and aetiology of current event, lifestyle, socioeconomic, cultural, vascular, familial, genetic, concurrent medications, comorbidities) 2. pharmacological and non-pharmacological interventions for primary and secondary prevention of stroke, and side effects of treatment 3. advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations 4. stroke types and their aetiologies 5. full range of services (health, social, community, voluntary and independent) available locally for those affected by stroke 6. how to assess and overcome barriers to problems: psychological and emotional; social and relationship; cognitive and communication; physical and functional; visual and sensory impairments and pain; medical 7. the impact of stroke on the individual, carer and family 8. the implications of stroke for lifestyle, driving, work and family 9. methods of changing behaviour	1. take and interpret thorough history, taking third party information where possible (maybe through interpreter), also assess mental capacity 2. elicit needs and aspirations of those affected by stroke 3. communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/ treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, advice 4. identify full range of services (health, social, community, voluntary and independent) available locally for those affected by stroke 5. assess relevance and suitability of available services for those affected by stroke; communicate and liaise with services; share information; work across agencies; signpost services for those affected by stroke 6. implement information sharing methods and reflect on effectiveness of information sharing due to aphasia, illiteracy, vision and hearing impaired 7. assess motivation and take steps to augment management 8. monitor progress and agree or change a maintenance or management plan in conjunction with those affected by stroke, identifying resources to facilitate participation and inclusion	Knowledge and Understanding E3K 1 to E3k9 Skills and Abilities E3S 1 to E3S 8 3. Information

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 4: User and carer involvement

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. the services relevant for stroke patients and carers 2. how to assess and overcome barriers to problems: psychological and emotional; social and relationship; cognitive and communication; physical and functional; visual and sensory impairments and pain; medical 3. methods to empower patients; patient advocacy 4. methods that can be used to involve stroke patients and carers in service planning 5. methods that can be used to capture stroke patient and carer views 6. methods for using views to influence services 7. factors that influence people's ability to be involved in care and service planning 8. methods of feeding back to stroke patients and carers how their contributions have influenced services 9. how service planning and decision making processes work and how they can be influenced	1. assess services (health, social, voluntary and independent) available locally for those affected by stroke: identify the full range available; establish relevance; communicate and liaise with services; signpost service 2. create an open and honest environment that is not intimidating and offers stroke patients and their carers the opportunity to freely give their views 3. interact with people who have one or more of the following problems: communication; physical/functional; psychological; social; medical 4. translate the views of those affected by stroke into service planning, development, delivery and monitoring 5. identify hard-to-reach groups and ensure that their views are included 6. overcome the factors that prevent those affected by stroke from being involved in care and service planning 7. identify local opportunities and appropriate formats for formal and informal feedback (e.g. PALS, PPI) 8. handle complaints to the satisfaction of all parties	Knowledge and Understanding E4K 1 to E4k9 Skills and Abilities E4S1 to E4S 8 4. User involvement

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 5: Assessment (TIA)

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. anatomy and physiology of the central nervous system 2. risk factors for stroke and TIA (e.g. lifestyle, socioeconomic, cultural, vascular, familial, genetic, concurrent medications, comorbidities) 3. the signs and symptoms of TIA 4. how to distinguish between stroke and TIA 5. the future risk of stroke and TIA (e.g. ABCD2 and other risk scoring methods) 6. the features of atypical presentation of TIA/stroke and mimics and how to act when they are identified 7. investigations, interventions and treatments for TIA (e.g. imaging, vascular, medical, cardiac, surgical) 8. implications of the Mental Capacity Act and how it applies to TIA 9. advocates for stroke and TIA patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations 10. the timeframe for emergency and follow-on investigations, interventions and treatments for TIA 11. how to initiate emergency and on-going treatment for TIA and vascular prevention 12. the indications, contraindications and limitations for imaging, investigations and interventions 13. local protocols for imaging and reporting 14. any complications of surgical procedures (e.g. stenting, carotid endarterectomy, closure of atrial septal defect (ASD) and patent foramen ovale (PFO)) 15. the results of investigations 16. the implications of TIA for lifestyle, driving, work and family 17. management options for TIA/stroke and mimics, and other conditions	1. take and interpret thorough history, record third party information where possible, and assess mental capacity 2. determine, plan and initiate appropriate assessments/investigations and interventions/treatments; provide information, relevant to individual needs and aspirations (personalise information) 3. identify risk factors and apply vascular risk assessment tools for TIA (ABCD2) and screening tests for stroke (FAST) 4. identify stroke, high risk TIA, lower risk TIA, atypical stroke and stroke mimics 5. establish the cause of TIA 6. recognise patients who have had a stroke rather than a TIA and to refer on for appropriate investigation and management 7. communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/ treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, advice 8. identify emergency interventions and treatments for TIA available locally and know how to refer patients efficiently 9. identify the service(s) to which the individual should be referred and to liaise effectively with those services 10. perform a physiological assessment and assess vital signs 11. decide on a relevant investigation and its level of urgency 12. apply radiological knowledge for recognised investigations 13. apply technical knowledge for recognised investigations and interventions	Knowledge and Understanding E5K 1 to E5k17 Skills and Abilities E5S1 to E5S 19 5. Assessment (TIA)

	14. apply surgical knowledge for recognised vascular interventions 15. recognise and manage postoperative complications after stenting, endarterectomy, PFO and ASD closure 16. obtain and interpret the results of investigations: this includes formulating an immediate and on-going management plan, and initiating treatments within the relevant timelines 17. confirm and communicate diagnosis, lifestyle advice and methods of secondary prevention to patients and carers 18. communicate and discuss with the patient, carer, and health and social care professionals a diagnosis, results of investigations and subsequent needs and aspirations and a management plan, as well as the actions to be taken if a further vascular event occurs 19. advise on lifestyle, driving, work and family 20. identify local management and referral routes for TIA/stroke and mimics, and other conditions	

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 6: Treatment (TIA)

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. the signs and symptoms of TIA 2. atypical presentation of TIA and TIA mimics and how to act when they are identified 3. how to distinguish between stroke and TIA 4. risk factors for further vascular events (e.g. type and aetiology of current event, lifestyle, socioeconomic, cultural, vascular, familial, genetic, concurrent medications, comorbidities) 5. pharmacological and non-pharmacological interventions, and the level of urgency for risk factor management 6. side effects of pharmacological and non-pharmacological interventions as well as the prevention and management of vascular events 7. late complications of surgical procedures (e.g. stenting, carotid endarterectomy, closure of ASD and PFO) and the implications of the procedures on lifestyle 8. implications of TIA for lifestyle, driving, work and family 9. potential interventions for immediate and on-going risk factor management 10. methods of changing behaviour 11. how QOF and community targets for risk factor management affect prevention strategies 12. concordance: how to assess; how it is affected by individual preference; how to motivate; how to manage non-concordance 13. likely persistent deficits or other on-going problems 14. why TIA/stroke review is important	1. recognise recurrent vascular events 2. perform a holistic overview, including assessment of pharmacological and non-pharmacological interventions 3. perform and interpret blood pressure measurement and ECG 4. perform ECHO or carotid dopplar as prescribed 5. assess and facilitate concordance 6. assess motivation and take steps to augment management 7. monitor progress and agree on or change to a maintenance or management plan 8. use results of history and investigations to confirm a diagnosis and make an individual management plan for the patient, taking into account personal preferences 9. identify interventions and treatments for stroke and TIA available locally and know how to refer patients efficiently 10. communicate and discuss with the patient, carer, and health and social care professional a diagnosis, results of investigations and subsequent needs and aspirations and management plan, as well as the actions to be taken if a further vascular event occurs 11. identify who provides interventions for immediate and on-going risk factor management locally and refer 12. identify where QOF and community targets for risk factor management may affect prevention strategies and take steps to overcome this 13. recognise individuals with persistent deficits or other on-going problems and arrange rehabilitation, support and management 14. encourage people to come for review	Knowledge and Understanding E6K 1 to E6K14 Skills and Abilities E5S1 to E5S 13 6. Treatment (TIA)

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 7: Urgent response

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. signs and symptoms of stroke 2. features of less common (atypical) presentation of stroke 3. stroke mimics and likely presentation 4. stroke and TIA as medical emergencies 5. emergency response, investigations, interventions and treatments for stroke and TIA 6. the timeframe for emergency investigations, interventions and treatments for stroke and TIA 7. the anatomy and physiology of the central nervous system 8. the physiological and neurological effects of stroke and their timeframe during and after a stroke 9. monitoring and acting upon physiological and neurological changes during and after a stroke 10. how stroke can affect communication 11. implications of the Mental Capacity Act and how it applies to stroke and TIA 12. advocates for stroke and TIA patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations 13. complications after stroke (e.g. aspiration, airway obstruction, hypoxia, hypotension, hypertension, hyperglycaemia, bedsores), and preventing and managing them	1. take and interpret thorough history, record third party information where possible, and assess mental capacity 2. communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/ treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, advice 3. identify suspected stroke, perform screening tests (e.g. FAST) and act on results 4. perform basic neurological and physiological assessment (vital signs) 5. perform ABCDs (airways, breathing, circulation, disability), pulse oximetry and blood glucose assessment and to act on abnormal findings 6. identify and use methods of moving and handling the patient that are safe, depending on the individual patient or staff needs 7. recognise stroke-related communication problems and to adapt methods of communication 8. identify emergency investigations, and interventions for stroke and TIA patients available locally (Stroke Networks) and know where to take them 9. identify and appropriately treat stroke mimics, e.g. hypoglycaemia, epileptic seizure	Knowledge and Understanding E7K 1 to E7K Skills and Abilities E7S1 to E7S9  7. Urgent response

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 8: Assessment (stroke)

Indicator	Knowledge and skills required to meet indicator	NHS KSF
- Briefly describe specific medical investigations used in stroke care and explain why they are carried out e.g. CT scan, MRI, ECG, carotid Dopplar, chest x ray. Angiogram, biochemical and haematological tests - List the signs and symptoms of stroke - List the neurological and physiological effects of stroke and the timeframe of changes during and after a stroke - Explain how to monitor, and act upon, neurological and physiological changes during and after a stroke - implications of the Mental Capacity Act and how it applies to stroke and TIA - advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations - features of atypical presentation of stroke and stroke mimics - stroke types and their aetiologies - different modalities to facilitate diagnosis and treatment of stroke (e.g. telemedicine) - Briefly describe the clinical management of stroke clients- conscious level, BP, pulse, heart rhythm, temperature, blood glucose, O2 saturation and hydration - emergency investigations (e.g. imaging of brain, heart and cerebral arteries, blood tests) Administer treatment with thrombolysis (alteplase)in immediate care - interventions for stroke (e.g. intravenous and intra-arterial thrombolysis, vascular surgery, stenting, hemi craniotomy, evacuation of haematoma) and the timeframe - Briefly describe the indications and contraindications for investigations, interventions and treatments for stroke	- take and interpret thorough history, record third party information where possible, and assess mental capacity - determine, plan and initiate appropriate assessments/investigations and interventions/treatments; provide information, relevant to individual needs and aspirations (personalise information) - perform neurological and physiological assessment and assess vital signs - perform a standardised neurological assessment using a recognised stroke scale (e.g. NIHSS, SNSS) - interpret the results of investigations (e.g. imaging, vascular, blood tests) and the actions to be taken as a result - diagnose stroke using clinical information and investigations: distinguish between a stroke and a TIA; identify atypical strokes and stroke mimics; formulate and implement a management plan accordingly - communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/ treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, advise - identify the need for more specialist or differing treatments when necessary - monitor progress, identify complications or deteriorations and deliver treatments for complications or deteriorations - identify the level of urgency for any relevant medical, surgical and radiological investigations, interventions and treatments - obtain and interpret the results of investigations and formulate an immediate and on-going	Knowledge and Understanding E8K 1 to E8K 11 Skills and Abilities E8S1 to E8S11 8. Assessment (stroke)

14. any complications of investigations, interventions and treatments for stroke and how to prevent and manage them 15.	management plan; initiate treatments within the relevant timescales	

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 9: Treatment (stroke)

Indicator	Knowledge and skills required to meet indicator	NHS KSF
- signs and symptoms of stroke - neurological and physiological effects of stroke, monitoring, and the timeframe of changes, during and after a stroke - the need for early mobilisation and positioning - assessing swallowing and managing of dysphagia - alternative methods of feeding, hydration and drug administration for patients with dysphagia - the interactions between enteral feeds, fluids and drug treatment - the effects of stopping on-going drug treatment because of swallowing problems - symptoms and effects of malnourishment - the importance and methods of oral hygiene - the importance of avoiding catheters, as well as managing retention and promoting continence - assessing and managing problems: psychological and emotional; social and relationship; cognitive and communication; physical and functional; sensory impairment and pain; medical - cognitive effects of the stroke and their impact on the patient's ability to consent to treatment - advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations - the impact of the stroke on family, friends and carers - assessment and management options for neurological, physiological, functional and psychological problems after stroke - complications after stroke and how to prevent and manage them - when to refer for other specialist care (e.g. intensive care unit, hemi craniotomy, haematoma evacuation, interventional	- take and interpret thorough history, record third party information where possible, and assess mental capacity - determine, plan and initiate appropriate assessments/investigations and interventions/treatments; provide information, relevant to individual needs and aspirations (personalise information) - perform neurological and physiological assessment and assess vital signs - perform a standardised neurological assessment using a recognised stroke scale (e.g. NIHSS, SNSS), - Identify swallowing ability using basic competencies - identify the need and level of urgency for the relevant medical, surgical and radiological investigations, interventions and treatments; obtain and interpret the results of investigations: formulate an immediate and on-going management plan; initiate treatment - diagnose stroke using clinical information and investigations: distinguish between a stroke and a TIA; identify atypical strokes and stroke mimics; formulate and implement a management plan accordingly such as thrombolysis, stroke team to monitor patient - communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/ treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, advise - identify the need for more specialist or differing treatments when necessary and be able to refer to those services - monitor progress, identify neurological and non-	Knowledge and Understanding E9K 1 to E9k20 Skills and Abilities E9S1 to E9S15

radiology, vascular surgery) 18. any complications of investigations, interventions and treatments for stroke and how to prevent and manage them 19. the roles, level and number of health and social service professionals who should contribute to the care and support of individuals with stroke and those affected by stroke 20. how to manage strokes that occur as a complication of another primary pathology	neurological complications or deterioration and to deliver treatments 11. obtain and interpret the results of investigations and formulate a management plan accordingly 12. identify and use therapeutic methods of moving and handling the patient that are safe, depending on the individual patient or staff needs and aspirations 13. assess and manage: oral problems including dysphagia, nutrition and hydration; cognition; psychological and emotional problems; continence; pressure areas; mobility problems etc in collaboration with members of the multidisciplinary team 14. deliver relevant methods of nutrition, hydration and medication in patients with dysphagia 15. assess and discuss realistic goals with those affected by stroke, plan discharge and link to follow-up services for patients and carers 16. recognise impending death and initiate palliative care where necessary	 9. Treatment (stroke)

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes page:

Competency 10: Specialist rehabilitation

Indicator	Knowledge and skills required to meet indicator	NHS KSF
- the impact of stroke on the individual, carer and family - advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations - the implications of stroke for lifestyle, driving, work, family and acceptance in the community - MDT assessment: the principles of stroke rehabilitation and rehabilitation referral; therapy techniques and their application - a range of neurological treatment approaches and their applications psychological and emotional problems after stroke (e.g. depression, emotionalism, anxiety, self esteem, confidence, well-being, challenging behaviour) social and relationship problems after stroke (e.g. sex, lifestyle, work, housing, driving, transport, leisure, financial/ income, work/employment, children, family, support network, carers, respite, pets) cognitive and communication problems after stroke (e.g. spatial awareness (neglect/inattention); visual field deficits; hemianopia; memory; attention; praxis; executive function; aphasia, dysarthria, articulatory dyspraxia) physiological, physical and functional problems after stroke (e.g. rest and sleep; respiratory, mobility; balance; senses; incontinence; bladder and bowel management; swallowing; feeding, nutrition and hydration; skin integrity; sexual; motor control; ADL) neurological, visual and sensory impairments and pain problems (e.g. shoulder pain, central post-stroke pain, spasticity, seizures)	- take and interpret thorough history, including information from carers, relatives and other agencies where possible, and assess mental capacity - determine, plan and initiate appropriate assessments/investigations and interventions/treatments; provide information, relevant to individual needs and aspirations (personalise information) - provide a range of neurological intervention processes and to be able to clinically reason the selection and administration of an approach - communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/ treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, adv - assess, discuss and review with those affected by stroke, including client-centred goal-setting and outcomes - identify rehabilitation and support services in hospital and after discharge: inform the individual about services and how to access them; check availability and agree referral - identify need and when to refer for more specialist or differing treatments where necessary: also agree referral (e.g. assistive technology, major adaptations to the home, disability employment adviser) - provide advice and support on driving and refer to specialist centres as required - identify local services and resources (e.g. health, social, voluntary, independent sector; equipment and adaptations, rehabilitation, psychological, educational, employment, housing, transport) to overcome barriers,	Knowledge and Understanding E10K 1 to E10k26 Skills and Abilities E10S1 to E10S23

11. medical problems (e.g. medication, comorbidities, complications) 12. the process of transfer to the community (e.g. discharge planning, long-term management, further rehabilitation, social function) 13. the causes of, and how to assess, manage and treat, problems after stroke: psychological and emotional; social and relationship; cognitive and communication; physiological, physical and functional; neurological, visual and sensory impairments and pain; me 14. the impact of problems after stroke on day-to-day and outdoor functioning: psychological and emotional; social and relationship; cognitive and communication; physiological, physical and functional; neurological, visual and sensory impairments and pain; me 15. methods that will support those affected by stroke with their recovery and help them to cope with problems after stroke: psychological and emotional; social and relationship; cognitive and communication; physiological, physical and functional; neurological 16. risk factors for further vascular events (e.g. type and aetiology of current event, lifestyle, socioeconomic, cultural, vascular, familial, genetic, concurrent medications, comorbidities) 17. pharmacological and non-pharmacological interventions for secondary prevention that will also help recovery after stroke, and their side effects 18. any support services, organisations and resources available (e.g. health, social, voluntary, independent sector; packages of care, finance and personal budgets, self-management, respite care, equipment, adaptations, rehabilitation, psychological, education) 19. methods to facilitate communication with those affected by stroke 20. therapeutic moving and handling 21. methods of changing behaviour 22. the use of assessments and measures	facilitate participation and inclusion: 10. monitor progress and agree or change a maintenance or management plan 11. identify resources to help with participation and inclusion 12. assess motivation and take steps to augment management 13. assess and help with concordance 14. identify and use therapeutic methods of moving and handling the patient that are safe, depending on the individual patient or staff needs and aspirations, and that will help with the optimum return of functional abilities 15. assist, encourage and facilitate post-stroke physical, social and cultural reintegration 16. recognise the signs, symptoms and impact of psychological and emotional problems after stroke (e.g. depression, emotionalism, anxiety, self esteem, confidence, well-being, challenging behaviour) and to help patients and their families to cope and manage; 17. recognise the signs, symptoms and impact of social and relationship problems after stroke (e.g. lifestyle, work, housing, driving, transport, leisure, financial/income, work/employment, children, family, support network, carers, relating, respite, pets) a 18. recognise the signs, symptoms and impact of cognitive and communication problems after stroke (e.g. spatial awareness (neglect/inattention); visual field deficits; memory; attention; praxis; executive function; aphasia, dysarthria, articulatory dyspraxia) 19. recognise the signs, symptoms and impact of physiological, physical and functional problems after stroke (e.g. rest and sleep; respiratory, mobility; balance; senses; incontinence: bladder and bowel management; swallowing; feeding, nutrition and hydration) 20. recognise the signs, symptoms and impact of neurological, visual and sensory impairments and pain problems (e.g. shoulder pain; central post-stroke pain; spasticity,	

23. the principles of goal setting 24. assistive technology and other therapy interventions (e.g. functional electrical stimulation, orthotics) 25. equipment and adaptations 26. concordance: how to assess; how it is affected by individual preference; how to motivate; how to manage non-concordance	seizures) and to help patients and their families to cope and manage; encourage recovery 21. recognise the signs, symptoms and impact of medical problems (e.g. medication, comorbidities, complications) and to help patients and their families to cope and manage; encourage recovery and maximise potential 22. use a range of communication resources and approaches to ensure that patients and their carers are fully involved in the decision making process and their care 23. provide a client-centred approach to care and manage any challenging behaviour	 10. Specialist rehabilitation

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 11: End-of-life care

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations 2. the range of support groups and services for those affected by stroke with palliative care needs 3. the needs and aspirations of those affected by stroke (i.e. patient, carer and family) 4. the assessment and management of problems, how they can be controlled and the implications for prognosis: psychological and emotional; social and relationship; cognitive and communication; physiological, physical and functional; neurological, visual and s 5. pharmacological and non-pharmacological interventions for end-of-life care after stroke 6. the side effects of pharmacological and non-pharmacological interventions for end-of-life care after stroke	1. take and interpret thorough history, including information from carers, relatives and other agencies where possible, and assess mental capacity 2. determine, plan and initiate appropriate assessments/investigations and interventions/treatments; provide information, relevant to individual needs and aspirations (personalise information) 3. communicate and discuss: current event; interventions/treatments and their timeframes; rationale for treatment; possible side effects of treatment; and provide advice and prognosis 4. assess capacity and “best interests” according to the statutory principles 5. provide sufficient information to enable informed choice and decision making by those affected by stroke 6. identify need and when to refer for more specialist or differing treatments where necessary; agree referral 7. recognise and manage symptoms taking account of individual needs and aspirations 8. use palliative care, or other relevant tools, and care pathways 9. identify local services and resources, including waiting times and implications for those affected by stroke 10. use strategies to help with breaking bad news, managing emotions and obtaining information on advanced directives 11. develop mechanisms to support the palliative care team and provide opportunities for debriefing sessions	Knowledge and Understanding E11K 1 to E11K6 Skills and Abilities E11S1 to E11S11 11. End-of-life care

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 12: Seamless transfer of care

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. the assessment and management of problems: psychological and emotional; social and relationship; cognitive and communication; physiological, physical and functional; neurological, visual and sensory impairments and pain; medical; and how to involve users 2. advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations 3. the implications of stroke for lifestyle, driving, work and family 4. methods to facilitate communication with those affected by stroke 5. support services, organisations and resources available (e.g. health, social, voluntary, independent sector; packages of care, finance and personal budgets, self management, respite care, equipment, adaptations, rehabilitation, psychological, educational, 6. the principles of good planning for transition between services or cessation of services and for transfer of care to the community, including the education of those affected by stroke 7. all agencies that are potentially involved along the whole of the Stroke Pathway 8. the principles of multi-agency working	1. take and interpret thorough history, including information from carers, relatives and other agencies where possible, and assess mental capacity 2. determine, plan and initiate appropriate assessments/investigations and interventions/treatments; provide information, relevant to individual needs and aspirations (personalise information) 3. assess, discuss and review with those affected by stroke: goal-setting, outcomes and exit strategies 4. monitor progress and agree or change a maintenance or management plan 5. identify need and when to refer for more specialist or differing treatments where necessary 6. identify local services and resources (e.g. health, social, voluntary, independent sector; equipment and adaptations, rehabilitation, psychological, educational, employment, housing, transport) to facilitate participation and inclusion: check availability 7. liaise with and work across agencies 8. identify and utilise resources available locally and nationally to support those affected by stroke 9. reflect on processes and pathways of care including mechanisms for review and exit strategies 10. reflect on methods and effectiveness of information sharing	Knowledge and Understanding E12K 1 to E12K8 Skills and Abilities E12S1 to E12S10 12. Seamless transfer of care

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 13: Long-term care

Indicator	Knowledge and skills required to meet indicator	NHS KSF
- the assessment and management of problems: psychological and emotional; social and relationship; cognitive and communication; physiological, physical and functional; neurological, visual and sensory impairments and pain; medical - advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations - the needs and aspirations of those affected by stroke, particularly those related to the problems listed above, and how these needs and aspirations can be met - the impact of stroke on the individual, carer and family - the implications of stroke for lifestyle, driving, work and family - risk factors for further vascular events (e.g. type and aetiology of current event, lifestyle, socioeconomic, cultural, vascular, familial, genetic, concurrent medications, comorbidities) - pharmacological and non-pharmacological interventions for secondary prevention and to facilitate recovery after stroke and their side effects - support services, organisations and resources available (e.g. health, social, voluntary, independent sector; packages of care, finance and personal budgets, self-management, respite care, equipment, adaptations, rehabilitation, psychological, educational, assistive technology and other therapy interventions (e.g. functional electrical stimulation, orthotics) - methods to facilitate communication with those affected by stroke - concordance: how to assess; how it is affected	- take and interpret thorough history, including information from carers, relatives and other agencies where possible, and assess mental capacity - communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information - monitor the individual's progress and agree on or change a maintenance or management plan - assess, discuss and review with those affected by stroke: goal-setting and outcomes - identify need and when to refer for more specialist or differing treatments when necessary - identify relevant rehabilitation and social support services after discharge: inform the individual about services and how to access them and agree referral - identify the individual's motivation and take steps to modify behaviour - know of local services, their waiting times and implications for those affected by stroke and ensure that the individual is aware - understand how those affected by stroke can be empowered (e.g. through self-management programmes) - assess and facilitate concordance	Knowledge and Understanding E13K 1 to E13K11 Skills and Abilities E13S1 to E13S10  13. Long-term care

by individual preference; how to motivate; how to manage non-concordance		

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 14: Review

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. the assessment and management of problems: psychological and emotional; social and relationship; cognitive and communication; physiological, physical and functional; neurological, visual and sensory impairments and pain; medical 2. advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations 3. the needs and aspirations of those affected by stroke, particularly those related to the problems listed above, and how these needs and aspirations can be met 4. support services, organisations and resources available (e.g. health, social, voluntary, independent sector; packages of care, finance and personal budgets, self-management, respite care, equipment, adaptations, rehabilitation, psychological, educational, 5. the impact of stroke on the individual, carer and family 6. the implications of stroke for lifestyle, driving, work and family 7. risk factors for further vascular events (e.g. type and aetiology of current event, lifestyle, socioeconomic, cultural, vascular, familial, genetic, concurrent medications, comorbidities) 8. pharmacological and non-pharmacological interventions for secondary prevention and how to help recovery after stroke 9. side effects of risk factor interventions and treatments to help with recovery after stroke 10. methods to help communication with those affected by stroke when conducting a review 11. concordance: how to assess; how it is affected by individual preference; how to motivate; how to manage non-concordance	1. take and interpret thorough history, including information from carers, relatives and other agencies where possible, and assess mental capacity 2. communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, advice 3. monitor the individual's progress and agree or change a maintenance or management plan 4. assess, discuss and review with those affected by stroke: goal-setting and outcomes 5. plan assessments and treatments; provide information, relevant to individual needs and aspirations (personalise information) 6. identify need and when to refer for more specialist or differing interventions/treatments where necessary 7. review process in your area and act on the review 8. assess and facilitate concordance	Knowledge and Understanding E14K 1 to E14K11 Skills and Abilities E14S1 to E14S8 14. Review

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 15: Participation in community

Indicator	Knowledge and skills required to meet indicator	NHS KSF
1. the assessment and management of problems: psychological and emotional; social and relationship; cognitive and communication; physiological, physical and functional; neurological, visual and sensory impairments and pain; medical 2. advocates for stroke patients when there is a legal duty to instruct an IMCA, taking account of religious and cultural aspirations 3. the needs and aspirations of those affected by stroke, particularly those related to the problems listed above, and how these needs and aspirations can be met 4. support services, organisations and resources available (e.g. health, social, voluntary, independent sector; packages of care, finance and personal budgets, self-management, respite care, equipment, adaptations, rehabilitation, psychological, educational, 5. the impact of stroke on the individual, carer and family 6. the implications of stroke for lifestyle; driving; work, including voluntary and family 7. methods to help communication with those affected by stroke, including when conducting a review	1. take and interpret thorough history, including information from carers, relatives and other agencies where possible, and assess mental capacity 2. communicate and discuss: current event; risk of future vascular event; need for assessments/investigations, interventions/ treatments and their timeframes; rationale for treatment and possible side effects of treatment; and provide timely information, adv 3. assess, discuss and review with those affected by stroke: goal-setting and outcomes 4. monitor the individual's progress and agree on or change a maintenance or management plan 5. plan assessments and treatments; and provide information, relevant to individual needs and aspirations (personalise information) 6. identify need and when to refer for more specialist or differing treatments where necessary 7. know of local services, their waiting times and implications for those affected by stroke 8. use individual commissioning	Knowledge and Understanding E15K 1 to E1K7 Skills and Abilities E15S1 to E15S 15. Participation in community

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

Competency 16: Return to work and activity

Indicator	Knowledge and skills required to meet indicator	NHS KSF
- the effects of stroke (cognitive, physical, sensory, visual, emotional, confidence) and how it may affect a return to work and/or education - assessing the effects of stroke (cognitive, physical, sensory, visual, emotional, confidence) - employment law, the Disability Discrimination Act, health and safety at work - the roles of healthcare and other professionals in employment-related services (occupational health, occupational psychologist, disability employment adviser) - the occupational therapist's role in vocational rehabilitation - Jobcentre Plus, its services and its effectiveness for stroke - what is meant by "reasonable adjustment" in the workplace, how to adapt or instigate adaptation to the work environment and the employer's responsibility - available helpful technology for overcoming functional and activity limitations in the workplace - ergonomic principles and how to overcome access issues - return to work education - health, work and well-being – the role of purposeful occupation and the detrimental effects of worklessness - the benefits system in relation to work - workplace assessment including risk, job analysis, work hardening, return to work planning and job retention - models of vocational rehabilitation for stroke and vocational case management - vocational rehabilitation guidelines and standards for people with stroke (British Society	- refer to a vocational rehabilitation service - assess or refer for the assessment of visual, cognitive, functional and physical deficits following stroke - identify local and national services for return to work, their availability and how they can be accessed - know which professionals people should be referred to for employment-related services - assess for, advise on and review the need for workplace adaptation - assess for, advise on and review the need for assistive technology and environmental adaptations to overcome work-related activity limitations - with a stroke survivor, advise, prepare and plan a return to work or education and how they can be supported on the return to work pathway - advise employers/educators about stroke and its effects and negotiate a return to work of the stroke survivor - communicate stroke-related deficits to employers, colleagues, educators, family members and friends - give benefits advice or refer - carry out a workplace assessment and risk assessment, or refer - carry out job analysis, or refer - set goals for work return/retention - case manage and refer to a case management service for a return to work after stroke - implement guidelines in practice - help the stroke survivor to remain in work, review the stroke survivor at work/in education and advise on workplace accommodations	Knowledge and Understanding E16K 1 to E16K15 Skills and Abilities E16S1 to E16S16 16. Return to work

of Rehabilitation Medicine; Vocational Rehabilitation Association; UK Rehabilitation Council)		

Stroke Competency Evidence

Indicator	Action (How are you going to do this?)	Evidence (How can you show you have achieved this?)

Notes:

13. Appendix

NHS Midlands and East Stroke Review commissioning toolkit

NHS Midlands and East Stroke Review Commissioning Toolkit

For workforce education and training

[Click here to
start](#)

This toolkit aims to help commissioners and providers develop a workforce that is fit to deliver the stroke pathway as outlined in the NHS Midlands & East stroke service specification. It provides a framework for identifying the skills required and signposts the resources available to support the development of those skills. The commissioning portfolio for stroke needs to encompass the whole pathway, from prevention through to end of life care, and this toolkit reflects this by highlighting resources that will support staff through every stage of the pathway.

How to use this toolkit

To navigate through the toolkit you can use the shortcuts to the right of this page, as well as the coloured section buttons which appear at the bottom of each page.

To come back to this page click the 'Home' button

Downloads and links

You can download a pdf file when you see this icon

Simply click on the icon to download.

You will need Adobe Acrobat viewer to view the files – available to download [here](#).

This toolkit also contains links to external websites and email addresses, these look like this www.eoe.nhs.uk



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Introduction

The Stroke Review aims to set out the criteria for high quality care for stroke patients. In order to achieve those standards of care, a robust programme of education and training is required to develop a stroke specialist workforce who are equipped to deliver consistent, optimum care.

Here we outline a four-stage commissioning cycle that will help ensure an effective and integrated education programme, together with some of the tools and sources of support for commissioners and providers.

The cycle outlined is based on the Royal College of GP's Guidance for commissioning integrated urgent and emergency care: a 'whole system' approach. A similar approach is also used in the patient and public engagement cycle published by In Health and the Department of Health.

We have used this cycle as a framework for commissioning and implementing education initiatives for the stroke workforce, interpreting the four stages from an education rather than commissioning perspective.

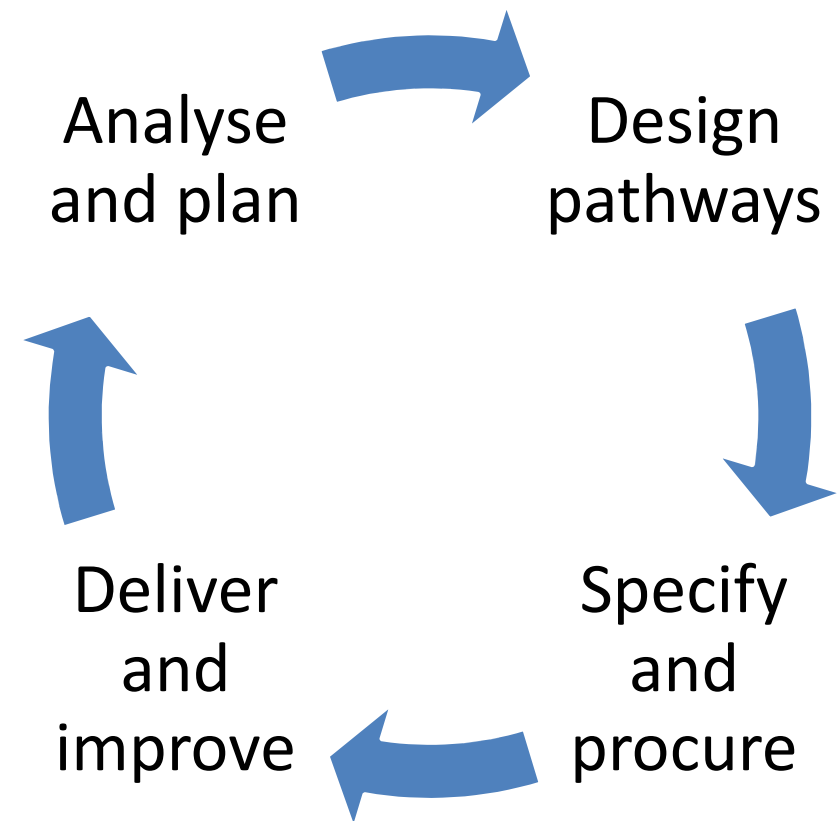


Figure 1: The Clinical Commissioning Cycle *Guidance for commissioning integrated and emergency care: A 'whole system' approach* (RCGP 2011, p.32)

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Analyse and Plan

Drivers and evidence base

The drivers behind commissioning and implementing an effective education and development programme are:

- [National Stroke Strategy 2007](#)
- The NHS Midlands and East stroke service specification 2012
- [BASP](#) and [RCP](#) guidance
- [NICE quality standards](#)
- [Stroke Specific Education Framework](#) (SSEF)
- [NHS Constitution](#)



Complying with these guidelines delivers a highly trained specialist workforce with relevant skills ensuring stroke patients receive the best possible care. A strategic approach to investing in the workforce ensures measurable benefits and improved patient outcomes.

Workforce numbers and profile

An effective education programme must reflect the needs of the workforce and a comprehensive picture of the current stroke workforce is essential. Information available should include: range of professions, number of staff,

place of work, level of competence and training received to date. Many acute trusts already have this information available and there are different frameworks and tools to assist with workforce planning, including:

- [Centre for Workforce Intelligence](#)
- [Skills for Health](#)



Workforce Planning
Tool using Stroke Lev

Governance, stakeholders and project team

To ensure the education programme reflects the whole stroke pathway, it is essential to identify key stakeholders and build a robust governance structure. The project team will then be able to escalate issues efficiently and communicate with the wider workforce effectively. Stakeholders will include patients/carers, voluntary organisations, higher education institutions (HEIs), Academic Health Science Networks (AHSN), commissioners and providers, as well as LETBs/LETCs.

Developing a business case

A well-written business case will demonstrate the value of an effective education programme, providing the evidence base and demonstrating the potential benefits. Reference to the NHS Midlands and East stroke service specification will need to be demonstrated throughout to demonstrate the relationship between the initiatives being proposed and anticipated patient outcomes.

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Design pathways

Skills required at each stage of the pathway

The workforce education and training sub group have identified the skills required at each stage of the pathway utilising the SSEF and referencing key tools that are available to support a particular stage. They can be found as follows:

- Pre-hospital and primary prevention



Pre hospital and Primary care.doc



Acute Tertiary and TIA.doc

- Hyperacute, acute and tertiary care
- ESD and community rehabilitation



Service specification response ESD and cc

- Long term care and secondary prevention
- End of life care



LTC and secondary prevention.doc



End of life care.doc

Exemplar programmes tailored to each stage of the pathway

The sub group have also identified exemplar programmes tailored to each stage of the pathway, which can be found here:



Exemplar programmes.pdf

Examples include:

- Clinical guidelines for Ambulance staff
- Stroke foundation courses at both degree and masters level
- 'Can you feel it?' Care Home staff pulse training to detect Atrial Fibrillation
- E-learning for thrombolysis
- Regional RCN-accredited swallow screen training programme

A more detailed list of all the stroke-related training programmes that are being delivered around the region can be found here:



Stroke education and training programmes

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Specify and procure

Identify current gaps and translate into programmes

The sub group gathered together information regarding all the training programmes available around the region and used this to perform a gap analysis. The final report is available [here](#) and demonstrates where further education programmes are required:



Workforce education
& training gap analysis

Identify criteria for providers and method of evaluation

The criteria for any training can be identified using the analysis of skills required for each stage of the pathway (see previous page). A competency framework has also been developed by the sub group which is closely linked with the SSEF and can be found [here](#):

The evaluation of the education that has been commissioned should be driven by the desired patient outcomes identified in the service specification. The exemplar programmes provide an indication of what might be expected from a provider.

Select provider and draw up contract

A robust procurement process should be followed and a guide to procurement for commissioners can be found on the [DH website](#).

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Deliver and improve

Manage demand and measure performance

In the guidance documents in the [previous section](#), the staff who should attend the training is identified, as well as the actual skills they should be trained in. This enables us to identify

- Who should be trained
- What the education and training should include

The next stage is to consider the impact of the education on patient outcomes with the expectation that investing in staff development will lead to a better quality of service and improved patient outcomes. It is therefore important to understand what improvements are expected as a result of each education initiative.

Providers should be able to provide evidence that staff are performing at the level of competence required of their role and this could be demonstrated through:

- Appraisals and professional development plans mapped against the [SSEF competency framework](#)
- Completion of stroke-specific online learning modules, e.g. [STARS](#)

- Participation in stroke-specific training, e.g. university modules and/or local study days

Review and continually improve

Commissioners should require participation in national audit for the services they commission; this will help commissioners to review trust performance and assess how to further improve stroke services.

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Useful resources

Stroke-specific workforce and training resources

Stroke-Specific Education Framework resources

<http://breeze01.uclan.ac.uk/SSEF/>

UK Stroke Forum Education and Training

<http://www.stroke-education.org.uk/courses.htm>

Wessex ESD Workforce Training

<http://wires.wessexhiecpartnership.org.uk/knowledge-resources/esd-training>

http://blog.soton.ac.uk/wires/files/2013/01/UCLAN_SU-POSTER-STROKE-ESD-TRAINING-PACKAGE-SM-A4-061112.pdf

Training programmes

Bridges: stroke self-management

http://www.bridges-stroke.org.uk/training_programme.php

Connect: training for working with people with communication disabilities

<http://www.ukconnect.org/training.aspx>

Greater Manchester Health Innovation & Education Cluster

<http://www.gmhiec.org.uk/training-materials/view/the-hidden-side-of-stroke>

Stroke Association: Life after Stroke training

<http://www.stroke.org.uk/training>

Managing change

The NHS Change Model

<http://www.changemodel.nhs.uk/pg/dashboard>

The health and care system from April 2013

<http://healthandcare.dh.gov.uk/system-overview-diagram/>

General education and training resources

Local Education and Training Boards:

West Midlands: <http://www.letb.nhslocal.nhs.uk/>

East Midlands: <http://eastmidlandsletb.net/>

East of England:

https://www.eoedeanery.nhs.uk/page.php?page_id=2062

Patient family and carer stroke specific information

Aphasia Help

<http://www.aphasiahelp.org>

Cross Roads and the Princess Royal Trust

<http://www.carers.org/merger>

Health talk online

<http://www.healthtalkonline.org>

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Acknowledgements

This resource has been developed by the NHS Midlands and East Stroke Review Workforce Education and Training Subgroup led by Eunice Foster Workforce Lead.
Eunice.foster@nhs.net

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14. Appendix

Birmingham, Solihull and the Black Country stroke redesign
literature review

Birmingham, Solihull and Black Country Stroke redesign literature review

Paul Fisher, Ainee Khan and Lynn Gibbons

Birmingham City Council

January 2014

Introduction

Stroke is a major health problem in the UK. It is a preventable and treatable disease that is the third biggest cause of death in the UK and the largest single cause of severe disability. Each year in England, approximately 110,000 people (Scarborough et al, 2009) have a first or recurrent stroke which costs the NHS over £2.8 billion. South Asians (Indians, Pakistanis and Bangladeshis), have a higher risk of stroke than the rest of the population.

In the West Midlands the above estimates would equate to approximately 11,600 people will have a first or recurrent stroke per year. Most people survive a first stroke, but often have significant morbidity. More than 900,000 people in England are living with the effects of stroke, with approximately 125,452 residing within the West Midlands.

Stroke mortality rates in the UK have been falling steadily since the late 1960s (Bhatnagaret al., 2010). The development of stroke units following the publication of the Stroke Unit Trialists Collaboration meta-analysis of stroke unit care (Stroke Unit Trialists' 2007), and the further reorganisation of services following the advent of thrombolysis have resulted in further significant improvements in mortality and morbidity from stroke (as documented in the National Sentinel Audit for Stroke) (National Sentinel Stroke Clinical Audit, 2011). However, the burden of stroke may increase in the future as a consequence of the ageing population.

Stroke is a 'brain attack' caused by a disturbance to the blood supply to an area of brain tissue. There are two main types of stroke:

- An ischaemic stroke – The most common form of stroke, caused by a clot blocking or narrowing an artery carrying blood to an area of brain tissue. The likelihood of suffering an ischaemic stroke increases with a number of risk factors such as age, smoking and diabetes.
- A haemorrhagic stroke – A less common form of stroke caused when a weakened blood vessel supplying the brain bursts and causes brain damage. It accounts for around 15% of all strokes but its mortality risk is greater than for ischaemic stroke.

The most important care for people with any form of stroke is prompt admission to a specialist stroke unit. This applies to those with either ischaemic or haemorrhagic stroke of any severity and for people of any age. That is why the Department of Health developed the Act F.A.S.T. campaign to highlight the symptoms of stroke and the importance of emergency treatment.

A transient ischaemic attack (TIA), or minor stroke, is a temporary stroke that occurs when the blood supply to part of the brain is cut off for a short time only. The symptoms are very similar to an ischaemic stroke but are temporary, lasting a few minutes or hours and normally disappearing completely within 24 hours. However, a TIA is a sign that the individual may be at risk of a more serious stroke in the future.

Box 1 summarises the key actions that form the basis of the stroke strategy for England.

Box 1: Stroke Strategy 10-point Action Plan for England (DH, 2007)

- 1. Awareness:** ensure the public and professional groups have a clear awareness of stroke symptoms.
- 2. Preventing stroke:** to alert people to vascular risk, for example hypertension, atrial fibrillation and high cholesterol.
- 3. Involvement:** people with stroke need to be informed partners in their care planning. Those with communication or physical disabilities need to be involved from the outset in the planning and evaluation of local services.
- 4. Acting on the warnings:** local areas need to be able to respond quickly to people who have had a transient ischaemic attack (TIA) – eg within 24 hours for the group most at risk of stroke.
- 5. Stroke as a medical emergency:** local networks need to plan to ensure that everyone who could benefit from urgent care is transferred to an acute stroke centre that provides 24-hour access to scans and specialist stroke care, including thrombolysis.
- 6. Stroke unit quality:** stroke unit care is the single biggest factor that can improve a person's outcomes following a stroke. Successful stroke units are built around a stroke-skilled multi-disciplinary team that is able to meet the needs of the individuals.
- 7. Rehabilitation and community support:** intensive rehabilitation immediately after stroke, operating seven days per week, can limit disability and improve recovery. Specialised rehabilitation needs to continue across the transition to home or care home, ensuring that health, social care and voluntary services together provide the long-term support people need, as well as access to advocacy, care navigation, practical and peer support. Commissioning and planning needs to be integrated across the whole care pathway.
- 8. Participation:** assistance across the range of community services, to overcome physical, communication and psychological barriers to engage and participate in community activities helps people to lead more independent lives and move on after stroke.
- 9. Workforce:** people with stroke need to be treated by a skilled and competent workforce. Local areas need to undertake a local needs assessment and to develop a workforce action plan.
- 10. Service improvement:** services need to work together in networks to look across all aspects of the care pathway. Regular local and national audit and increased participation in clinical trials will also bring improvements.

Scope

This literature review is based on adult rather than pediatric stroke. While there is some overlap and a great deal of the learning about how to build an integrated system for pediatric stroke can be extracted from the adult experience, there are many ways in which the case for pediatric stroke must be uniquely considered. Issues related to stroke risk, underlying causes and prevention are beginning to be understood, but more research is required in order that comprehensive and consistent best practices for treatment can be standardized. Caring for childhood stroke is different from caring for adults as are the educational needs of those providing care.

Glossary

ABCD² score – Estimates the risk of stroke after a TIA based on five parameters (age, blood pressure, clinical features, duration of TIA, and presence of diabetes)

F.A.S.T. - acronym used as a mnemonic to help detect and enhance responsiveness to stroke victim needs. The acronym stands for **F**acial drooping, **A**rm weakness, **S**peech difficulties and **T**ime.

Atrial Fibrillation (AF) – irregular, chaotic heart rhythm

Hyperacute Stroke Unit (HASU) - Some stroke services designate the most intensive treatment as hyperacute. This would be where patients are initially treated and usually for a short period of time (i.e. up to three days).

Hypertension - High blood pressure.

Primary Prevention – Methods to avoid occurrence of disease.

Secondary Prevention – Methods to diagnose and treat existent disease in early stages before it causes significant morbidity.

Stroke – The damaging or killing of brain cells starved of oxygen as a result of the blood supply to part of the brain being cut off. Types of stroke include Ischaemic stroke caused by blood clots to the brain or haemorrhagic stroke caused by bleeding into/of the brain.

Thrombolysis - The breaking up of a blood clot (in strokes via the use of drugs).

Transient ischaemic attack (TIA) – a stroke which recovers within 24 hours of onset of symptoms.

Research Questions

1 What is the evidence for risk factors?

Glynn and Rosners (2005) research is summarised in Table 1. These findings are supported by Harmsen et al (2006) who looked at the long-term predictive value of risk factors in 7,457 middle aged men in Sweden and found that age, diabetes, and hypertension were independently associated with increased risk of stroke over a substantial period of nearly 30 years follow up. Previous TIAs, atrial fibrillation, history of chest pain, smoking, and psychological stress were also independently related to stroke. Elevated body mass index additionally predicted stroke during the later part of the follow-up. They concluded hypertension and diabetes retain their importance as stroke risk factors especially with increasing age. TIAs, atrial fibrillation, stress, smoking, and a history of chest pain were associated with outcome only for the first or the first 2 periods of follow-up.

Table 1: Relative risk for stroke predictors (from Glynn and Rosner, 2005). Significant (at 95% level) relative risks (RRs) highlighted

Potential Risk Factors	Endpoint RR for Stroke	95% CI
Diabetes	2.44	2.07 – 2.88
Current smoker	1.84	1.62 – 2.08
Hypertension	1.81	1.65 – 1.97
Elevated Cholesterol	1.32	1.18 – 1.47
Former smoker	1.11	1.01 – 1.22
Daily Alcohol Consumption	1.08	0.90 – 1.28
Body mass index	1.05	1.03 – 1.06
Height	1.02	0.93 – 1.13
Occasional Alcohol Consumption	0.95	0.81 – 1.12
Exercise (per one category)	0.93	0.91 – 0.96

The latest national stroke audit for patients admitted/discharged between April – June 2013 showed over a quarter of patients were those with a recurrent stroke. Nearly half of the cohort had pre-morbid restriction of activity (Rankin score greater than 0) with nearly a fifth having very significant pre-stroke problems (Rankin Score greater than 2) (SSNAP, 2013). A breakdown of these co-morbidities can be found in Table 2 and Table 3 below.

From the same audit, Figure 1 illustrates the need for 24 hour seven-day working in stroke units as the risk of a stroke is evenly spread across the week. Figure 2 illustrates the peak of stroke incidence in the morning (though relatively few strokes whilst people are asleep, at 9%).

Certain groups suffer from a greater risk of stroke and/or a worse outcomes following a stroke and therefore should be considered when designing services to ensure health inequalities are, ideally, reduced. These groups include:

- Older people
- Black and minority ethnic (BME) groups
- Men from south Asia, Pakistan and Bangladesh
- People with mental health problems and learning disabilities
- Socially deprived groups

Table 2: Number of co-morbidities (SSNAP, 2013)

Number of co-morbidities	Percentage of patients in the SSNAP
0	26.2%
1	35.8%
2	26.7%
3	9.4%
4	1.7%
5	0.2%

Table 3: Types of co-morbidity (SSNAP, 2013)

Type of co-morbidity	Percentage of patients in the SSNAP
Congestive Heart Failure	5.7%
Hypertension	53.8%
Diabetes	18.5%
Stroke/TIA	26.9%
Atrial Fibrillation	20.2%

Figure 1: Symptom onset – breakdown by day (SSNAP, 2013)

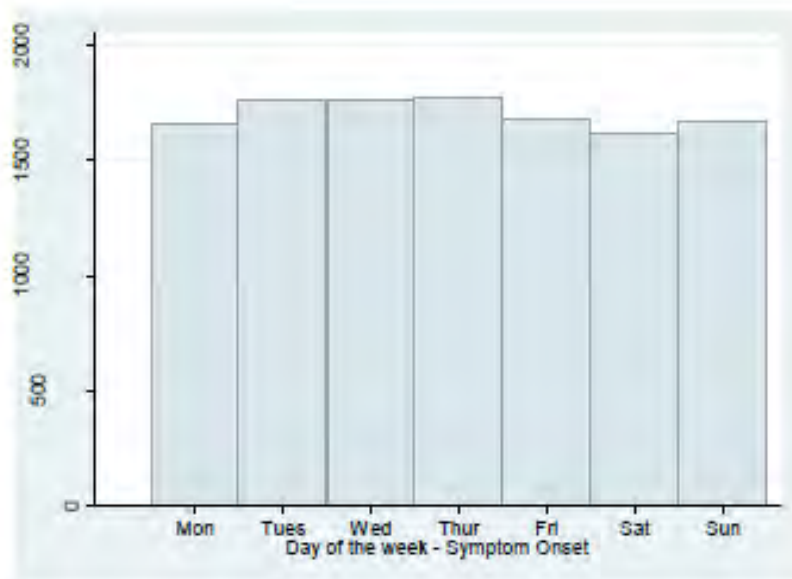
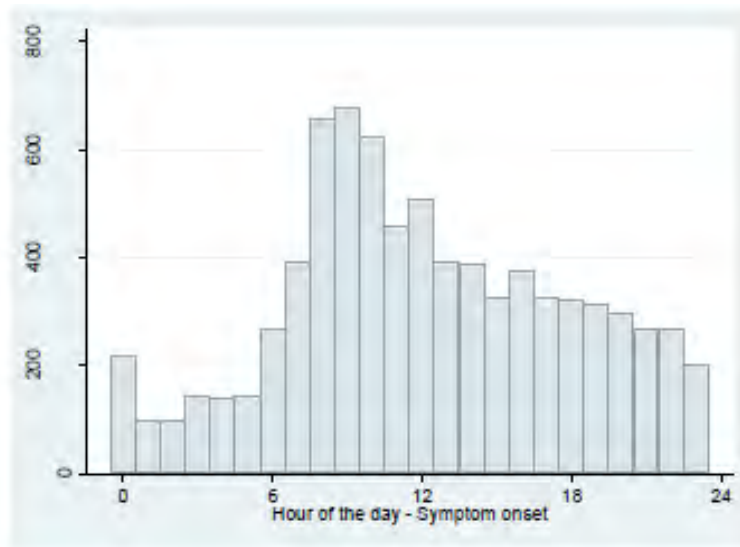


Figure 2: Symptom onset – breakdown by hour (SSNAP, 2013)



Recommendations

Reduction in diabetes, smoking and hypertension should be the three highest priorities for primary prevention strategies to reduce the incidence of strokes.

2 What is the evidence for the primary/secondary prevention measures to reduce the prevalence of stroke risk factors?

Stroke is triggered by several risk factors, including influenza and other respiratory infections (Muhammad et al., 2011). It has been shown that seasonal variation in stroke incidence closely resembles the occurrence of respiratory tract and influenza virus infections (Lanska et al., 1999). Moreover, influenza vaccination has been shown to reduce stroke risk (Nichol et al., 2003; Grau et al., 2005) and stroke mortality (Wang et al., 2007).

Mackintosh et al (2012) in a qualitative study examining the reasons why there is a time delay in contacting health services for some people who suffer stroke symptoms in north east England found that lack of knowledge on stroke symptoms, fear of the consequences of stroke, including future dependence, disruption to family life, previous negative experiences of hospital, or involving a friend or relative in the decision to access medical services. Importantly, a theme of contacting the GP instead of emergency services was seen as a more appropriate course of action, with varying responses evident from primary care services in response to this.

Increased public awareness through the Face, Arm, Speech Time (F.A.S.T) and paramedic training programs have increased the proportion of patients with stroke presenting within the time window for thrombolysis. The positive predictive value (PPV) for ambulance staff was 78% (95%CI 72 to 84%). A stroke/TIA detection rate (diagnostic accuracy) was estimated for the ambulance paramedics by assuming all strokes/TIAs that were taken by ambulance to the A&E were referred to the acute stroke unit. This gave an upper estimation of sensitivity of 79%. (Harbison et al., 2003).

Modelling work undertaken by the Department of Health has found that offering the NHS Health Check to all people between the ages of 40 and 74 in England, and recalling them every five or 10 years, would be a cost-effective and clinically beneficial programme. Introduced in 2008, the NHS Health Check assesses people's risk of heart disease, stroke, kidney disease and diabetes by looking at their age, gender, family history, height and weight, as well as their blood pressure and cholesterol levels. NHS Health Checks have the potential to prevent 1,600 heart attacks and strokes and save up to 650 lives each year. They could prevent over 4,000 people a year from developing diabetes and detect at least 20,000 cases of diabetes or kidney disease earlier.

The Change4Life campaign was launched in 2009 as part of a strategy to help reduce obesity, which can be a contributory factor for stroke, and to help people maintain a healthy weight. Aimed at families, it promotes messages such as healthy eating and being more active.

Issues with current prevention measures

The latest stroke audit for patients admitted/discharged between April – June 2013 showed only 36% of patients in AF on admission are taking anticoagulants with 38% taking antiplatelet drugs which are considered ineffective for patients in AF. Also, over a quarter of patients are recurrent stroke (SSNAP, 2013).

The current average time from onset of symptoms to arrival at the hospital is 147 minutes (SSNAP, 2013) highlighting the need for measures such as F.A.S.T.

Recommendations: General

More awareness campaigns on stroke symptoms, specifically aiming to achieve the message that stroke is a serious medical emergency which is treatable therefore contacting emergency services without delay is appropriate. (Especially since the only licensed treatment for ischaemic stroke (alteplase) is to be used within 4.5 hours of stroke onset (and even within this window, efficacy reduces rapidly over time)). Training for primary care services to direct to emergency services in a more streamlined way.

Recommend flu vaccinations for people especially with other risk factors.

Recommendations: Primary Prevention - Lifestyles

Dietary advice:

- Advise eating at least five portions of fruit and vegetables per day.
- Advise eating at least two portions of fish per week, including a portion of oily fish.
- Advise people to eat a diet in which the total fat intake is 30% or less of total energy intake, saturated fats are 10% or less of total energy intake, dietary cholesterol is less than 300 mg/day, and saturated fats are replaced by monounsaturated and polyunsaturated fats.
- Advise pregnant women to limit their intake of oily fish to two portions a week.
- Do not routinely recommend omega-3 fatty acid supplements or plant sterols and stanols for primary prevention.

Physical activity:

- Advise people to take 30 minutes of at least moderate-intensity exercise a day at least five days a week.
- Encourage people who cannot manage this to exercise at their maximum safe capacity.
- Recommend exercise that can be incorporated into everyday life, such as brisk walking, using stairs and cycling.
- Tell people that they can exercise in bouts of 10 minutes or more throughout the day.
- Take into account the person's needs, preferences and circumstances.
- Agree goals and provide written information about the benefits of activity and local opportunities to be active.

Weight management:

- Offer people who are overweight or obese advice and support to work towards achieving and maintaining a healthy weight.

Alcohol consumption:

- Advise men to limit their alcohol intake to 3-4 units a day.
- Advise women to limit their alcohol intake to 2-3 units a day.
- Advise everyone to avoid binge drinking.

Smoking cessation:

- Advise all people who smoke to stop.
- If people want to stop: offer support and advice; in addition, provide medication to help with smoking cessation when indicated.

(NICE, 2008)

Recommendations: Primary Prevention - Drugs

Hypertension:

- Screen for hypertension and treat appropriately according to National Institute for Health and Clinical Excellence (NICE) guidelines (NICE, 2011).

Antithrombotic treatment:

- Following acute MI: anticoagulation is appropriate in those who are at increased risk of thromboembolism, including those with a large anterior MI, left ventricular aneurysm or thrombus, paroxysmal tachyarrhythmias, chronic heart failure or a history of thromboembolic events.
- Anticoagulation is indicated for other cardiovascular risk factors for thromboembolism, eg prosthetic valves, rheumatic heart disease and AF.

Aspirin:

- Although use of aspirin is widely accepted for secondary prevention, results in primary prevention are inconclusive, and aspirin is not licensed for this indication.
- Aspirin produces a 12% proportional reduction in serious vascular events, mainly due to a 20% reduction in non-fatal MI. There was no net effect on stroke and vascular mortality.
- If low-dose aspirin is used in primary prevention, the balance of risk and benefits should be discussed with the patient.
- The risk of gastrointestinal bleeding (0.1% per year with aspirin versus 0.07% per year without) probably outweighs the small benefit in stroke prevention (0.51% aspirin versus 0.57% control per year) unless the risk is particularly high (Baigent *et al.*, 2009).

Lipid-lowering drugs: NICE recommends statin therapy as part of the management strategy for the primary prevention of CVD for adults who have a 20% or greater 10-year risk of developing CVD.

Recommendations: Secondary Prevention

All patients should have an individualised strategy for stroke prevention that should be implemented within a maximum of seven days of acute stroke or TIA.

All patients should be given appropriate advice on lifestyle factors as described for primary prevention, including smoking cessation, physical activity, diet, weight control and avoiding excess alcohol.

All patients should receive regular review and treatment of risk factors for vascular disease for the rest of their lives after a stroke with inclusion on a stroke register and a minimum of annual follow-up.

All patients should be placed on a programme to manage their blood pressure

Antithrombotic treatment:

- If there is a history of persistent or paroxysmal AF in a non-haemorrhagic stroke, consider anticoagulation first-line: Anticoagulation should be started in every patient with persistent or paroxysmal AF (valvular or non-valvular) unless contra-indicated. Anticoagulants should not be used for patients without persistent or paroxysmal AF unless there is a major source of cardiac embolism. Anticoagulation is indicated for other cardiovascular risk factors for thromboembolism, eg prosthetic valves. Anticoagulants should not be started until brain imaging has excluded haemorrhage, and usually not until 14 days have passed from the onset of an ischaemic stroke.

Patients with TIAs not being anticoagulated should be on modified-release dipyridamole in combination with aspirin (modified-release dipyridamole alone if aspirin is not tolerated) (NICE TAG, 2010).

Patients with ischaemic stroke (not due to AF) should be on clopidogrel (only use modified-release dipyridamole in combination with aspirin if clopidogrel is not tolerated). Clopidogrel is also the preferred treatment option in patients with peripheral arterial disease or multivascular disease (Furie *et al.*, 2011).

For patients post-MI, an option including aspirin is preferred (use clopidogrel only, if aspirin is not tolerated).

Anti-lipid agents:

- Treatment with a statin should be given to all patients with ischaemic stroke or TIA unless contra-indicated.

3 What is the evidence for acute stroke services?

Patients with stroke admitted to organised stroke care (usually a stroke unit) are less likely to die and more likely to leave hospital independent than those who are cared for in general (usually medical and care of the elderly) wards (Stroke Unit Trialists' Collaboration, Cochrane Database, 2007).

Patel et al. (2004) found that mobile stroke team was less effective than domiciliary care, 69% of patients avoided death or institutionalisation compared to 78% in domiciliary care. The stroke unit was most effective with 87% of patients avoiding death or institutionalisation after one year.

Krebes et al (2011) implemented a stroke identification algorithm in Berlin for dispatchers of stroke-specific ambulances (with onboard CT scanner and point-of-care lab). These are complex, expensive vehicles so adequate use is important. They found that after implementing an algorithm and training the dispatchers, the sensitivity of picking up a stroke and sending the specialised ambulance was 0.53 (a low value), PPV 0.48 but the specificity was 0.97, NPV 0.98. Thus there is potential for pre-hospital care of stroke if correctly identified.

Current discharge patterns (SSNAP, 2013)

Nationally 84% of patients leave hospital alive after a stroke, with 60% returning home. 11% are discharged to a care home, with nearly two thirds of these being sent to a home for the first time. 80% of these were expected to become permanent residents.

Recommendations: General

In people with sudden onset of neurological symptoms a validated tool, such as Face Arm Speech Time (FAST), should be used outside hospital to screen for a diagnosis of stroke or TIA.

People who have had a suspected TIA who are at high risk of stroke (that is, with an ABCD2 score of 4 or above) should have:

- aspirin (300 mg daily) started immediately
- specialist assessment and investigation within 24 hours of onset of symptoms
- measures for secondary prevention introduced as soon as the diagnosis is confirmed, including discussion of individual risk factors.

People with crescendo TIA (two or more TIAs in a week) should be treated as being at high risk of stroke (as described in recommendation 5), even though they may have an ABCD2 score of 3 or below.

All people with suspected stroke should be admitted directly to a specialist acute stroke unit following initial assessment either from the community or accident & emergency (A&E) department.

Brain imaging should be performed immediately for people with acute stroke if any of the following apply:

- indications for thrombolysis or early anticoagulation treatment
- on anticoagulant treatment
- a known bleeding tendency
- a depressed level of consciousness (Glasgow Coma Score (GCS) below 13)
- unexplained progressive or fluctuating symptoms
- papilloedema, neck stiffness or fever
- severe headache at onset of stroke symptoms.

On admission, people with acute stroke should have their swallowing screened by an appropriately trained healthcare professional before being given any oral food, fluid or medication.

Recommendations: NICE Stroke Quality Standard, 2010

- 1** Ensure that there are agreed local policies and protocols for ambulance staff to use validated tools to screen for stroke or TIA in people with sudden onset of neurological symptoms outside hospital, and that there is immediate access (1 hour) to a specialist acute stroke unit for those with persisting neurological symptoms.
- 2** Ensure facilities and protocols are available for patients to receive brain imaging within 1 hour of arrival at the hospital if they meet any of the indications for immediate imaging.
- 3** Ensure that patients with suspected stroke are admitted directly to a specialist acute stroke unit to be assessed for thrombolysis, receiving it if clinically indicated.
- 4** Ensure facilities and protocols are available to ensure that each patient with acute stroke has their swallowing screened by a specially trained healthcare professional within 4 hours of admission to hospital, and prior to the oral administration of food, fluid or medication, and that each patient has an ongoing management plan for the provision of adequate nutrition.
- 5** Ensure protocols are in place so that patients with stroke are assessed and managed by stroke nursing staff and at least one member of the specialist rehabilitation team within 24 hours of admission to hospital, and by all relevant members of the specialist rehabilitation team within 72 hours, with documented multidisciplinary goals agreed within 5 days of admission to hospital.
- 6** Ensure all patients who need ongoing inpatient rehabilitation after completion of their acute diagnosis and treatment are treated in a specialist stroke rehabilitation unit.
- 7** Ensure that there are agreed local policies and protocols to offer patients with stroke a minimum of 45 minutes of each active therapy that is required, for a minimum of 5 days each week, that enables them to meet their rehabilitation goals for as long as they continue to benefit from the therapy and are able to tolerate it.
- 8** Ensure that all patients with loss of bladder control at 2 weeks are reassessed to identify the cause and have treatment plans implemented, involving both patients and carers.
- 9** Ensure that there are agreed local policies and guidelines for screening patients with stroke within 6 weeks of diagnosis, using a validated tool, to identify mood disturbance and cognitive impairment.
- 10** Ensure that all patients discharged from hospital who have residual stroke related problems are followed up within 72 hours by specialist stroke rehabilitation services for assessment and ongoing management.
- 11** ensure that local policies are in place to ensure that the carers of all patients with stroke have: a named contact for stroke information; written information about the patient's diagnosis and management plan; and sufficient practical training to enable them to provide care. They obtain the carer's opinion through a carer's experience survey.

Recommendations: Royal College of Physicians, 2012

Ambulance services, including dispatchers, should be commissioned to respond to every patient presenting with a possible acute stroke as a medical emergency.

Acute services should be commissioned to provide:

- Imaging of all patients in the next slot/within 1hr to plan treatment (e.g. thrombolysis, anticoagulation, known bleeding tendency, decrease GCS to 13, progressive/fluctuant etc)
- Imaging must always be carried out within 12 hours
- Thrombolysed as per recommendations of guidelines
- Active management of physiological status and homeostasis
- Carry out investigations and manage to reduce risk of stroke/TIA/other minor strokes within 1 week or within 24 hours for high-risk cases
- Acute vascular surgical service to manage patients with neurovascular episodes
- A neuroscience service to admit and manage all patients with potential SAH, supported by surgery and interventional radiology
- A neuroscience service for neurosurgical interventions in major intracerebral haemorrhage, malignant cerebral oedema, and hydrocephalus
- Acute hospitals receiving acute medical admissions that include potential strokes should have arrangements to admit directly to a specialist acute stroke unit (onsite/neighbouring hospital) to monitor physiological functions
- Patients with suspected stroke should be admitted directly to a specialist acute stroke unit and assessed for thrombolysis
- Patients with stroke should be assessed by stroke nursing staff and at least one member of the specialised rehabilitation team within 24h of admission to hospital, and by all relevant members of rehabilitation within 72 hours

All patients should be assessed (max of 4 hours of admission) for:

- Ability to swallow (until safe swallowing has been established – consider alternative fluid management, nasogastric tube feeding)
- Positioning, mobilisation, moving and handling
- Bladder control
- Risk of skin pressure ulcers
- Comprehension of instructions
- Capacity for needs and wishes to be communicated
- Nutrition/hydration
- Hearing ability
- Vision

Acute stroke patients should be mobilised within 24h of acute stroke onset, unless medically unstable, by trained staff and appropriate equipment

Blood pressure monitoring with appropriate adjustments (targeted to 130/80), but with carotid stenosis (targeted to 130-150 systolic)

Clopidogrel 75mg daily in sinus rhythm for TIA or stroke

4 What is the evidence for stroke rehabilitation services?

To improve mortality and morbidity, stroke survivors need access to effective rehabilitation services. Over 30% of people have persisting disability and they need access to stroke services long term. Stroke rehabilitation is a multidimensional process, which is designed to facilitate restoration of or adaptation to, the loss of physical or psychological function when reversal of the underlying pathological process is incomplete. Rehabilitation aims to enhance functional activities and participation in society and thus improve quality of life. Key aspects of rehabilitation care include multidisciplinary assessment, identification of functional difficulties and their measurement, treatment planning through goal setting, delivery of interventions which may either effect change or support the individual in managing persisting change, and evaluation of effectiveness.

Assessment is typically undertaken using the World Health Organisation (WHO) International Classification of Functioning, Disability and Health (ICF) which provides a bio-psychosocial model of disability. As well as supporting comprehensive assessment the ICF can be used in goal setting & treatment planning and monitoring, as well as outcome measurement. Treatments are largely delivered via physiotherapists, occupational therapists, speech and language therapists, nurses and psychologists. Other components of rehabilitation include the learning of new skills to circumvent those lost; adaptation to loss by both the patient and family; the application of new technologies, appliances and environmental modifications; and the development of new service delivery systems.

The rehabilitation process aims to maximise the participation of the patient in his or her social setting, including supporting people to establish roles and occupations, and minimise the pain and distress experienced by the patient and their family carers (Wade et al., 2000).

Clear standards exist for stroke rehabilitation, for instance as described both in the National Clinical Guideline for Stroke developed by the Intercollegiate Stroke Working Party (National clinical guideline for stroke, 2008). These are reflected in the NICE quality standards (NICE, 2010) and the National Stroke Strategy (DH, 2007). Overall there is little doubt that the rehabilitation approach is effective; what individual interventions should take place within this structure is less clear.

All interventions should take place in the context of a comprehensive stroke pathway which recognises that early management, while critical, is a component of a process which aims to ameliorate the long term consequences of living with stroke for individuals and their families and to enable them to live at home, capable to participate in as many activities as they are able. At the point of discharge the person who has had a stroke may need support from a range of other agencies such as housing, Jobcentre Plus, social services and stroke voluntary organisations. Randomised controlled trial evidence, although the gold standard for intervention studies may not be available or appropriate for examining rehabilitation processes. It needs to be recognised that even where the evidence base is clear, rehabilitation interventions need to be targeted and relevant to the individual.

Key recommendations for Stroke Rehabilitation - Long term rehabilitation after stroke clinical guideline, 2013

Stroke units People with disability after stroke should receive rehabilitation in a dedicated stroke inpatient unit and subsequently from a specialist stroke team within the community.

Evidence

Death or institutional care by the end of scheduled follow-up

Generally studies have found that significantly fewer people in the organised stroke unit (comprehensive, rehabilitation and, mixed rehabilitation wards) died or required institutional care by the end of scheduled follow-up compared to general medical ward (moderate confidence in effect) (Ma et al., 2004, Garraway et al., 1980, Svensson et al., 2012, Fagerberg et al., 2000, Cabral et al., 2003, Hankey et al., 1997, von Arbin et al., 1980, Laursen et al., 1995, Indredavik et al., 1991, Strand et al., 1985).

Length of stay (days) in hospital or institution

Some studies show a significant difference in length of stay in hospital or institution between organised stroke units (comprehensive, rehabilitation, and mixed rehabilitation stroke wards) and general medical wards favouring organised stroke units. Ma et al., 2004, Garraway et al., 1980, Svensson et al., 2012, Fagerberg et al., 2000, Cabral et al., 2003, Hankey et al., 1997, von Arbin et al., 1980, Laursen et al., 1995, Indredavik et al., 1991, Strand et al., 1985) However, there are studies that show there is no significant difference. Kaste et al., 1995, Aitken et al., 1993, Sivenius et al., 1985).

Death at five-year follow-up

Some studies found that significantly fewer people in the organised stroke unit (comprehensive and rehabilitation stroke wards) died at five-year follow-up compared to general medical ward (moderate confidence in effect). (Indredavik et al., 1991, Juby et al., 1996).

Death or institutional care at five-year follow-up

Some studies found significantly fewer people in the organised stroke unit (comprehensive and rehabilitation stroke ward) died or required institutional care at five year follow-up compared to general medical ward (high confidence in effect). (Indredavik et al., 1991, Juby et al., 1996).

Death or dependency at five-year follow-up

Some studies found that significantly fewer people in the organised stroke unit (comprehensive and rehabilitation stroke ward) died or were dependent at five-year follow-up compared to general medical ward (moderate confidence in effect). (Indredavik et al., 1991, Juby et al., 1996).

Death at 10-year follow-up

Some studies found that significantly fewer people in the organised stroke unit (comprehensive and rehabilitation stroke ward) died at 10-year follow-up compared to general medical ward (high confidence in effect). (Indredavik et al., 1991, Juby et al., 1996).

Death or institutional care at 10-year follow-up

Some studies found that significantly fewer people in the organised stroke unit (comprehensive and rehabilitation stroke ward) died or required institutional care at 10- year follow-up compared to general medical ward (high confidence in effect) (Indredavik et al., 1991, Juby et al., 1996).

Death or dependency at 10-year follow-up

Some studies found no significant difference in rate of mortality or dependency between the organised stroke unit (comprehensive and rehabilitation stroke ward) and general medical ward at 10-year follow-up (moderate confidence in effect) (Indredavik et al., 1991, Juby et al., 1996).

Economic evidence

One partially applicable study with potentially serious limitations showed that the cost per patient in a stroke unit was lower compared to a general medical ward with no significant difference in terms of health outcomes (Claesson et al., 2000).

One partially applicable study with very serious limitations showed that care on stroke units cost more than care on general medical wards. However, the quality of care delivered on stroke units was much higher (Moodie et al., 2006).

Recommendations: Stroke rehabilitation guide line 2013

The core multidisciplinary stroke team

A core multidisciplinary stroke rehabilitation team should comprise the following professionals with expertise in stroke rehabilitation, this is recommended by the Stroke rehabilitation guidelines as compiled by the Delphi method from study evidence and then consensus from experts:

- consultant physicians
- nurses
- physiotherapists
- occupational therapists
- speech and language therapists
- clinical psychologists
- rehabilitation assistants
- social workers.

Health and social care interface Health and social care professionals should work collaboratively to ensure a social care assessment is carried out promptly, where needed, before the person with stroke is transferred from hospital to the community. The assessment should:

- identify any ongoing needs of the person and their family or carer, for example, access to benefits, care needs, housing, community participation, return to work, transport and access to voluntary services
- be documented and all needs recorded in the person's health and social care plan, with a copy provided to the person with stroke.

Transfer of care from hospital to community Offer early supported discharge to people with stroke who are able to transfer from bed to chair independently or with assistance, as long as a safe and secure environment can be provided.

Setting goals for rehabilitation Ensure that goal-setting meetings during stroke rehabilitation:

- are timetabled into the working week
- involve the person with stroke and, where appropriate, their family or carer in the

Recommendations: Stroke rehabilitation guide line 2013, cont.

Intensity of stroke rehabilitation Offer initially at least 45 minutes of each relevant stroke rehabilitation therapy for a minimum of 5 days per week to people who have the ability to participate, and where functional goals can be achieved. If more rehabilitation is needed at a later stage, tailor the intensity to the person's needs at that time.

Cognitive functioning Screen people after stroke for cognitive deficits. Where a cognitive deficit is identified, carry out a detailed assessment using valid, reliable and responsive tools before designing a treatment programme.

Emotional functioning Assess emotional functioning in the context of cognitive difficulties in people after stroke. Any intervention chosen should take into consideration the type or complexity of the person's neuropsychological presentation and relevant personal history.

Swallowing Offer swallowing therapy at least 3 times a week to people with dysphagia after stroke who are able to participate, for as long as they continue to make functional gains. Swallowing therapy could include compensatory strategies, exercises and postural advice.

Return to work Return-to-work issues should be identified as soon as possible after the person's stroke, reviewed regularly and managed actively. Active management should include:

- identifying the physical, cognitive, communication and psychological demands of the job (for example, multi-tasking by answering emails and telephone calls in a busy office)
- identifying any impairments on work performance (for example, physical limitations, anxiety, fatigue preventing attendance for a full day at work, cognitive impairments preventing multitasking, and communication deficits)
- tailoring an intervention (for example, teaching strategies to support multi-tasking or memory difficulties, teaching the use of voice-activated software for people with difficulty typing, and delivery of work simulations)
- educating about the Equality Act 2010b and support available (for example, an access to work scheme)
- workplace visits and liaison with employers to establish reasonable accommodations, such as provision of equipment and graded return to work.

Long-term health and social support Review the health and social care needs of people after stroke and the needs of their carers at 6 months and annually thereafter. These reviews should cover participation and community roles to ensure that people's goals are addressed.

Recommendations: Royal College of Physicians, 2012

Commissioning organisations should ensure:

- An inpatient stroke unit with ability to deliver stroke rehabilitation
- Early supported discharge to deliver specialist rehabilitation at home or care home
- Services able to deliver specialist rehabilitation in outpatient and community settings in liaison with inpatient services
- Rehabilitation unit should be geographically identified unit
- Coordinated MDT approach
- Staff specialise in stroke and rehabilitation
- Education programmes for staff, patients and carers

Provide early supported discharge to patients who are suitable but still contain the same involvement from specialist care at hospital but delivered at home

Patients with stroke should be offered a minimum of 45 minutes of each appropriate therapy required, minimum of 5 days per week, at a level that enables the patient to meet their rehabilitation goals as long as they continue to benefit/tolerate therapy

Patients with continued loss of bladder control 2 weeks post stroke should have active management plan for incontinence and a plan should be in place on discharge.

Psychological care after stroke should be delivered, from acute to long term management

Any patient with residual impairment after the end of initial rehabilitation should be offered a formal review at least every 6 months, to consider whether further interventions are warranted, and should be referred for specialist assessment if new problems arise

5 What is the evidence for stroke pathways?

Good stroke care is not just about the acute stage, services must be designed from primary prevention to the paramedic through to social care post-discharge.

Examples for the acute part of the pathway can be seen in Figure 3 (for TIA) and Figure 4 (stroke).

Figure 3: TIA algorithm (NCC-CC, 2008)

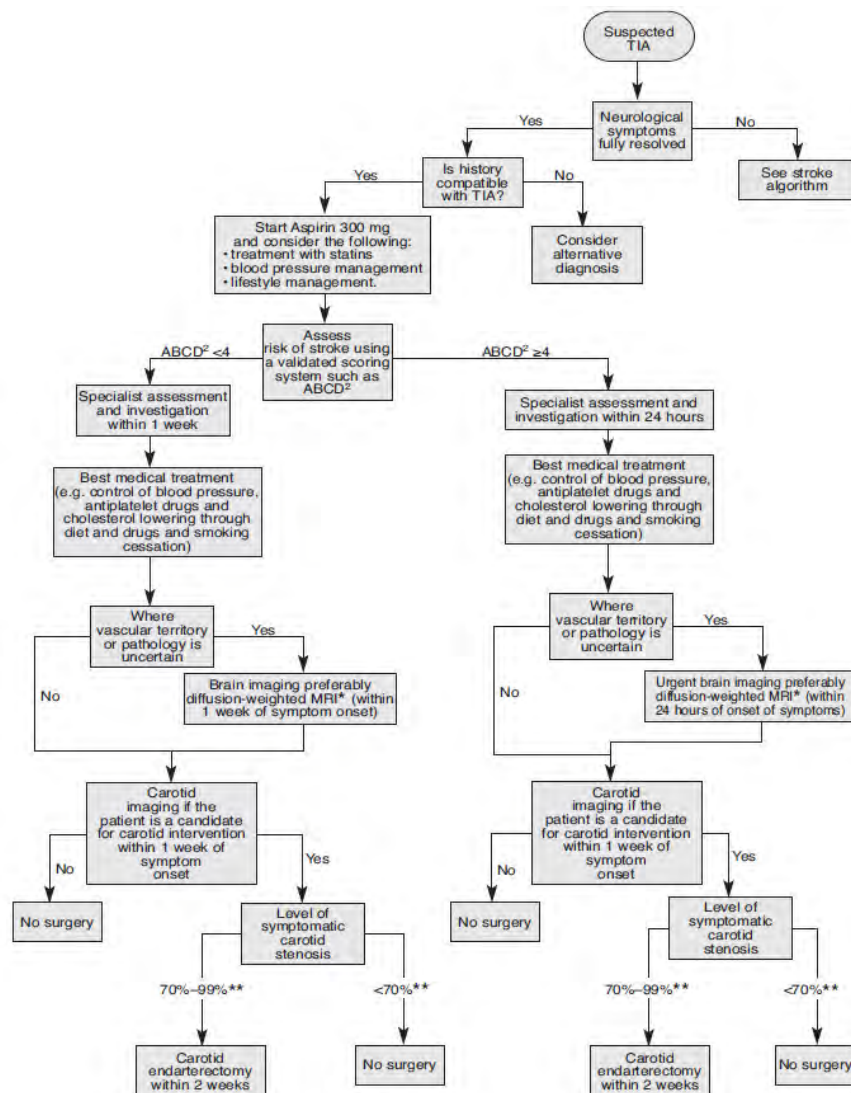
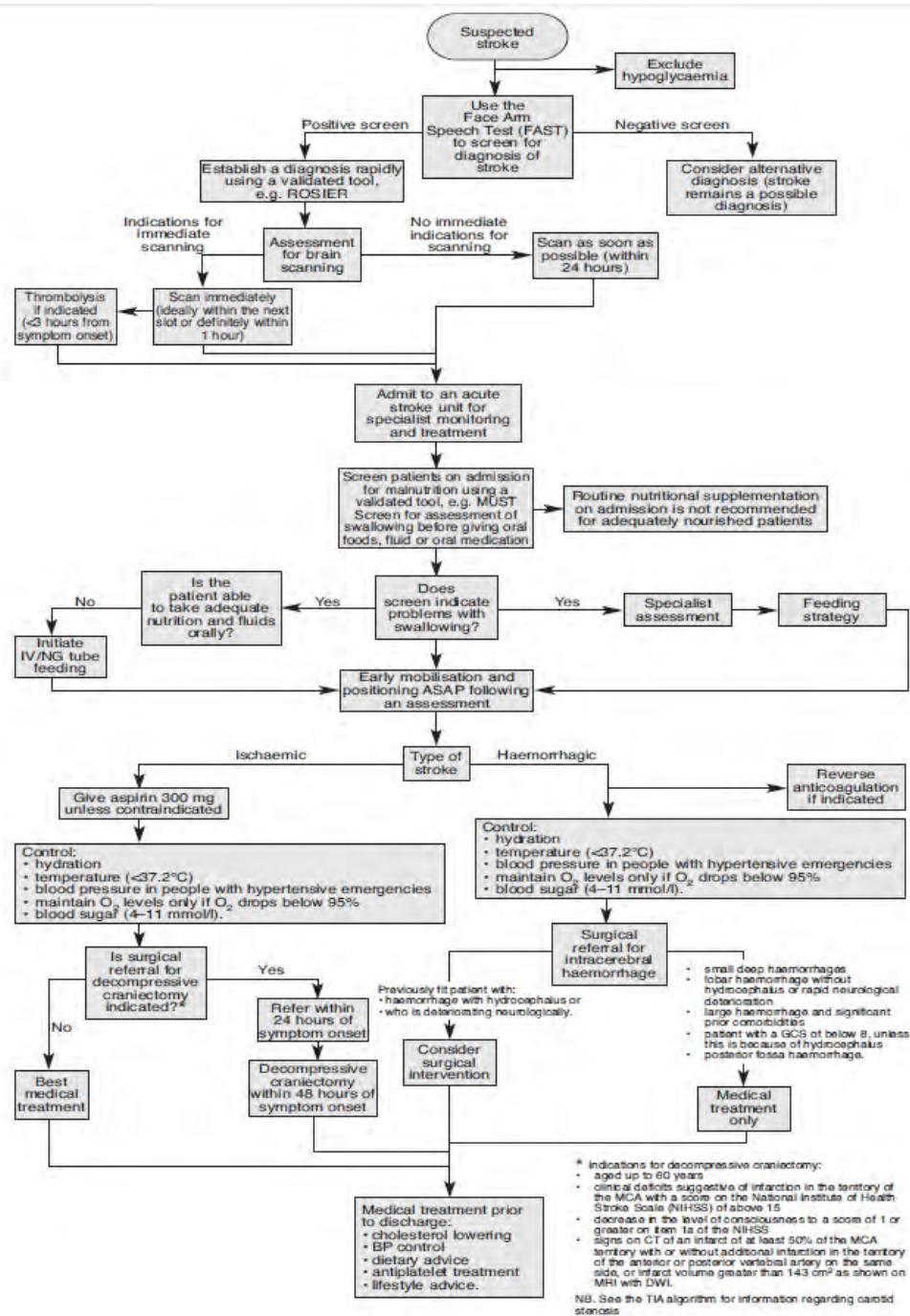


Figure 4: Stroke algorithm (NCC-CC, 2008)



Recommendations: Royal College of Physicians, 2012

Commissioning services should ensure that the commissioning portfolio encompasses the whole stroke pathway from prevention to acute care, early rehabilitation, later rehabilitation in the community, long term support and initiation of secondary prevention on to palliation.

Views of stroke patients and their carers should be considered when evaluating a service

Patients with TIAs (resolution of symptoms within 24h) should be seen by a specialist in neurovascular disease

Patients and carers should have their individual practical and emotional support needs identified before they leave hospital, when rehabilitation ends/six-month review/annually after

Staff in care homes should have training on the physical, psychological and social effects of stroke and the optimal management of common impairments and activity limitations

Carers for stroke patients should be involved in management of the patient from early on.

6 What is the evidence base for stroke service redesign?

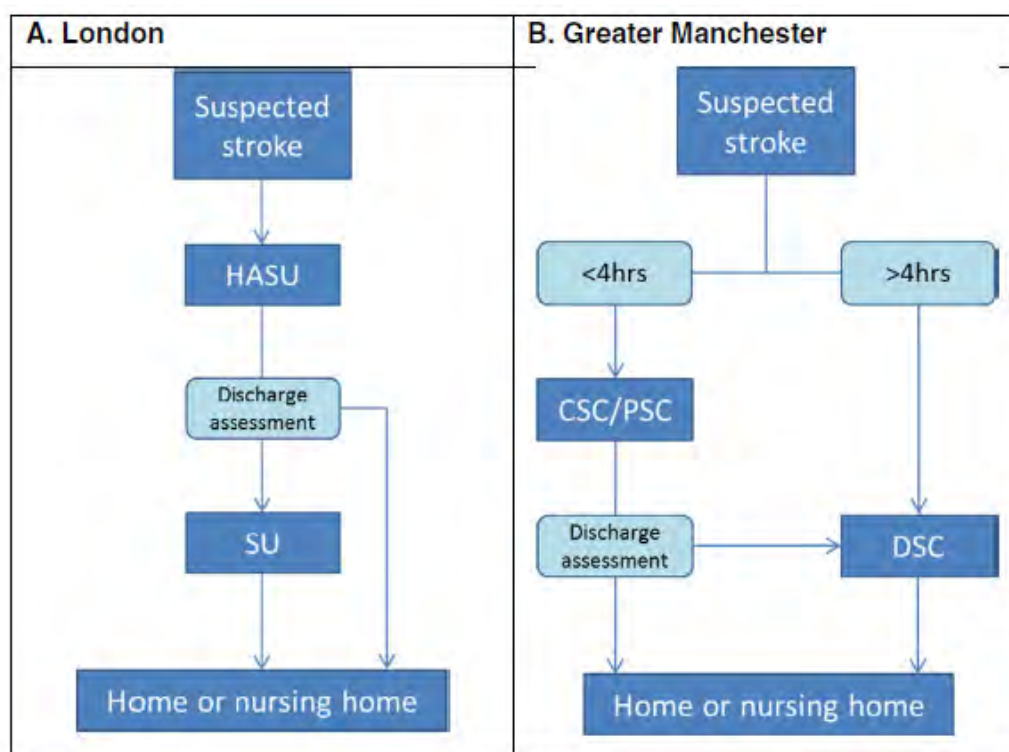
Organised stroke unit care improves outcomes for all patients with stroke and results in a significantly shorter length of hospital stay in patients admitted to stroke units compared with alternative care. (Stroke Unit Trialists' Collaboration, Cochrane Database, 2007). Intravenous thrombolysis using alteplase improves outcome in acute ischemic stroke and is currently the only licensed acute treatment for ischemic stroke (Lees et al., 2010). Alteplase is licensed for use within 4.5 hours of stroke onset, with rapidly decreasing efficacy even within 4.5 hours (Lees et al., 2010; Wardlaw et al., 2012), though efficacy to ≤ 6 hours has been suggested by the recent third International Stroke Trial (IST-3) (Sandercock et al., 2012).

Audits in many countries have shown that a minority of eligible patients receive tissue-type plasminogen activator (Nasr et al., 2013; Stecksen et al., 2012) (eg, a National Audit in England showed low thrombolysis rates with only 1.4% of patients receiving alteplase in 2008) (Rudd et al., 2011). Thrombolysis rates are increasing in some but not in all countries (Nasr et al., 2013; Bray et al., 2013). A major challenge is how to make 24-hour specialised stroke care available to the whole population. Several models of service reconfiguration to improve access to thrombolysis have been suggested, including redirection of patients to comprehensive stroke centres and telemedicine-based systems (Rymer et al., 2013; Audenert et al., 2006). Redirection of patients to larger stroke centers improves thrombolysis rates. (Price et al., 2009). High-volume centers have been associated with better adherence to guidelines, (Svendsen et al., 2012) and this has been associated with both improved stroke outcome (Abilleira et al., 2012) and higher patient satisfaction (Reker et al., 2002). However, centralizing services itself might be associated with lower patient and carer satisfaction for a number of reasons, however Moynihan et al (2013) investigated user experience and found although anxiety exists with patients and carers especially when repatriated with local units post a central unit, overall satisfaction was good.

Greater Manchester and London Stroke Reconfigurations

Fulop et al (2013) describe the two recent main stroke reconfigurations in the UK (see Figure 5). The London reconfiguration received significantly more resource per head of population: the London resource (£20 million) represented £2.42 per head of population (8.28 million people), and £1,816.13 per estimated annual stroke admission, whereas the Greater Manchester resource (£3.5 million) represented £1.56 per head of population (2.24 million people), and £1,174.81 per estimated annual stroke admission.

Figure 5: Simplified post-reconfiguration models in Greater Manchester and London



N.B. HASU (Hyperacute Stroke Unit), SU (Stroke Unit), CSC (Comprehensive Stroke Centre), PSC (Primary Stroke Centre), DSC (District Stroke Centre)

London reconfiguration

In 2010, a centralised stroke service was implemented covering the whole of London, United Kingdom (Walker and Rudd, 2012). All Face, Arm, Speech Time–positive patients, whether they met eligibility criteria for thrombolysis, were diverted by ambulance with direct admission to a hyperacute stroke unit (HASU). When stable, patients are repatriated to their local stroke unit for ongoing rehabilitation. As can be seen in Figure 6, there has been a doubling of performance between 2008 and 2012 for the two Vital Signs metrics measured nationally. There have also been clear improvements in outcomes, with 30 day mortality falling from 24 per cent to 16 per cent between 2004 and 2010, a rise from 44 per cent to 53 per cent in the proportion of people returning to their usual place of residence, and length of stay cut from 18 to 10 days over the same period.

Figure 6: Vital Sign Data for London (from Health Service Journal)



Hunter et al (2013) have estimated the impact of the London reconfiguration. The (unadjusted) Kaplan-Meier survival rate at 90 days was 81.5% 'before' (95% CI 76.0%–85.9%) and 88.7% 'after' (95% CI 87.4%–89.9%), with a 39% reduction in deaths at 90 days (95% CI 11%–58%) (see Figure 7). Survival at 90 days in the 'before' model increased to 87.2% (95% CI 86.7%– 87.7%) when the model was adjusted for the decrease in deaths at 30 days seen over the same period in the rest of England, giving a reduction in adjusted deaths of 12% (95% CI 8%–16%).

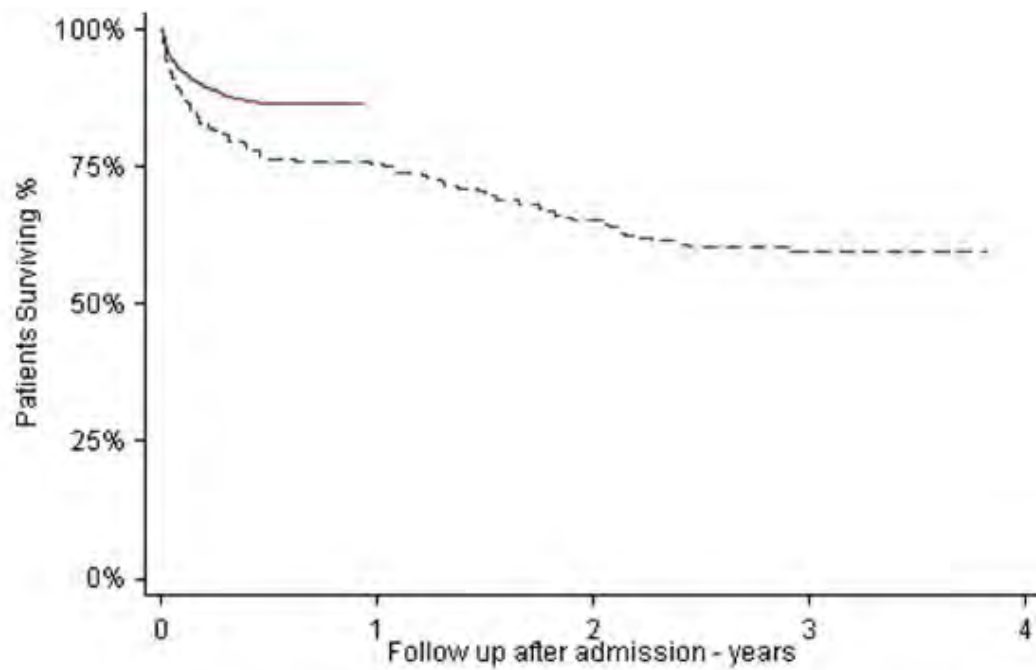
The rate of intravenous thrombolysis treatment as a percentage of all stroke patients increased from 5% in the 'before' period to 12% in the 'after' period.

At 90 days the new model is less costly and produces better outcomes. The 90-day cost per patient to treat a stroke 'before' was £14,117 (95% CI £14,092–£14,143) compared to £13,306 'after' (95% CI £13,286–£13,327). This translates to a 90-day cost saving of £5.2 million (95% CI £4.9–£5.5 million) across 6,438 patients in the model (£811 per patient).

The new model saved lives and produced more QALYs, there were 125 fewer deaths (95% CI 118–132) and 93.59 more QALYs (95% CI 91.82–95.36; 0.015 per patient) during the first 90 days following admission. The new model costs £295 (95% CI £242–£347) more per patient, with an incremental cost per death averted of £16,779 (US\$27,066) and cost per QALY gained at 90 days of £56,940. The dominance of the new configuration of services was maintained when modelled over ten years.

These results are consistent with other studies showing that treating patients in dedicated stroke units is cost-effective, (NAO, 2010; Saka et al., 2009) and the calculations of the short- and long-term costs of treating stroke are similar to previous UK studies (Youman et al., 2003).

Figure 7: Kaplan-Meier estimates of time from admission to hospital to death comparing 'before' (dashed line) and 'after' (solid line) reconfiguration



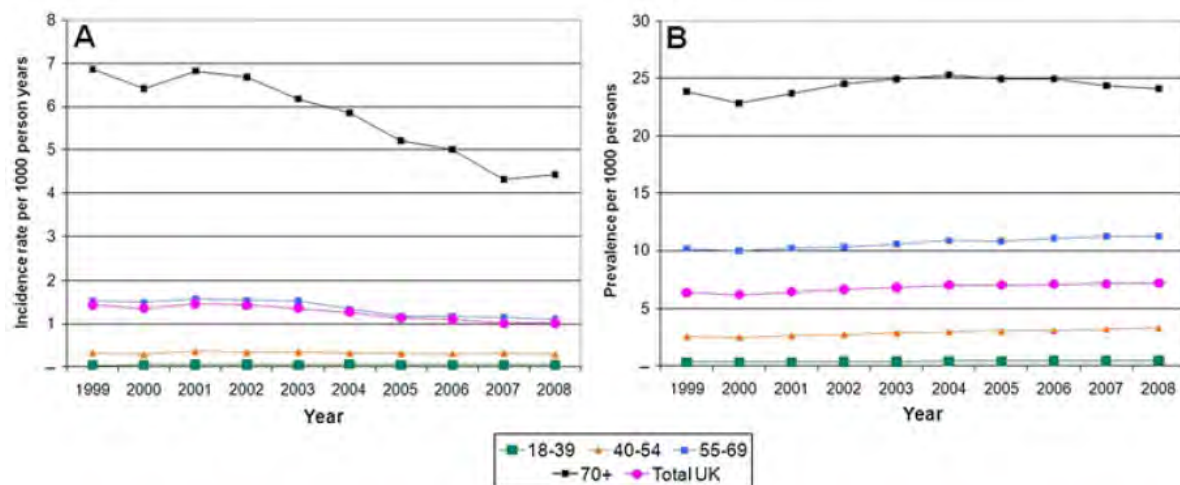
Recommendations

Studies of the London reconfiguration support the implementation of consolidated hyper-acute stroke care in other large populations such as across Birmingham, the Black Country and Solihull. However, further research is required to examine the most viable configuration to optimise the opportunities and reduce any threats given our geographical and clinical setting.

7 What are the trends in stroke prevalence, incidence and mortality?

A study of 32,151 patients with a first stroke in the UK between 1999 and 2008 showed that stroke incidence fell by 30%, from 1.48/1000 person-years in 1999 to 1.04/1000 person-years in 2008 ($p<0.001$). Stroke prevalence increased by 12.5%, from 6.40/1000 in 1999 to 7.20/1000 in 2008 ($p<0.001$). 56-day mortality after first stroke reduced from 21% in 1999 to 12% in 2008 ($p<0.0001$) (Lee et al., 2011) (see Figure 8).

Figure 8: Incidence (A) and prevalence (B) of stroke in the UK adult population by age group (Lee et al., 2011).



Prescribing of drugs to control cardiovascular risk factors increased consistently over the study period, particularly for lipid lowering agents and antihypertensive agents. In patients with atrial fibrillation, use of anticoagulants prior to first stroke did not increase with increasing stroke risk.

Subsequent studies have shown that this reduction in mortality from stroke has continued to drop across the whole of England from 2008-2011 (Hensage et al., 2011).

Recommendations

Action required to improve:

- the underutilisation of anticoagulation in patients with atrial fibrillation at high risk of stroke and ;
- the lower use of all preventive treatments in women than in men.

8 What is the evidence for the best metrics for stroke services?

Previous studies have used:

Primary Prevention

- the proportion of smokers
- mean total cholesterol
- mean systolic and diastolic blood pressures
- antiplatelet drugs
- lipid-lowering drugs
- blood pressure lowering drugs

Structure

- Number of consultants
- Nursing and therapies staffing ratios

Acute Care

- Average journey time
- Percentage of patients seen in hyperacute unit
- Patients with a scan within 24 hours
- Percentage of patients receiving thrombolysis
- Length of stay
- Cost per patient

Department of Health Metrics

- Mortality at 30 days and 6 months
- Modified Rankin Score at 6 months
- Institutionalisation rate at 6 months

Rehabilitation

- Access to early supported discharge (ESD) services
- Death, dependency or institutional care at 1, 5 and 10 years follow-up
- Percentage of population covered by specialist stroke physiotherapy in the community
- Percentage of stroke survivors who have been assessed for services
- Percentage of stroke survivors who have a care plan

Sentinel Stroke National Audit Programme (SSNAP) Key Indicators

Key Indicators: Brain scanning
Proportion of patients scanned within 1 hour of clock start
Proportion of patients scanned within 12 hours of clock start
Median time between clock start and scan (minutes)

Key indicators: Stroke unit
Proportion of patients directly admitted to a stroke unit within 4 hours of clock start (CCG OIS)
Median time between clock start and arrival on stroke unit (minutes)
Proportion of patients who spent at least 90% of their stay on stroke unit

Key indicators: Thrombolysis
Proportion of all stroke patients given thrombolysis (all stroke types) (CCG OIS C3.6)
Proportion of eligible patients given thrombolysis (according to the RCP guideline minimum threshold)
Proportion of patients who were thrombolysed within 1 hour of clock start, if thrombolysed
Proportion of applicable patients directly admitted to a stroke unit within 4 hours of clock start AND who either receive thrombolysis or have a pre-specified justifiable reason ('no but') for why it could not be given (NICE)
Median time between clock start and thrombolysis (minutes)

Key Indicators: Specialist Assessments
Proportion of patients who were assessed by a stroke specialist consultant physician within 24h of clock start
Median time between clock start and being assessed by stroke consultant (minutes)
Proportion of patients who were assessed by a nurse trained in stroke management within 24h of clock start
Median time between clock start and being assessed by stroke nurse (minutes)
Proportion of applicable patients who were given a swallow screen within 4h of clock start
Proportion of applicable patients who were given a formal swallow assessment within 72h of clock start

Key Indicators: Occupational Therapy
Proportion of patients reported as requiring occupational therapy
Median number of minutes per day on which occupational therapy is received
Median % of days as an inpatient on which occupational therapy is received
Proxy for NICE Quality Standard Statement 7: % of the minutes of occupational therapy required (according to NICE QS-S7) which were delivered

Key Indicators: Physiotherapy
Proportion of patients reported as requiring physiotherapy
Median number of minutes per day on which physiotherapy is received
Median % of days as an inpatient on which physiotherapy is received
Proxy for NICE Quality Standard Statement 7: % of the minutes of physiotherapy required (according to NICE QS-S7) which were delivered

Key Indicators: Speech and Language Therapy
Proportion of patients reported as requiring speech and language therapy
Median number of minutes per day on which speech and language therapy is received
Median % of days as an inpatient on which speech and language therapy is received
Proxy for NICE Quality Standard Statement 7: % of the minutes of speech and language therapy required (according to NICE QS-S7) which were delivered

Key indicators: Multidisciplinary team working
Proportion of applicable patients who were assessed by an occupational therapist within 72h of clock start
Median time between clock start and being assessed by occupational therapist (minutes)
Proportion of applicable patients who were assessed by a physiotherapist within 72h of clock start
Median time between clock start and being assessed by physiotherapist (mins)
Proportion of applicable patients who were assessed by a speech and language therapist within 72h of clock start
Median time between clock start and being assessed by speech and language therapist (minutes)
Proportion of applicable patients who have rehabilitation goals agreed within 5 days of clock start
Proportion of applicable patients who are assessed by a nurse within 24h AND at least one therapist within 24h AND all relevant therapists within 72h AND have rehab goals agreed within 5 days

Key Indicators: Standards by Discharge
Proportion of applicable patients screened for nutrition and seen by a dietitian by discharge
Proportion of applicable patients who have a continence plan drawn up within 3 weeks of clock start
Proportion of applicable patients who have mood and cognition screening by discharge

Key Indicators: Discharge Processes
Proportion of applicable patients receiving a joint health and social care plan on discharge
Proportion of patients treated by a stroke skilled Early Supported Discharge team
Proportion of applicable patients in atrial fibrillation on discharge who are discharged on anticoagulants or with a plan to start anticoagulation
Proportion of those patients who are discharged alive who are given a named person to contact after discharge

Recommendations

Quality of care should be audited against national standards in all hospitals, including community hospitals.

Casemix data collected should be of the highest quality and validated by the lead clinical contact.

All organisations treating stroke patients should be collecting information and producing a report on patient experience at least once a year.

The percentage of stroke survivors who have their health and social care needs regularly reviewed at six weeks after leaving hospital, six months and annually should be measured.

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15. Appendix

Health impact assessment template

Health Impact Assessment

Appendix A Framework for Health Impact Assessment (HIA)

Stage 1: Screening

Screening takes an initial look at the potential impacts of the proposal on the local population and any specific vulnerable groups defined within it. It should highlight any potential health risks or benefits and any groups that may be particularly affected. The outcome of screening is a decision whether or not to undertake HIA and, if so, to determine what type of HIA will be required. It should also provide an explanation of how the decision was reached.

This stage provides a preliminary picture of the potential health impacts on relevant populations in order to help the decision-making process. In particular it will indicate:

- whether the proposal is likely to impact on health
- which sections of the population, particularly vulnerable groups, are likely to be affected (see Appendices B and C)
- the possible scale of the impacts and whether these are likely to be positive or negative.
- whether a desktop, rapid or comprehensive HIA is needed.

Screening sessions can be completed by a small group with input from the proposer of the HIA and other relevant stakeholders including local authority representatives, public health professionals, the developer or proposer of the project (where possible), and relevant experts and representatives from key stakeholder groups, including community and voluntary sector members. It may be done at a short meeting or through individual discussions. This stage should not be conducted by one person.

Stage 2: Identify health impacts

At the end of this stage, a long list of all the potential impacts on the health of the population – major or less serious, direct or indirect and occurring at any stage of the implementation of the policy will be identified.

Stage 3: Identify impacts with important health outcomes

At the end of this stage, the policy team will have identified the most important health impacts including those that may:

- impact on the whole population or on specific age groups, ethnic groups, religious groups or socio-economic groups
- be difficult to remedy or have an irreversible impact
- be medium to long term
- cause a great deal of public concern
- have cumulative or synergistic impacts.

Evidence can exist in many forms and it is important to make use of what is available within the time and resources available. Sources of evidence include:

Information on existing population

- routinely collected local statistics (e.g. on health, unemployment, crime and air quality)
- surveys of local conditions
- community profiles (e.g. through community mapping)
- local concerns and anxieties (where documented)
- secondary analysis of existing local data
- opinion surveys
- other local surveys/research.

Expert opinion (knowledge)

- views of residents and professionals with local knowledge and insight
- views of individual academics or professionals with knowledge in a specialist area
- organisations which provide advice on particular subjects (e.g. on transport research).

Wider evidence

- research published in academic journals accessed through special literature searches in libraries or on the Internet
- research conducted or commissioned by statutory, voluntary or private organisations
- predictions from models
- information about similar proposals implemented elsewhere (case studies).

Stage 4: Quantify or describe important health impacts

At the end of this stage, the policy team will have made a qualitative and quantitative judgement about the important health impacts; their potential costs and benefits, how health varies in different circumstances and why.

There are a number of ways in which the potential impacts may be described. Where possible, the following should be assessed:

- the nature of the impact – how will the proposal affect health and will the impact be positive or negative?
- the likelihood of the impact - is the likelihood of the impact of the proposal definite, probable or speculative?
- the scale and significance of the impact - what proportion of the population is likely to be affected? How severe or beneficial will the impact be?
- the timing of the impact - will the impact be in weeks, months, years? In some instances the short-term risks to health may be worth the long-term benefits.
- the distribution of the effects - will the proposal affect different groups of people in different ways? A proposal that is likely to benefit one section of the population may not benefit others. In some cases, the assessment will identify ways in which members of the least healthy or most disadvantaged populations could be helped. This can be an important contribution to reducing the health inequalities that exist between some communities.

Stage 5: Recommendations to achieve most health gains

At the end of this, the most important stage in HIA, the policy team will propose how the policy will be amended to deliver the greatest possible health gain for the population in relation to the overall costs of the policy.

Recommendations need to be:

- clear and concise
- realistic
- achievable
- manageable in number
- impartial
- reflective of all evidence and representatives' views
- agreed by consensus.

The information gathered in the assessment stage should be collated and presented in a form that is accessible to the intended audience. There are many possible formats ranging from a simple list, table of the workshop findings or completed screening tool, to a more comprehensive report. The format and style of the report needs to take account of the target audience(s) and be fit for purpose in terms of length, language and use of terminology.

A draft report should be circulated to agreed reviewers and/or participants to incorporate comments, additions and alterations and reach an agreed consensus. The final report should then be disseminated to key decision-makers and other agreed individuals and organisations.

Acknowledgements:

1. Health Impact Assessment: A practical guide. Available at: www.whiasu.wales.nhs.uk
2. Health Impact Assessment of Government Policy. DH. www.dh.gov.uk/publications

Stage 1 – screening

Screening Question	No. If there will be no health impact, provide a brief explanation for your response.	Yes. If there will be a health impact(s), provide a brief explanation for your response.
Will the proposal have a direct impact on health, mental health and wellbeing? For example, would it cause ill health, affecting social inclusion, independence and participation? You should consider whether any socio-economic or equalities groups* will be particularly affected.		
Will the policy have an impact on social, economic and environmental living conditions that would indirectly affect health? For example, would it affect housing, transport, child development, education, good employment opportunities, green space or climate change? You should consider whether any socio-economic or equalities groups* will be particularly affected.		

Will the proposal affect an individual's ability to improve their own health and wellbeing? For example will it affect their ability to be physically active, choose healthy food, reduce drinking and smoking? You should consider whether any socio-economic or equalities groups* will be particularly affected.		
Will there be a change in demand for or access to health and social care services? For example: Primary Care, Hospital Care, Community Services, Mental Health and Social Services? You should consider whether any socio-economic or equalities groups* will be particularly affected.		
Will the proposal have an impact on global health?	No	
*Equalities groups such as race, gender, health, disability, sexual orientation, age, religion or belief.		

If the answer to any of the screening questions is Yes, then the next HIA stages should be completed.

Stages 2 & 3 – Identify and prioritise health impacts

Stage 2: Identify health impacts	Answering Yes to these questions indicates that this is an important health impact. Be explicit and note down what expert advice or literature you have used to make your judgement.					Stage 3: Prioritise health impacts
Describe the health impacts	Will the health impacts affect the whole population or will there be differential impacts within the population? You should consider whether any socio-economic or equalities groups* will be particularly affected.	Will the health impacts be difficult to remedy or have an irreversible impact?	Will the health impacts be medium to long term?	Are the health impacts likely to generate public concern?	Are the health impacts likely to generate cumulative and/or synergistic impacts?	Combining the answers, on balance will the health impacts have an important positive or negative impact on health. Provide a brief overview of the reason for your decision on prioritisation.

*Equalities groups such as race, gender, health, disability, sexual orientation, age, religion or belief.

Stage 4 - Analysis: quantify or describe important health impacts

Stage 5 – Recommendations to improve policy

Appendix B

Health and Wellbeing Determinants Checklist (not exhaustive)

1. Lifestyles	
Diet	Sexual activity
Physical activity	Other risk-taking activity
Use of alcohol, cigarettes, non-prescribed drugs	
2. Social and community influences on health	
Family organisation and roles	Social isolation
Citizen power and influence	Peer pressure
Social support and social networks	Community identity
Neighbourliness	Cultural and spiritual ethos
Sense of belonging	Racism
Local pride	Other social exclusion
Divisions in community	
3. Living/ environmental conditions affecting health	
Built environment	Green space
Neighbourhood design	Community safety
Housing	Smell/odour
Indoor environment	Waste disposal
Noise	Road hazards
Air and water quality	Injury hazards
Attractiveness of area	Quality and safety of play areas
4. Economic conditions affecting health	
Unemployment	Type of employment
Income	Workplace conditions
Economic inactivity	
5. Access and quality of services	
Medical services	Public amenities
Other caring services	Transport including parking
Careers advice	Education and training
Shops and commercial services	Information technology
6. Macro-economic, environmental and sustainability factors	
Government policies	Biological diversity
Gross Domestic Product	Climate
Economic development	

Appendix C

Vulnerable/Disadvantaged Groups Checklist (not exhaustive)

The target groups identified as vulnerable or disadvantaged will depend on the characteristics of the local population and the nature of the proposal itself. The most disadvantaged and/or vulnerable groups are those which will exhibit a number of characteristics, for example, children living in poverty. This list is therefore just a guide and it may be appropriate to focus on groups that have multiple disadvantages.

Age-related groups*

- children and young people
- older people.

Income-related groups

- people on low income
- economically inactive
- unemployed/workless
- people who are unable to work due to ill health.

Groups who suffer discrimination or other social disadvantage

- people with physical or learning disabilities/difficulties
- refugee groups
- people seeking asylum
- travellers
- single parent families
- lesbian, gay and transgender people
- black and minority ethnic groups**
- religious groups**.

Geographical groups

- people living in areas known to exhibit poor economic and/or health indicators
- people living in isolated/over-populated areas
- people unable to access services and facilities.

The impact on the general adult population should also be assessed. In addition, it may be appropriate to assess the impact separately on men and women.

* Could specify age range or target different age groups for special consideration.

** May need to specify.

16. Appendix

Equality analysis template

Equality Analysis Template

Step 1 Document Ownership

Name of document being analysed			
Person completing analysis			
Date of analysis			
Function Area		Clinical Reference	
Is the document a	proposal of new service or pathway?	strategy, policy or project (or similar?)	review of an existing service, pathway or project?
	YES/NO	YES/NO	YES/NO

Step 2 Establishing Relevance

Public Sector Equality Duties

To ensure compliance with the Equality Act 2010, all strategies, policies, projects, proposals for a new service or pathway, or changes to an existing service or pathway, should be assessed for their relevance to equality – for patients, the public and staff. The general equality duty requires, when exercising its functions, that the NHS has due regard to the need to:

- eliminate unlawful discrimination, harassment, victimisation and any other conduct prohibited by the Act
- advance equality of opportunity between people who share a protected characteristic and those who do not
- foster good relations between people who share a protected characteristic and those who do not.

Protected Characteristics

You need to analyse the effect on equality for all protected characteristics – namely: age, disability, sex, race, gender reassignment, sexual orientation, religion and belief, pregnancy and maternity, marriage and civil partnership. Please also consider other groups who are currently outside the scope of the Act, but who may have a significant relationship with NHS services (for example carers, homeless people, travelling communities, sex workers and migrant groups).

With reference to the Public Sector Equality Duty and the protected characteristics is an Equality Analysis required? YES/NO

Please summarise your conclusion if an equality analysis is not required:

If you have concluded that the document **is relevant** please continue with your equality analysis below. The CSU's equality team can help you as you progress through the form.

Step 3 Responsibility, Development, Aims and Purpose

Who holds overall responsibility for the	

project/policy/ strategy/ service redesign etc.?	
Who else has been involved in the development?	

Purpose and aims (briefly describe the overall purpose and aims of the service. For a new service, describe the rationale and need for the proposal, referring to evidence sources. For a change in service or pathway, specify exactly what will change and the rationale/ evidence, including which CCG priority this will contribute to):	
Who is intended to benefit from the implementation of this piece of work?	
What are the key outcomes/ benefits for the groups identified above?	
Does it meet any statutory requirements, outcomes or targets?	
Does it contribute to the Equality Delivery System Goals? (specify goals and related outcomes)*	

*Equality Delivery System Goals are fully explained in the equality analysis guidance notes.

Step 4	Protected Characteristics – analysis of impact

Please provide an analysis of both the positive and negative impacts of the proposal against each of the protected characteristics providing details of the evidence (both qualitative and quantitative) used. If the work is targeted towards a particular group(s) e.g. women-only services , provide justification. Any gaps in evidence should be accounted for and included in your ction plan.

Age
Impact and evidence: Consider the evidence and detail the impact on all age groups.
Disability
Impact and evidence: Consider the evidence and detail the impact on people with a disability

(this includes physical, sensory, learning, long-term conditions and mental health) and if any reasonable adjustments may be required to avoid a disabled patient or member of staff from being disadvantaged by the proposal.
Sex
Impact and evidence: Consider the evidence and detail the impact on both males and females.
Race
Impact and evidence: Consider the evidence and detail the impact on ethnic groups.
Religion or Belief
Impact and evidence: Consider the evidence and detail the impact on people of different religions or beliefs (and those who may have no religion.)
Sexual Orientation
Impact and evidence: Consider the evidence and detail the impact on people of different sexual orientations.
Gender Reassignment/ Transgender
Impact and evidence: Consider the evidence and detail the impact on transgender people.
Pregnancy and Maternity
Impact and evidence: Consider the evidence and detail the impact on pregnant women and women with children e.g. on work arrangements, breastfeeding etc.
Marriage and Civil Partnership
Impact and evidence: Consider the evidence and detail the impact on people who are married or in a civil partnership.
Other excluded groups/ Multiple and social deprivation
Impact and evidence: Consider the evidence and detail the impact on groups that do not readily fall under the protected characteristics such as carers, transient communities, ex-offenders, asylum seekers, sex workers and homeless people.

Public Sector Equality Duty (PSED)
Please provide details on how the proposal contributes to: - eliminating unlawful discrimination, harassment and victimisation - advancing equality of opportunity between people who share a protected characteristic and those who do not - fostering good relations between people who share a protected characteristic and those who do not.

Cumulative impact of this and other proposals? (Please consider if this proposal, when combined with other decisions made by the CCG, might have a contributory positive or negative impact on the Public Sector Equality Duty.)

Step 5 NHS Constitution and Human Rights

Checklist – how does this proposal affect the rights of patients set out in the NHS Constitution or their human rights?

	Constitutional Rights	Yes/No	Please explain
A	Could this result in a person being treated in an inhuman or degrading way?		
B	Does the proposal respect a patient's dignity, confidentiality, and meet the requirement for their consent to be obtained?		
C	Do patients have the opportunity to be involved in discussions and decisions about their own healthcare arising from this proposal?		
D	Do patients and their families have an opportunity to be involved (directly or through representatives) in decisions made about the planning of healthcare services arising from this proposal?		

Step 8	Monitoring Arrangements
Please identify the monitoring arrangements that will be introduced to ensure that the effect of the proposal does not result in a disproportionate impact on any protected group (i.e. by creating an unintended barrier. For example, consider including contractual requirements to provide equality monitoring data on those accessing the service or making complaints.	
Which committee or group will receive updates on the monitoring? (Include details of how often reports will be presented).	

Step 9	Decision Making								
Taking the equality analysis and the engagement into consideration, and the duties around the Public Sector Equality Duty, you should now identify what your next step will be for the proposal:									
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Step 11	Preparation for sign off

- 1) Send the completed equality analysis (EA) with your documentation to **the Equality Team** for feedback prior to sign off by the **appropriate decision making body**.
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- 3) Use the action plan to record the changes you are intending to make to the document and the timescales for completion. A review date for the action plan will need to be recorded.

Step 12	Sign Off

Date presented to decision making body	
Signed on behalf of decision making body (signature)	
Project manager* (Senior officer responsible for action plan)	
Review date for action plan	

*as the project manager/senior responsible officer you need to be assured that you have sufficient information about the likely effects of the policy in order to ensure proper consideration is given to the statutory equality duties.

After Sign Off

1. Confirm who will record the decision.
2. Other steps as appropriate, tailored to specific CCGs.

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2. Other steps as appropriate, tailored to specific CCGs.

17. Appendix

Birmingham, Solihull and the Black Country equality impact
assessment example

Birmingham, Solihull and Black Country Equality Impact Assessment - Stroke

The following section describes the key findings of the analysis of the impacts on the nine protected characteristics and the respective action plan to support local commissioning decisions for the Birmingham, Solihull and Black Country Stroke Service Review. It is offered as an example of the kind of analysis undertaken, some of which will be very relevant to other areas, some of which offers a foundation which will need to be built on locally.

Protected characteristics – analysis of impact

Age

Impact and evidence: consider and detail the impact and evidence across all age groups.

An increase in age is associated with increased stroke severity, which in turn is associated with an increased mortality from stroke.

Data from 2012-2013 shows how residents with a suspected stroke or transient ischaemic attack (TIA) in the six different local authority areas vary by age.

For the reconfiguration strategy – any decision to change the number of hyper-acute stroke units (HASUs) should take into account that areas with a higher proportion of older people having a stroke will potentially need to provide more care (intensity and length).

For implementation and service operation issues – the ‘Silver Book’ which sets out standards for older people with urgent and emergency care needsⁱ includes in recommendation 32: “Commissioners should ensure that all providers of acute or emergency care for older people conduct audit against the standards set out in the Silver Book as well as participating fully in all relevant national audits (e.g. stroke...)” This requirement can be included by CCGs into specifications, along with reporting requirements included in contracts.

There are recommendations for older people in emergency departments and acute medical units which may need specific consideration for suspected stroke patients who do not arrive at hospital by blue-light - including:

“Rec 15. There should be a distinct area in emergency departments which is visibly and audibly distinct, that can facilitate multidisciplinary assessments.”

Disability

Impact and evidence: consider and detail the impact and evidence on disability (this includes physical, sensory, learning, long-term conditions and mental health) and if any **reasonable adjustments** may be required to avoid a disabled patient, or member of staff, from being disadvantaged by the proposal.

For the reconfiguration strategy – it is not possible to discern the overall differential impact on people with a disability or mental health issue or to determine if this will be positive or negative.

For implementation and service operation issues – commissioners will need to ensure that provider organisations have the necessary arrangements in place to care appropriately

for patients with either a physical or learning disability.

Patients with a Learning Disability

Particular reference can be made to standards of care or specific guidance – for example the Royal College of Nursing publication ‘Dignity in Health Care for People with Learning Disabilities’ⁱⁱ sets out excellent and useable examples of good practice. Commonly reported experiences for people with learning disabilities include:

- discrimination
- assumptions being made about individuals with no assessment
- lack of communication with the individual and their carers
- difficulty in accessing services
- staff with a lack of knowledge and skills in learning disabilities
- abuse and neglect.

This document can be used to pose questions about the stroke pathway to people with a learning disability and to consider the use of scenario testing.

Patients with a Mental Health condition

The National Institute of Mental Health website cites a study which shows that older people with heart disease, who had more severe and frequent depression symptoms, were more likely to have a strokeⁱⁱⁱ. People with vascular depression may also be at risk of heart disease or stroke.

The College of Emergency Medicine^{iv} sets out a core principle for mental health in the emergency department (ED): “A patient presenting to ED with either a physical or mental health need should have access to ED staff, who understand and can address their condition, and access to appropriate specialist services, regardless of their postcode, GP, or time of arrival.” (p2). The guidance in this document can be referenced by commissioners and used to guide service planning and operational arrangements by providers, with consideration given to moves to adopt agreed standards by stages over time.

Sex

Impact and evidence: consider and detail the impact and evidence on both males and females.

Women are more likely to suffer greater morbidity from as well die from a stroke.

Data from 2012-2013 shows how residents with a TIA in the six different local authority areas vary by sex.

For the reconfiguration strategy – the proportion of women suffering a stroke is relatively consistent varying between 47% and 51% of all admissions. Therefore changing the number of HASUs is unlikely to have a significant impact on the remaining hospital trusts in terms of female patients being admitted for stroke care. The decision whether to repatriate patients after the hyperacute stage could result in a differential impact, because women are more

likely to require a longer length of stay, and therefore if they are not repatriated, their visitors would be required to travel further and for longer.

For implementation and service operation issues – mitigating actions to address higher morbidity and mortality from stroke in women should be considered as part of primary care strategies and the treatment/post-treatment pathways used by providers. The relationship between the female sex hormones, oestrogen and progesterone, and stroke is not completely clear. Taking medication such as the contraceptive pill or patch, and conditions such as pregnancy (see below) affect hormone levels and so may increase the risk of stroke. Hormone replacement therapy (HRT) may slightly increase the risk of ischemic stroke and women taking HRT are also more likely to have severe strokes.^v Assessment protocols should ensure that the possibility of these being contributory factors are explored.

Race

Impact and evidence: consider and detail the impact and evidence on ethnic groups.

“When hypothesising about and interpreting the mechanisms through which ethnicity is related to health, it is essential to be clear that health outcomes are determined by factors associated with ethnicity, not ethnicity itself. The distribution of these factors, such as genetic influences, socio-economic deprivation, migration status, cultural practices and lifestyle manifest unequally in different population groups and can be conceptualised, broadly, as ethnic differences.”^{vi}

Although ethnicity is associated with incidence of stroke, ethnicity and stroke outcomes have not been recorded so much in UK settings. There is some research from the USA which indicates that people of Afro-Caribbean ethnicity tend to have worse functional outcomes compared with white Americans; however evidence from London has shown no significant difference in survival between black and white patients.

Data from 2012-2013 shows how residents with a TIA in the six different local authority areas vary by ethnicity.

For the reconfiguration strategy – it is not possible to discern the overall differential impact on people from different ethnic groups or to determine if this will be positive or negative.

For implementation and service operation issues – the NHS Choices website states^{vii} “If you are South Asian, African or Caribbean, your risk of stroke is higher, partly because rates of diabetes and high blood pressure are higher in these groups. The Stroke Association specifies South Asian people as someone of Bangladeshi, Indian, Sri Lankan or Pakistani origin.”^{viii} We see that the ethnic origin of stroke patients in each local authority area is quite different, and this reflects the general population of the area. Birmingham and Sandwell have a larger proportion of Black and South Asian stroke patients compared with the other four areas. With respect to any HASU closure, hospital trusts will need to be mindful of receiving potentially a greater proportion of stroke patients from black and South Asian ethnicities which could have implications around care delivery e.g. language issues as well as other cultural needs. Diversity monitoring by providers, as well as accurate recording of interpreting needs (e.g. through a language support and an interpreting provider) will help to

inform on-going service provision, as well as advising medium to longer term strategic planning.

Religion or Belief

Impact and evidence: Consider and detail the impact and evidence on people of different religions and beliefs (and those who may have no religion).

For the reconfiguration strategy – it is not possible to discern the overall differential impact on people from different religions or beliefs or to determine if this will be positive or negative.

For implementation and service operation issues – commissioners will expect all provider organisations involved in the delivery of hyperacute care to honour the Public Sector Equality Duty set out in s149 Equality Act 2010 which covers religion and belief as a protected characteristic. Useful resources include:

- ‘Check up - a guide to the special healthcare needs of ethnic-religious minority communities’^{ix}
- a guide by the Department of Health, which identifies the important role that chaplains and spiritual care givers have in the planning (as well as the delivery) of emergency care.^x

Sexual Orientation

Impact and evidence: consider and detail the impact and evidence on people of different sexual orientations.

For the reconfiguration strategy – it is not possible to discern the overall differential impact on Lesbian, Gay or Bisexual people (LGB) or to determine if this will be positive or negative.

For implementation and service operation issues – commissioners will expect all provider organisations involved in the delivery of hyper-acute care to honour the Public Sector Equality Duty set out in s149 Equality Act 2010 which covers sexual orientation. Most issues for LGB people will involve homophobic behaviour (direct or indirect derogatory comments about homosexuals); assumptions of heterosexuality and health information which does not address the particular needs of LGB people. Providers should address these issues with their workforce as part of codes of conduct, equality and diversity training and specific awareness around homophobic attitudes. Stonewall for example makes specific recommendations around dignity and respect. *“Health providers should inform all staff that discrimination on the grounds of sexual orientation is unlawful and that the GMC can stop doctors from practising if they discriminate against lesbian and gay people.”*^{xi} Stonewall also recommends using positive images of same sex couples in promotional literature, photographs, posters on public display to demonstrate that the healthcare environment is relaxed and supportive of gay and lesbian relationships.

Gender Reassignment/ Transgender

Impact and evidence: consider and detail the impact and evidence on transgender people.

For the reconfiguration strategy – it is not possible to discern the overall differential impact on transgender people or to determine if this will be positive or negative.

For implementation and service operation issues – commissioners will expect all provider organisations involved in the delivery of hyperacute care to honour the Public Sector Equality Duty set out in s149 Equality Act 2010 which covers gender reassignment. Research is emerging which suggests a heightened risk of stroke for transgender women receiving hormone treatment.^{xii} Furthermore a recent clinical study has identified a reversal of the traditional sex difference in the pattern of cardiovascular disease for trans women treated with ‘cross-sex’ (sic) hormones such as oral ethinyl estradiol.^{xiii} Provider organisations will need to ensure appropriate codes of conduct and training for their clinical and non-clinical staff so that discriminatory attitudes and behaviours towards transgender people are recognised as unacceptable behaviours which may lead to disciplinary action.

Pregnancy and Maternity

Impact and evidence: consider and detail the impact and evidence on work arrangements, breastfeeding etc.

For the reconfiguration strategy – it is not possible to discern the overall differential impact on pregnant or maternal women or to determine if this will be positive or negative

For implementation and service operation issues – the incidence of stroke is estimated at 3.5 to 5/ 100,000 pregnancies, and contributes to 12% of maternal deaths. A rare type of stroke, central venous thrombosis is more so associated with strokes in pregnant women.^{xiv} Data is not available by hospital trust or local authority area regarding numbers of pregnant women who suffer a stroke to assess any potential impact in reducing the number of HASUs. However, providers of hyper- acute care should be able to deal with the potential complications of stroke in pregnant women which could include premature delivery of the foetus (including the need for delivery by caesarean section).

Marriage and Civil Partnership

Impact and evidence: consider and detail the impact and evidence on employees who are married or in a civil partnership.

No differential impact identified.

Other Excluded Groups/ Multiple and Social Deprivation

Impact and evidence: consider and detail the impact and evidence on groups that do not readily fall under the protected characteristics such as carers, transient communities, ex-offenders, asylum seekers, sex-workers, homeless people.

Carers of people who have had a stroke are an important consideration for this service redesign. For other groups, interventions through primary care are recommended to explain

the heightened risk of stroke due to different lifestyle choices, targeted to specific groups, and for diversity monitoring to be used to record patients from such groups.

Action Plan

Action	What will it achieve or address?	Lead Person	Timescale
Monitor equality protected characteristics for stroke admissions across all HASUs post reconfiguration and compare with data pre-reconfiguration. The information to be collected, planned and implemented in a phased approach, which enables year-on-year improvements in data content and quality. Attendant promotional campaigns with patients generally and staff training to increase rate of response.	Allow commissioners to identify if there are any changes in the type of people with protected characteristics being admitted for stroke care the post reconfiguration. Will help inform strategic planning.	Stroke programme director	12 months post launch of reconfiguration
The recommendations identified for each of the protected characteristic groups at Step 4 to be considered by CCG commissioners for inclusion in service specifications, and in the information requirements required by contracts.	Will ensure that appropriate priority is given to the requirements of the Public Sector Equality Duty, and that an on-going dialogue between commissioner and provider assures that statutory duties are being met, and that the stroke pathway meets the needs of all patients appropriately.	Stroke programme director	From implementation planning onwards.
HASU providers to be required to conduct their own equality impact assessments (equality analyses) as part of the implementation strategy and to guide service operations.	To evidence the duty of 'due regard' under s149 Equality Act 2010 and to provide assurance to commissioners.	Stroke programme director	From implementation planning onwards.

The recommendations identified for each of the protected characteristic groups at Step 4 to be considered by CCG commissioners for discussion with primary care partners and NHS England to identify appropriate intervention and preventative strategies.	Enables a whole system consideration contributing to earlier interventions, more effective prevention, and ultimately cost savings to the NHS.	Stroke programme director	

APPENDIX X – LONDON EQUALITY ASSESSMENT

ⁱ Silver Book (2012) 'Quality Care for Older People with Urgent and Emergency Care Needs [RCGP, RCN, ADASS, AACE, Age UK and others]

ⁱⁱ Royal College of Nursing (2013); Dignity in Health Care for People with Learning Disabilities (2nd edition) [London]

ⁱⁱⁱ Wouts, L Oude Voshaar RC, Bremner MA, Buitelaar JK, Penninx BW, Beekman AT. 'Cardiac disease, depressive symptoms, and incident stroke in elderly population. *Arch Gen Psychiatry*. 2008 May 65(5):596-602.

^{iv} College of Emergency Medicine (Feb 2013); 'Mental Health in Emergency Departments – A toolkit for improving care' [College of Emergency Medicine, London]

^v Stroke Association (2012) - 'Women and Stroke – Factsheet 38' [London]

^{vi} NCRM – National Centre for Research Methods (March 2013) '*Availability and use of UK based ethnicity data for health research*' (Working Paper 1/13)

^{vii} NHS Choices website on 8th June 2014 at www.nhs.uk/Conditions/Stroke/Pages/Whosatriskpage.aspx

^{viii} Stroke Association (2014) 'Reducing your risk of stroke: Information for South Asian People' [London]

^{ix} Northern Ireland inter-Faith Forum (2005) 'Check up - A guide to the special healthcare needs of ethnic-religious minority communities'

^x Department of Health (January 2009) 'Religion or Belief: A Practical guide for the NHS' [London, DH]

^{xi} Stonewall (2008) 'Serves You right: Lesbian and gay people's expectations of discrimination' [Stonewall, London]

^{xii} Gay and Lesbian Medical Association website 8th June 2014 at
www.glma.org/index.cfm?fuseaction=Page.viewPage&pageID=692

^{xiii} Gooren LJ, Wierckx K, Giltay EJ (2014): 'Cardiovascular disease in transsexual persons treated with cross-sex hormones: reversal of the traditional sex difference in cardiovascular disease pattern'; *European Journal of Endocrinology* 2014 170 809-819

^{xiv} Pregnancy and Stroke Epidemiology (2011). Available at URL:
http://www.medmerits.com/index.php/article/pregnancy_and_stroke/P6

18. Appendix

Birmingham, Solihull and the Black Country hyperacute stroke unit configurations economic option appraisal – methodology paper



West Midlands hyper-acute stroke unit configurations economic option appraisal – methodology paper 23 December 2014

The aim of this work was to carry out a cost-benefit analysis to support the CCGs in the West Midlands to make a decision on the optimum configuration of HASUs. The objectives of this work were to:

- Provide the cost-benefit of each of the option appraisal site configurations to demonstrate the marginal cost-benefit of each suggested configuration. This was carried out for each of the potential options depending on whether there was a three, four, five or six site configuration;
- Include societal benefits in the cost-benefit analysis.

1. Overview of methodology

Evidence to undertake the cost benefit analysis was partly obtained from literature searches that had already been commissioned by the CCG/CSU project team. These provided some baseline evidence on the benefits of stroke reconfiguration and they were supplemented by additional searches carried out by the YHEC team. Further evidence on mortality and lengths of stay benefits was obtained and a review of evidence around the societal benefits from stroke specialisation was also carried out.

Data on activity and the costs of the reconfiguration were provided by the project team from the CCG and the CSU. This was also supplemented by evidence from reliable databases such as Hospital Episode Statistics (HES), the NHS Payment by Results (PbR) tariff, the Personal Social Services Research Unit (PSSRU) and the Office for National Statistics (ONS).

An economic calculator was built to estimate the benefits of the various configurations (based on three, four five and six site models) compared to the estimated costs of the reconfiguration. The benefits included monetised values for improvements in mortality rates, patient length of stay and societal or productivity benefits. Costs included the revenue cost for each HASU site, the cost of patient transfers and repatriation and the additional cost of ambulances to cope with increased capacity.

2. Literature review

To support the project and generate an evidence base, pragmatic but structured literature reviews were undertaken to supplement a literature review carried out by Fisher *et al.* (Birmingham City Council) for data on the health benefits associated with the HASU configuration mode.

The supplementary literature reviews aimed to capture evidence on benefits and outcomes relating to the reconfiguration of stroke services, specifically:

- Societal, indirect and productivity benefits;
- Reduction in mortality rates;
- Reduction in the length of stay for inpatients.

A structured search was carried out, initially just for societal benefits, consisting of a search of biomedical databases for effectiveness and cost-effectiveness studies from the UK and elsewhere in the world. Another search was subsequently carried out to supplement the search carried out by Fisher *et al.*

3. Costs

The main cost inputs were:

- Incremental costs of the HASU configurations;
- Costs of repatriation of patients to their local hospital, where applicable;
- Costs of ambulance transfers of patients who present in non-HASU hospitals;
- Additional capital and revenue costs associated with increased ambulance provision.

The incremental costs of the HASU configurations were extrapolated from the HASU cost calculations carried out by the finance teams at the CCG and CSU. These are the additional costs of setting up and running the HASU, over and above the costs of the current stroke configuration in each hospital. They were estimated at £5 million per year by the finance teams, so weightings were applied to the overall HASU costs calculated.

The costs of repatriation of patients to their local hospitals were also drawn from activity data provided by the CCG and CSU¹. The CSU modelling report considered scenarios where patients are repatriated after four days and also after eight days. Both scenarios were included as options in the economic calculator, although there is only a marginal adjustment in the overall incremental costs between the two scenarios. Repatriation journeys were assumed to be carried out by ambulance or other form of patient transport. They are planned journeys, during which the patients are not likely to require significant support, so it was assumed that the cost of these journeys is approximately half of that for emergency ambulance journeys.

¹ NHS Midlands and Lancashire CSU. Modelling the Reconfiguration of Acute Stroke Services Birmingham, Black Country and Solihull. Report – June 2014

A number of patients will self-present with a stroke in a non-HASU hospital and will, therefore, require an emergency transfer to a HASU. The CCG and CSU indicated that the numbers of patients self-presenting with a stroke is relatively small, around 17%. On advice from the CCG and CSU it was assumed that three in every eight patients who self-present, would present in a non-HASU hospital and require an emergency transfer, i.e. around 6.4% of all admissions. The cost of patient transfers was taken from NHS Reference Costs for 2012/13:

- ASS02 – ‘See and treat and convey’ – £230.

Through personal communication with the CCG and CSU, it is understood that the West Midlands Ambulance Service estimated that for each hospital that is not given HASU status, an additional ambulance (plus staffing and overheads) would be required to deal with the additional capacity generated through patient transfers and repatriation. The finance team estimated these costs as being £480,000 per ambulance.

4. Mortality benefits

Both the literature review carried out by Birmingham City Council and the literature review carried out by YHEC found evidence to support the concept that the specialisation of care in a multi-disciplinary environment reduces the risk of mortality in stroke patients.

The reviews found little specific data other than that for the London and Manchester redesign of stroke services. It was assumed that the specialisation of stroke services results in reduced mortality among patients so different scenarios were used to model the likely benefits. During the course of this project the paper by Morris *et al.* (2014) was published which reported unadjusted mortality decreases at 30 days of 1.6% and 2.8% for Manchester and London respectively. These figures represent absolute reductions in mortality and convert into relative risk reductions of 8.8% and 16.6% respectively. The 8.8% value was used in the modelling as a conservative estimate of improved mortality.

The improvement in mortality that could be observed if the relative risk of death is reduced was calculated by multiplying the current rate of 30-day mortality by the relative decrease observed. This produced a figure for the additional or incremental number of patients who would be expected to survive under the new configuration. These estimates were carried out for each hospital, for each of the ICD-10 codes relating to stroke (I61, I63 and I64). Current 30-day mortality rates have not been obtained from the hospitals so the national rates reported by the Office for National Statistics has been used, although these are not recent (2009/10 figures).

Estimated improvements in mortality were converted into quality adjusted life years (QALYs) by multiplying the incremental number of patients expected to survive under each scenario by the estimated median gain in life years and a utility value. The median gain in life years is based on the reported median survival duration following diseases or events. In this case an estimate of 6.72 years was used for patients who survive a stroke, based on findings in a 2011 study into dementia and stroke by Allan *et al.*

Utility values refer to the quality of life of a patient following a disease or event. They are key parameters in economic evaluation models that estimate the incremental cost per QALY of an intervention. Utility reflects presence, frequency or intensity of symptoms, abilities or feelings as measured on psychometric instruments but also a value or preference for that state. For the purpose of this model a very conservative approach has been adopted by using the utility value of a major stroke, which is 0.189 according to a study by Robinson *et al.* in 2001. This is likely to understate the benefits gained through reduction in rates of mortality as not all stroke will be considered to be 'major'.

The estimated QALY gains were monetised by applying a value of £60,000 to each QALY. This represents the value that the Department of Health uses to value QALYs from a societal 'willingness to pay' perspective. The utility values were discounted using 3.5% per annum as the discount value.

5. Efficiency benefits

Morris *et al.* (2014) reported an absolute decline in risk adjusted length of hospital stay of -2.0 days in Greater Manchester and -1.4 days in London. The latter values were used in the modelling as the most recently reported data on efficiency benefits of HASU configurations.

Data were extracted from the most recent available version of Hospital Episode Statistics (2011/12). Lengths of stay for ICD-10 conditions in codes I61, I63 and I64 were calculated using spells rather than episodes so that the full length of stay could be observed. Weighted average lengths of stay for the range of ICD-10 conditions were calculated for each Trust. HRG codes AA22 and AA23 were used to extract Reference Costs for 2012-13.

Following advice from the CCG and CSU, YHEC reduced these values to take account of the opinion that the overhead element of the reference costs could not be released, even if bed days are saved. There is no simple way to extract the overhead element of reference costs so an estimate of the percentage of non-staff costs of total direct care salary costs was used (41.97%), as reported in the PSSRU Unit Costs of Health and Social Care (2013). These estimates provided the following estimated weighted costs, discounting overheads:

- Weighted cost per spell: AA22/AA23 - £1,844;
- Weighted cost per additional bed day: AA22/AA23 - £151.

The potential efficiency savings were calculated by applying the relevant PbR tariff to each LOS reduction for each Trust. As with the mortality benefit calculations, only the lengths of stay for stroke were included in the estimates with TIA's excluded.

6. Societal benefits

Evidence on the societal benefits of HASU reconfiguration was very limited so heavy reliance was placed on assumptions. We searched for information on the additional benefits of thrombolisation of patients and also for additional benefits from patients being treated more promptly in a HASU. There were a number of papers that refer to the potential reduction in disability in patients as a result of thrombolysis within 4.5 hours but very little in relation to additional benefits. A study by Hong (2010) refers to patients who receive thrombolytic therapy within three hours gaining the equivalent of 4.4 years of health life, free of disability. Various studies found that HASU reconfiguration resulted in an increase in the levels of thrombolisation in stroke units. In discussion with the CCG and CSU, for modelling purposes an increase in the rate of thrombolysis to 20% was assumed, as it was considered that the current reported rates of thrombolysis were too low for some Trusts.

In respect of other societal benefits for patients gained through HASUs, while there is evidence that better mortality outcomes can be obtained through earlier rehabilitation, there is very little in terms of avoided disability and dependence. The Cochrane review of organised stroke care (2013) found evidence that comprehensive stroke wards provided better outcomes in terms of death or dependency and also in terms of death and institutional care than alternative stroke provision. The specific benefits relating to dependency and institutional care cannot be disaggregated so these benefits were not included in the analysis.

In modelling the societal benefits associated with increased levels of thrombolisation, only patients suffering ischaemic strokes are eligible for thrombolysis. It was assumed that all patients coded to ICD-10 code I63 (cerebral infarction) would, therefore, be eligible for thrombolysis.

It was assumed that the additional patients that receive thrombolysis would gain an additional 4.4 years of disability free life. The counterfactual scenario is that those patients would not have received thrombolysis and would therefore not have gained the additional disability free life years. The societal benefits generated from the intervention relate to the ability of those patients of working age to return to work and those patients beyond the retirement age not to require significant levels of care.

For patients of a working age, it was assumed that they would be able to return to work for an additional 4.4 years. Analysis of 2011/12 HES data shows that between 18% to 25% of people suffering an ischaemic stroke would be under the age of 65. For the model it was assumed that 20% of patients would be under the age of 65 and would, therefore, be able to return to work. Office of National Statistics (ONS) data on earnings reported that the national average salary was £27,000 in 2013 so this was used as the productivity gain in the model.

It was assumed that 8.2% of those patients benefitting from thrombolisation who are of working age would be unemployed, based on ONS data for unemployment in the West Midlands, as at April 2014. It was assumed that those patients would have received jobseekers allowance payments or equivalent, instead of the national average salary. Those costs have not been included in the modelling as it is assumed that they would be offset by statutory sick pay benefit payments.

For those over the age of 65, it was assumed that all patients receiving thrombolysis would have required long-term care had they not received thrombolysis. It was assumed that around half of those patients would have received care from their spouse or someone else over the age of 65. For those patients it was assumed that the benefit gained would be the avoidance of having to pay carers' allowance. The annual cost of carer's allowance is £3,190 per year.

For the rest of the patients over the age of 65, it was assumed that half would have received care from a working age carer, which would have incurred a productivity loss similar to that for people suffering a stroke of working age. Again, a certain proportion of carers would also be unemployed and in receipt of benefits but it is assumed that that payment would be offset by carers' allowance payments.

It was assumed that the other 25% of patients over the age of 65, not cared for by someone over the age of 65, would need to receive care in a nursing home. The annual cost of a nursing home is £39,000 according to the Unit Costs of Health and Social Care.

7. Sensitivity analysis

Although conservative estimates were used, a number of assumptions had to be made in the modelling. Sensitivity analysis was, therefore, applied to each of the benefits with each being reduced by 50% to examine the effect on the options appraisal.

Nick Hex
Associate Director
YHEC

23 December 2014

19. Appendix

Review of stroke pathway: summary of intelligence to support cost effectiveness of implementing robust stroke management



Review of Stroke Pathway

**Summary of Intelligence to Support Cost Effectiveness
of Implementing Robust Stroke Management**

Update March 2013

First Published November 2012

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Acknowledgements and Contributors:

- Rachel Webb BPharm (Hons) MSc MRPharmS, Service Development Manager, NHS Midlands and East.
- Sally Standley –Stroke Review Programme Lead, NHS Midlands and East
- Alida Farmer - Stroke Review Project Manager, NHS Midlands and East
- Miranda Deakin-Woof - Manager / Consulting – Operations, Deloitte MCS Limited
- Prof Steve Morris - Professor of Health Economics, Department of Applied Health Research, UCL
- Darcy Weaver – Stroke Review Project Management Officer, NHS Midlands and East

Enquiries to Rachel Webb (rachelwebb2@nhs.net)

1. Executive summary

Decision-makers in the NHS need to ensure that their decisions are fully informed by both a robust evidence base and are also cost-effective. As part of the NHS Midlands and East Stroke Review, Heart and Stroke Networks agreed that a review of the evidence base for the return on investment for stroke including the cost-effectiveness of each element of the stroke pathway was an essential resource and this will then be used to support commissioners in understanding the return on investment, for health, and beyond to social care and the wider economy.

There are considerable resources available to inform this review. National evidence, including reviews and guidelines (e.g. National Institute for Health and Clinical Excellence (NICE), National Audit Office (NAO) and the recent Royal College of Physicians (RCP) report¹ and research publications are available, but also locally informed case studies provide useful intelligence in this area. Reviewing this centrally reduces the need to search for this evidence independently and can act as a resource for further development as new evidence is published and local evidence of best practice is shared and adopted.

To gain a better understanding and insight into the understanding of return on investment and how national bodies review cost-effectiveness and the implications for stroke care, a PowerPoint presentation accompanying this review is available to inform this process. This presentation can be used as a resource for up-skilling on these processes or a tool to understand the findings of this report in more detail.

Finally, commissioning the provision of stroke care at a local level needs to be informed by a variety of key indicators and evidence. This review is just one of the elements of evidence and together with other key resources can help to build a case to inform local decision-making for the most appropriate stroke pathway.

2. Overview

The purpose of this report is to provide recent supporting evidence that demonstrates what financial, social, economic and patient benefits can be derived through the implementation of improved stroke services across the whole patient pathway. Such evidence provides important information to assist decision-makers to arrive at rational, beneficial and cost-effective decisions for healthcare.

Stroke is the third biggest killer in England and the main cause of adult disability.² Nationally, stroke killed more than 40,000 people in 2009 and over 12,000 in NHS Midlands and East. Around two thirds of people will survive their stroke, but half of stroke survivors are left with long-term disability and dependent on others for everyday activities. International league tables rank Britain's survival rates for the most common type of stroke as the worst in the developed world. Comparing 30 developed Western countries, the UK death rates after hospital admission for an Ischaemic Stroke are twice that of the Organisation for Economic Cooperation and Development (OECD) average and three times worse than those in Denmark.¹

It is often the disabilities associated with stroke that have the biggest impact. Talking about his stroke Norman says.³

"Although it has been some time since my own stroke, I know that it has a huge impact on your own life and that of your relatives/carers. In particular are the invisible disabilities that are not seen which can impact on your ability to work....simple things like pegging out the washing or tying shoe laces become extremely difficult, or no longer being able to have a bath because you have weakness on one side. You need both arms to be able to get out of the bath. It's these sorts of things that have a big impact on not just stroke patients but also their families."

There are at least 300,000 people in England living with moderate to severe disabilities as a result of stroke.⁴ The disabling impact of a stroke is life-long and a disabled stroke survivor needs continued support and community care, including social services and

primary care. In addition, income can be lost by patients who are no longer able to work and by carers who leave work in order to care for their loved one. Stroke-related care costs the NHS about £2.8 billion a year in direct care costs (more than the cost of treating coronary heart disease) and the financial implications on the wider economy are calculated at £1.8 billion in lost productivity and disability.⁵ Additionally, the annual informal care costs (costs of home-nursing and care borne by patients and families) are around £2.4 billion.⁵ Alternatively, the estimated cost per Atrial Fibrillation (AF) associated stroke is estimated in the first year at £11,900.⁶ This compares with the acute hospital in-patient tariff income for Ischaemic Stroke (code AA22Z) of just £4,208 (2011/12).⁷

Although there have been significant improvements in stroke services across the region over the last three years, there remains scope for further improvement across NHS Midlands and East; demonstrated by the gap between the region's performance as measured against the National Integrated Performance Measures. The planning guidance for the NHS for 2013/14 'Everyone Counts Planning for Patients 2013/4.'⁸ has now been published and includes the CCG Outcomes Indicators. This guidance contains five stroke indicators relating to the acute management and ongoing care of stroke patients.

The NHS Midlands and East Stoke Review aims to address these issues through the development and implementation of proposals for improved services across the whole patient pathway.⁹

3. Methodology

The financial costs of stroke can be broken down into:

- **Direct (medical – relating directly to the delivery of patient care)**
 - o Resource use attributable to the provision of care.
- **Direct (non-medical)**
 - o Costs related but not directly linked to health care system e.g. patient time and travel costs.
- **Indirect**
 - o Reduced productivity associated due to illness/death and seeking treatment.
- **Intangible**
 - o Psychological costs of care e.g. pain or suffering.

By understanding each component of stroke care, commissioners can implement initiatives that target key cost contributors such as in-patient care. Such initiatives however, may also affect or be fully realised in other areas of the patient pathway. Benefits or 'return on investments' might therefore be harder to track or seemingly set out a negative position if the whole patient pathway is not considered. Where financial benefits can be directly realised, these can either be in costs-savings (e.g. reduced drug rates) or cost avoidance (e.g. where demand is reduced).

Table 1: A breakdown of the costs of stroke	
	£ Million
Diagnosis costs	960
Inpatient care costs	530
Outpatient costs	46
Outpatient drug costs	507
Community care costs (including nursing homes)	1,700
Total Annual Direct Care Costs	2,800
Informal Care Costs	2,406
Income lost due to mortality	483
Income lost due to morbidity	604
Benefit payments	686
Total Annual Indirect Costs	1,800
Total Annual Cost	7,014
Source: Adapted from National Audit Office 2005 analysis ⁴	

It is also acknowledged that stroke patients with atrial fibrillation (AF) have longer hospital stays and morbidity and mortality rates are higher with an estimated annual cost in the first year of £11,900.¹⁰

Not all benefits will be directly financial. Benefits to social, economic, environmental, political, and improved patient care can also be realised although some may be unquantifiable.

3.1 Why Consider Return on Investment?

We need to be clear how we define Return on Investment (ROI). In business ROI is defined as:

“A profitability measure that evaluates the performance of a business by dividing net profit by net worth.”

There are several ways to determine ROI, but the most frequently used method is to divide net profit by total assets¹¹. So, how can this then apply to health care?

The NHS Centre for Innovation and Improvement¹² gives some guidance for looking at this area and also provides a useful resource in calculating ROI for local projects. This tool provides an overview of ROI, including examples of financial benefits and costs. The formula for calculating return on investment is:

$$\text{Benefits} - \text{Costs} = \text{Dividends}$$

ROI can also be provided as a percentage figure, showing the savings as a percentage of the total costs:

$$\frac{\text{Benefits} - \text{Costs}}{\text{Costs}} \times 100$$

Using a robust approach to ROI will remove the need for reactive evidence gathering by consistently developing a clear evidence base on which to build the business case for improvement.

NICE use a process to evaluate the impact of healthcare interventions from a pharmacoeconomic perspective as part of the technical component of their decision-making process using the incremental cost-effectiveness of a new technology¹³. In doing so NICE assesses the benefits a new technology (on the basis of the price set by the sponsor for the technology) compared to existing care in relation to their comparative costs. NICE does not consider the overall budget impact or whether the NHS can ‘afford’ a technology.

NICE uses the cost-utility method to assess cost-effectiveness using the acquisition cost provided by the manufacturer. In this approach, the impacts of different treatments are compared on a common measuring instrument, the ‘quality adjusted life year’ (QALY),

which expresses the impact in terms of both the quality and length of life. This allows interventions for different purposes to be evaluated on the same basis. The underlying theoretical principle is to enable the NHS to ensure that the maximum amount of health is obtained for the fixed budget available. Because the NHS has fixed budgets, any money spent on new interventions may mean funding is not available to spend on other services or provision. As a result, services may have to be sacrificed and the benefits it could provide will be forgone (the opportunity cost).

When NICE began appraising health technologies, it was not given a threshold by the Department of Health (DoH). The committees were allowed to use their judgement to establish a broad level, or range, within which interventions would normally be regarded as cost-effective. The committees' decisions to recommend the use of a treatment generally fell below £30,000 per QALY gained. This experience was subsequently translated into a decision framework, which guides the committees to normally recommend treatments falling below £20,000 per QALY and to consider recommending them, taking other factors into account, when they fall between £20,000 and £30,000.

3.2 Using Quality Adjusted Life Years as Part of Health Economic Analysis

The QALY calculated for any treatment is based upon the number of years of life which could be added by the treatment multiplied by the patient's health utility. The QALY is a measure of evaluation which tried to take into account both the quantity of life a person experiences, weighted by the quality of life they experience. The quantity is weighted by the valuation of the quality of life a person experiences (their utility).

Utility scores range from 0 to 1 assigned to a particular state of health dependant on the disease state. Perfect health has a value of 1 and death a value of 0.

Calculating QALY:

- A new treatment offers a patient an additional 20 years of life in a perfect health state (i.e. utility = 1.0) the treatment will therefore generate: $20 \times 1.0 = 20$ QALYs;
- An alternative treatment which may only add 10 years with a utility of 0.7 would therefore generate: $10 \times 0.7 = 7$ QALYs;¹⁴

In this review both the pharmacoeconomic approach for reviewing ROI using cost-effectiveness analysis and the more traditional review of benefit and cost calculations are referenced in each element of the pathway.

4. Evidence base

A number of recent studies have been used to support the Return on Investment methodology. These have been categorised into the following headings:

- Atrial Fibrillation (AF) Management Studies;
- Transient Ischaemic Attack (TIA) prevention;
- National Health Economic Evidence for Stroke pathway;
- Early Supportive Discharge (ESD);
- Psychological care after stroke;
- Regional Stroke Review case studies.

4.1 Recent Atrial Fibrillation (AF) management studies

Recent Atrial Fibrillation Management Studies				
Source	Summary	Key Benefits		Documents/ External links
NHS Improvement	It is estimated that 12,500 strokes per year are attributable to AF. The related cost per AF associated stroke is estimated at £11,900 in the first year alone.		Cost Avoidance When anticoagulation therapy is appropriately used and monitored, it is highly effective, lowering stroke risk by about two thirds.	Atrial Fibrillation, http://www.improvement.nhs.uk/heart/HeartImprovementHome/AtrialFibrillation/tabid/128/Default.aspx
	In order to prevent AF related strokes, the recommended course of action is to initiate anticoagulation therapy. It is estimated that in the UK, there are		Social Benefits With a reduced number of strokes per year, there will be a greater proportion of fit and healthy individuals contributing to society.	

	approximately 500,000 patients currently prescribed oral anticoagulant drugs, with warfarin being the most frequently prescribed in the UK. When this therapy is appropriately used and monitored, it is highly effective, lowering stroke risk by about two thirds. An estimated 6,000 strokes per year are potentially avoidable through preventative work and improvement in AF management. Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation (GRASP-AF) GRASP-AF is a free, simple audit tool used in primary care to aid the risk stratification and effective management of Atrial Fibrillation (AF) patients, in order to reduce the risk of stroke.	 	Economic Benefits With a reduced number of strokes per year, there will be a greater proportion of individuals and carers back at work and contributing to the economy. Political Benefits Reduced incidents of stroke will reduce the dependencies on disability benefits. Additionally, the Department of Health White Paper <i>'Equity and Excellence: Liberating the NHS'</i>, claimed that on some measures of stroke mortality, the UK has "amongst the worst in the developed world."¹⁵ For this reason a national strategy has been developed to provide a quality framework to secure improvements to stroke services. Improvements in AF management therefore meet the DoH stroke outcomes. The tool should be re-run as part of a regular audit cycle to optimise the management of AF to reduce the risk of stroke	GRASP-AF Resources http://www.improvement.nhs.uk/graspaf/
Office for Health Economics	Health economic evaluation by the Office of Health Economics on the impact of AF management.		Cost Avoidance Patients with primary or secondary diagnoses of AF occupied 5.7 million bed days in 2008, at a cost to the NHS of £1,873 million of which £205 million related to outpatient costs (such as electrocardiograms, monitoring anti-coagulant treatment, and post discharge attendance). AF management would reduce the number of patients in hospital and also the number of patients attending outpatient clinics.	Estimating the direct costs of AF to the NHS in the constituent counties of the UK and at SHA level in England. Referenced in: Atrial Fibrillation Association, Keeping our finger on the pulse,¹⁶ http://tinyurl.com/cp666pt

NHS East of England High Impact Change Bulletin	Consider the opportunity provided during influenza immunisation for AF detection.	  	Cost Avoidance There are 10,000 strokes annually in the east of England. Better detection and treatment of AF in the over 65s population would prevent an estimated 220 strokes a year. The total annual cost of a stroke is approximately £44,000, of which about 55% is direct NHS cost. Therefore the potential net saving to the NHS across the East of England is £3.5 million a year. Quality of Care The quality of care is improved as the clinician and patient build a relationship, which helps the clinician to understand the patient's lifestyle and any changes that may have an impact on the dosage required. Social Benefits With a reduced number of strokes per year, there will be a greater proportion of fit and healthy individuals contributing to society.	Detecting Atrial Fibrillation at Influenza Vaccination, https://www.eoe.nhs.uk/page.php?page_id=1138
Priorities Advisory Committee (PAC) Guidance	New oral anticoagulants in AF Limitations of warfarin and aspirin restrict their use and effectiveness in the prevention of stroke in patients with AF. When monitoring and adjustment are lax, both the effectiveness and safety of warfarin are compromised and this has led to the search for new anticoagulants and some have recently been licensed in the UK.¹⁷		The Priorities Advisory Committee (PAC) is hosted via the NHS Midlands and East PrescQIPP Prescribing Programme. It is an east of England-wide organisation to promote collaboration and consistency on priority-setting. Further to the publication of NICE Technology Appraisals on the use of two new oral anticoagulants (dabigatran and rivaroxaban) in the prevention of stroke in AF, the Heart and Stroke Networks in the east of England and PAC have published their guidance on the use of these medicines (Appendix 5.1)	Policy Statement: Dabigatran and Rivaroxaban, http://www.clingov.eoe.nhs.uk/prescqipp/index.php/projects/pac

			<i>A PAC policy statement will follow on the use of apixaban in the prevention of stroke in AF following recent NICE guidance.</i>	
NICE Technology Appraisals: Dabigatran etexilate:	Guidance: Dabigatran etexilate is recommended as an option for the prevention of stroke and systemic embolism within its licensed indication, that is, in people with nonvalvular atrial fibrillation with one or more of the following risk factors: • previous stroke, transient ischaemic attack or systemic embolism; • left ventricular ejection fraction below 40%; • symptomatic heart failure of New York Heart Association (NYHA) class 2 or above; • age 75 years or older • age 65 years or older with one of the following: diabetes mellitus, coronary artery disease or hypertension.		Cost Avoidance The NICE Appraisal Committee concluded that for the population that were eligible for dabigatran, the most plausible incremental cost-effectiveness ratio was within the range that NICE considers a cost-effective use of NHS resources. This was due to it being less than £20,000 per quality adjusted life year gained. (Incremental cost-effectiveness ratio (ICER) of £18,900 per QALY gained for the sequential regime in people starting treatment younger than 80 years compared to warfarin).	Dabigatran etexilate for the prevention of stroke and systemic embolism in atrial fibrillation, www.nice.org.uk/ta249

NICE Technology Appraisals: Rivaroxaban:	Guidance: Rivaroxaban is recommended as an option for the prevention of stroke and systemic embolism within its licensed indication, that is, in people with nonvalvular atrial fibrillation with one or more risk factors such as: • congestive heart failure • hypertension • age 75 years or older • diabetes mellitus, • prior stroke or transient ischaemic attack.		Cost Avoidance The NICE Appraisal Committee concluded rivaroxaban was within the range that could be considered a cost-effective use of NHS resources. (The ICER for rivaroxaban compared with warfarin would be no more than £29,500 per QALY gained and would lie somewhere between £2,870 and £29,500 per QALY gained).	Rivaroxaban for the prevention of stroke and systemic embolism in people with atrial fibrillation, www.nice.org.uk/ta256
NICE Technology Appraisals Apixaban	Guidance Apixaban is recommended as an option for preventing stroke and systemic embolism within its marketing authorisation, that is, in people with nonvalvular atrial fibrillation with one or more risk factors such as: • prior stroke or transient ischaemic attack; • age 75 years or older; • hypertension; • diabetes mellitus; • symptomatic heart failure.		Cost Avoidance The NICE Appraisal Committee concluded that apixaban had been shown to be cost effective compared with warfarin, the most plausible ICER being less than £20,000 per QALY gained, and could be recommended as an option for preventing stroke and systemic embolism for people with nonvalvular atrial fibrillation who have 1 or more risk factors for stroke.	Apixaban for preventing stroke and systemic embolism in people with nonvalvular atrial fibrillation. www.nice.org.uk/ta275

4.2 TIA prevention studies

TIA prevention				
Source	Summary		Key Benefits	Documents/ External Links
Addressing shortfalls in TIA care in the UK	Study completed to estimate the clinical outcomes and costs associated with reconfiguring the management of TIA in the UK to offer patients rapid access to outpatient clinics for specialist assessment and treatment.	  	Cost Avoidance The model predicted savings of £25,573,279 for the UK healthcare system over 12 months during 2009 and annual net savings of £24,916,011 predicted in England. Social Benefits Reconfiguring TIA care pathways in the UK could result in the avoidance of 8,164 recurrent stroke events. With a reduced number of strokes per year, there will be a greater proportion of fit and healthy individuals contributing to society. Economic Benefits With a reduced number of strokes per year, there will be a greater proportion of individuals back at work, therefore a greater contribution to the economy.	Addressing shortfalls in TIA care in the UK: an economic perspective, http://www.ncbi.nlm.nih.gov/pubmed/19835525
NHS Improvement Spotlight on Transient Ischaemic Attack (TIA) A Seven Day Service	A stroke service that can investigate and treat high risk TIA patients within 24 hours could produce an 80 percent reduction in the number of people who go on to have a full stroke		Cost Avoidance Early symptom recognition and initiation of secondary prevention therapy, including carotid endarterectomy and anticoagulation where appropriate, is essential following TIA, as recognised in the National Stroke Strategy (NSS) and recent RCP National Guidelines. The Best Practice Tariff for TIA continues in 2013-14 and access to a seven day service is one of the minimum criteria for payment of the base tariff of £477. Every stroke prevented could save the NHS £23,315.	http://www.improvement.nhs.uk/documents/stroke/SpotlightOn/Spotlight_TIA.pdf

4.3 Review of National Health Economic Evidence for Stroke Pathway

National Health Economic Evidence for Stroke Pathway			
Source	Summary	Key Benefits	Documents/ External links
NICE clinical guidelines	Following health economic review, NICE, recommends that all people with suspected stroke should be admitted directly to a specialist acute stroke unit following initial assessment either from the community or from the A&E department. Brain imaging should be performed immediately for people with acute stroke if any of the following apply: - indications for thrombolysis or early anticoagulation treatment - on anticoagulant treatment - a known bleeding tendency - a depressed level of consciousness (Glasgow Coma Score below 13) - unexplained progressive or fluctuating symptoms - papilloedema, neck stiffness or fever - severe headache at onset of stroke symptoms. For all people with acute stroke without indications for immediate brain imaging, scanning should be performed as soon as possible	 The NICE health economic model gives an indication of the lifetime costs of looking after dependant and independent patients after stroke. These are calculated by assigning a utility score for each health state: - Dependent after a stroke 0.31; - Independent after a stroke 0.71; - Fully recovered after TIA/no stroke at 90 days 0.88. The discounted lifetime costs for looking after stroke patient is: £49,884 for 3.6 years life expectancy dependant within 90 days and £7,214 for 5.4 years life expectancy independent within 90 days. For detailed breakdown, see appendix 5.2.	Diagnosis and initial management of acute stroke and transient ischaemic attack (TIA), http://www.nice.org.uk/cg68

National Health Economic Evidence for Stroke Pathway			
Source	Summary	Key Benefits	Documents/ External links
National Audit Office	Providing better secondary prevention would be cost-effective Improvements to acute care, rehabilitation, and service organisation can reduce the cost of stroke services by improving the efficiency with which resources are used and by improving morbidity levels. Better primary and secondary prevention would reduce the annual incidence of stroke and so also reduce costs.	 Quality of care If the proportion of patients spending the majority of their time on a stroke unit increased by 25%: • 550 deaths could be prevented in a year; • There would be an increase of 205 in the number of independent cases (additional cost of £32 million). If the proportion of patients spending the majority of their time on a stroke unit increased by a further 20%: • 441 more deaths could be prevented in a year; • 163 more cases would be independent (additional cost of £22 million). However if the average length of stay is three days shorter in stroke units than in general wards then there would not be an increase in costs, with the same number of deaths prevented and same number of increase in the independent cases.	Reducing Brain Damage: Faster access to better stroke care, http://www.nao.org.uk/publications/0506/reducing_brain_damage.aspx
		 If the proportion of stroke patients on antiplatelets increases by 10% to 95%: • 17 deaths would be prevented; • 45 recurrent strokes would be prevented; • There would be an increase of 6 independent cases (additional cost of £56,000).	

National Health Economic Evidence for Stroke Pathway			
Source	Summary	Key Benefits	Documents/ External links
National Audit Office	Report on the findings from modelling of stroke care provision 2010 This study aimed to measure the effects of the improvements in stroke provision since 2005, in terms of costs and outcomes, by modelling the stroke care pathway using a long-term perspective of 10 years. They demonstrate that the improvements in the provision of stroke care have been cost-effective, but there is scope for further improvements in value-for-money, especially by extending the provision of stroke units and allowing for better discharge services to be provided to patients. Comparison of provision of stroke services in 2009 was compared to previous standards (2005). With the provision of stroke units and early supported discharge services to all the patients, with 24/7 coverage of scanning and thrombolysis further improvements were possible.	 Cost Avoidance Improved patient outcomes from reductions in death and disability can be quantified in terms QALYs: • They estimated that the average number of QALYs per patient has increased to 2.5 from 2.3, for an increase in average per-patient cost of seven per cent in real terms (to £24,900 from £23,300); • This represents an ICER of £5,500 per QALY, well below the standard benchmark for assessing cost-effectiveness in healthcare of £20,000 to £30,000 per QALY gained. Quality of Care Positive changes in the quality of care were found between 2005 and 2009: • Mortality decreased from 70.81% to 66.75% • Average QALYs increased by 0.28 If further improvements were implemented (such as the provision of stroke units and early supported discharge to all patients and 24/7 coverage of scanning and thrombolysis) it was predicted that: • Mortality rates could decrease further to 62.49%; • Average QALYs could increase by a further 0.38; • This represents an even further improvement in the ICER to £2,858. Detailed breakdown see appendix 5.3.	Progress in improving stroke care, http://www.nao.org.uk/publications/0910/stroke.aspx
			

National Health Economic Evidence for Stroke Pathway			
Source	Summary	Key Benefits	Documents/ External links
Royal College of Physicians: National Guideline for Stroke	Although implementation of this guideline may have cost implications, this document does not undertake a full cost-benefit analysis, however there are recommendations that are evidence based and refer to cost-effective decisions.	 Brain imaging should be performed immediately (ideally the next imaging slot and definitely within 1 hour of admission, whichever is sooner) for people with acute stroke if any of the following apply: • indications for thrombolysis or early anticoagulation treatment; • on anticoagulant treatment; • a known bleeding tendency; • a depressed level of consciousness (Glasgow Coma Score below 13); • unexplained progressive or fluctuating symptoms; • papilloedema, neck stiffness or fever; • severe headache at onset of stroke symptoms. For all people with acute stroke without indications for immediate brain imaging, scanning should be performed as soon as possible (at most within 12 hours of admission). Patients with suspected stroke should be assessed for thrombolysis, receiving it if clinically indicated and be admitted directly to a specialist acute stroke unit. All patients should have immediate access to a stroke physician to ensure patients get access to appropriate medical interventions.	National clinical guideline for stroke.RCP 2012 http://www.rcplondon.ac.uk/resources/stroke-guidelines

4.4 Early Supportive Discharge (ESD)

Early Supportive Discharge				
Source	Summary		Key Benefits	Documents/ External Links
NHS Improvement	Early supported discharge (ESD) to a comprehensive stroke specialist and multidisciplinary team (which includes social care) in the community, but with a similar level of intensity to stroke unit care, can reduce long-term mortality and institutionalisation rates for up to 50 per cent of patients and lower overall costs.		Clinical – Improved patient and carer satisfaction, reduced carer strain, improved physical, cognitive and communication clinical outcome measures and prevention/avoidance of unnecessary readmission when compared with outcomes for similar patients within inpatient services.	“How to guide” for Stroke Rehabilitation, http://www.improvement.nhs.uk/stroke/ESD/ESDwhatisESD/tabid/162/Default.aspx
			Economic – Successful community services can be cost-neutral or cost-saving – available data from some models demonstrate reduction in acute length of stay (LOS), reduction in community service LOS, thereby reducing overall LOS for the whole pathway, with simultaneous improvement in quality clinical outcomes and satisfaction levels. This is being sustained and improved year-on-year. There is also evidence that good community services generate savings for social care in terms of package of care needs, such as frequency, duration and intensity. - Some services have been able to reinvest savings back into their community service enabling them to develop a broader range of service options for patients; others have used this to spread the improvements and choices for survivors further along the pathway. - There may be scope for cost-savings in simplifying and redesigning existing processes to ensure that only effective and efficient	

			treatment is given. Successful models have strong commitment to goal setting, with patients' use of validated outcome measures and regular review of rehabilitation packages. • Published case studies indicate that ESD reduces the cost of stroke care by 9-20%. • Newcastle costs for health and personal care for stroke survivors within the ESD service in the six months after stroke was £7,155 per patient, compared with £7,480 per patient receiving conventional care. • Blackburn community stroke service demonstrated a reduction in dependency scores post intervention, equating to 240 hrs of care per week. On a yearly basis this equates to a saving of 12,480 care hours with a cost-savings of £93,600 per year. • Scunthorpe developed an outreach community stroke service from the acute trust. Over three years this significantly reduced LOS. In 2005 - 06 total bed days = 10,397. In 2008 -09 total bed days = 4,947. With cost-savings based on £270 per day, this equates to savings of £1,471,500. Further examples of best practice and outcomes to improve patient care can be found on NHS Improvement.	
Cost-effectiveness of stroke unit care followed by ESD.	Health economic evaluation on the benefits of early supportive discharge implementation.		Cost-effectiveness modelling demonstrated that admission to stroke unit followed by early supportive discharge (ESD) is cost-effective compared to stroke unit and no ESD and general medical ward and no ESD – ICER £17,721.	Cost-effectiveness of stroke unit care followed by early supportive discharge, http://stroke.ahajournals.org/content/40/1/24.long

NAO	Modelling suggested that increasing the availability of early supported discharge to all stroke units providing ESD, would be cost-effective over a ten-year timeframe		Cost Avoidance Increasing the availability of early supported discharge from its current level to all stroke units providing early supported discharge, would be cost-effective over a ten-year timeframe, costing about £5,800 per QALY gained. This would increase the overall provision of early supported discharge from 20% of the patients to 43% of all the patients.	Progress in improving stroke care, http://www.nao.org.uk/publications/0910/stroke.aspx
Camden PCT Stroke REACH Early Supportive Discharge Scheme.	Although the Camden publication is initially focused on Early Supportive Discharge, reference is made to community stroke teams. In the London Stroke Strategy they recommend that every PCT should commission a community rehab service but configuration is left to decision making at a local level.		To discharge patients, post stroke, within 24 hours. The Stroke REACH Early Discharge Scheme (Stroke REDS) is a specialist interdisciplinary team that can assess, facilitate and complete the discharge of patients post stroke, within 24 hours (sometimes same day) from receipt of referral. REACH is the community rehabilitation team. Stroke REDS helps to prevent unnecessary long admissions and, following 6 weeks of intensive intervention at home, reduces social care needs and dependence on ongoing rehabilitation. Ultimately the aim of the Stroke REDS team is to provide the same intensity of therapy that a person would receive on the stroke unit, but provide it at home instead. Savings in excess of £277,800 through a reduced need for non-elective bed days and ongoing social services packages of care. This equates to £118,069 per 100,000 population.	REACH Project http://www.evidence.nhs.uk/gipp

4.5 Psychological Therapy.

Psychological Therapy After Stroke				
Source	Summary		Key Benefits	Documents/ External Links
NHS Improvement Psychological care after stroke: Economic modelling of a clinical psychology led team approach	The case for psychological interventions after stroke is already well made but the health economic case has not always been clear.	 	This study indicates that a stroke service where psychological care is led by a clinical psychologist using a stepped approach has the potential to reduce the cost burden of stroke, with savings to the NHS and adult social care recovered in around two years. This modelling indicates that an investment of around £69,000 in psychological care through a clinical psychologist-led service, with clinical psychology assistant support and an appropriately trained multidisciplinary team to a stroke population of 500 people, may deliver a benefit of around £108,300 to the NHS and social care in around two years.	http://www.improvement.nhs.uk/documents/Economic_Model.pdf

4.6 Regional Stroke Review Case studies

Regional Stroke Review Case Studies				
Source	Summary		Key Benefits	Documents/ External Links
Centre for Health Service Economic and Organisation	Feasibility of a cost-effectiveness evaluation of London's stroke service. Discusses options to evaluate cost-effectiveness of London stroke service review utilising morbidity and mortality data.		Quality of Care It was recommended that the evaluation focus on attempting to directly measure differences in health outcomes for the new London system compared to the counterfactual system. Observation of the differences in process parameters between the two systems and/or using these to simulate patient outcomes should help to corroborate (or otherwise) any directly measured differences in health outcomes and should be attempted.	Feasibility of a cost-effectiveness evaluation of London's stroke services, www.chseo.org.uk/downloads/nhsbrief1strokefeasibility.pdf
NHS London	Cost-effectiveness analysis of the London Stroke Service based on 6,438 strokes per annum.		Quality of Care The evaluation highlights that following the reconfiguration although stroke onset costs at 30 days are higher with new model (mean cost of £514 per patient) they have achieved: • Reduction in mortality by 214; • 51 more QALYs; However at three months, onset stroke costs are lower compared to previous model (£838 per patient) they have also achieved: • Reduction in mortality by 238; • 112 more QALYs;	Cost-effectiveness analysis of the London Stroke Service ¹⁸

		 	This demonstrates that the new service is cost-effective than the previous model and these outcomes are sustained at ten years generating costs that are £21.3million lower (£3311 per patient) and 4492 QALYs. Cost Avoidance The components that contributed most to the reduction in costs at three months were the larger number of patients going home with shorter lengths of stay. Social Benefits In the period up to ten years after stroke, the costs with the new London Service are projected to be lower than with the previous service for two main reasons: • the numbers of patients admitted to institutional care is lower; • among those discharged to home, a smaller proportion of patients are disabled (Barthel Index score less than ten), which means they require less costly ongoing care.	

5. Appendices

5.1 Appendix: Priorities Advisory Committee Guidelines

Policy Statement: Dabigatran and Rivaroxaban

(Ref TA249 and TA256)

Date of Issue: June 2012

NICE has made recommendations for the use of dabigatran and rivaroxaban for the prevention of stroke and systemic embolism in atrial fibrillation.

Summary of Guidance

NICE has issued Technology Appraisals for dabigatran (Pradaxa ▼) and for rivaroxaban (Xarelto ▼) for the prevention of stroke of systemic embolism in atrial fibrillation (TA 249 and TA 256). A clinician may choose to initiate dabigatran or rivaroxaban for any patient within the Technology Appraisals' criteria if clinically appropriate.

Dabigatran and rivaroxaban are orally active antithrombotic agents. Both drugs have the potential advantage over warfarin of not requiring INR blood monitoring, but other factors about both drugs need to be taken into consideration when deciding whether either drug is appropriate for an individual patient.

Safety

Warfarin is an effective drug and its benefits and profile are known, whereas these new drugs may have some benefits, e.g. **dabigatran has superiority over warfarin at the 150mg dose and in prevention of intracerebral haemorrhage**; wide scale use outside clinical trials has yet to demonstrate full safety profile (both are black triangle drugs). As well as the customary concerns regarding use of a new drug, in considering whether dabigatran or rivaroxaban is appropriate for an individual patient, other factors include:

- Lack of reversibility of dabigatran
- Renal function
- Bleeding risk especially GI bleeding risk
- Drug interactions (similar to warfarin)
- Concordance

Patients who are stabilised on warfarin should normally remain on warfarin (new patients should be considered using similar parameters to existing patients using heparin cover if immediate anticoagulation is needed).

Social reasons are inappropriate for initial selection of dabigatran.

The choice of agent is the decision of the prescriber and there are pros and cons to each agent. A third new oral anticoagulant, apixaban, is expected to be licensed for this indication later in 2012 and considered by NICE in February 2013.

NICE TAG Summary

Dabigatran extexilate is recommended as an option for the prevention of stroke and systemic embolism within its licensed indication, that is, in people with non-valvular atrial fibrillation with one or more of the following risk factors:

- Previous stroke, transient ischaemic attack or systemic embolism
- Left ventricular ejection fraction below 40%
- Symptomatic heart failure of New York Heart Association (NYHA) class 2 or above
- Age 75 years or older
- Age 65 years or older with one of the following: diabetes mellitus, coronary artery disease or hypertension.

Rivaroxaban is recommended as an option for the prevention of stroke and systemic embolism within its licensed indication, that is, in people with non-valvular atrial fibrillation with one or more risk factors such as:

- Congestive heart failure
- Hypertension
- Age 75 years or older
- Diabetes mellitus
- Prior stroke or transient ischaemic attack.

PAC recommendation is that both drugs should be used within NICE TAG, licensed indication and the above criteria, normally with a CHADS 2 score of 2 or 3 or more unless e.g. allergic to warfarin or the patient had a stroke whilst using warfarin appropriately, indicated only by a secondary care consultant (haematologist, cardiologist or stroke physician as appropriate) with the support of their anticoagulant clinics. Prescribing can then be passed to the GP with shared care advice.

The statement will be reviewed in light of new evidence of future guidance from NICE.
A PAC policy statement will follow on the use of apixaban in the prevention of stroke in AF following recent NICE guidance.

(Refer to PAC Implementation guidance for NICE TA 249 and NICE TA 256, dabigatran and rivaroxaban for the prevention of stroke and systemic embolism in atrial fibrillation).

5.2 Appendix: Review of National Health Economic Evidence for Stroke Pathway

NICE clinical guideline CG68 Diagnosis and initial management of acute stroke and transient ischaemic attack (TIA)¹⁹:

The NICE Health Economic Model:

- Model gives an indication of the lifetime costs of looking after dependant and independent patients after stroke. These are calculated by assigning a utility score for each health state:
 - o Dependent after a stroke 0.31;
 - o Independent after a stroke 0.71;
 - o Fully recovered after TIA/no stroke at 90 days 0.88
- These utilities are then multiplied by the life expectancies to generate the QALYs:

Table C12 Calculation of QALYs, based on stroke outcome within 90 days of TIA				
Health state at 90 days	Utility	Life expectancy	QALYs	Discounted QALYs
Dependent after a stroke within 90 days	0.31	3.6	1.116	1.06
Independent after a stroke within 90 days	0.71	5.4	3.834	3.54
Fully recovered after TIA/no stroke at 90 days	0.88	10.8	9.504	8.05
Fatal stroke by 90 days/surgical death	0	0	0	0

Table C15 Costs of surgery and stroke care by level of dependency			
	Mean (£)	Low (£)	High (£)
Cost of endarterectomy*	3,442	2,525	4,360
Dependent health state: stroke unit cost per patient for first year of treatment**	22,255	16,691	27,819
Dependent health state: cost per patient per year for subsequent years	11,292	8,469	14,115
Independent health state: stroke unit cost per patient for first year of treatment	3,716	2,787	4,645
Independent health state: cost per patient per year for subsequent years***	876	657	1,095
*Cost per inpatient day £407 and average length of stay (LOC) in the hospital is 6 days **mean LOS of 51 days inpatient, rehabilitation cost of £763 and average annual cost of £11,292 based on 1,854 first ever stroke patients from Scotland ***mean LOS of 14 days inpatient, rehabilitation cost of £40 and average cost of long-term care of £876			

This information is then used to generate the lifetime treatment costs and an indication of the financial implication for the care costs for dependant stroke patients.

Table C18 Lifetime treatment costs,* by stroke-related health state			
	Life expectancy	Lifetime costs	Discounted lifetime costs
Dependent after a stroke within 90 days	3.6	51,614	49,684
Independent after a stroke within 90 days	5.4	7,570	7,214
Fully recovered after a TIA/stroke at 90 days (i.e. drug costs only)			
• GP assessment	10.8	798	674
• Specialist assessment	10.8	1,327	1,152
Fatal stroke by 90 days/surgical death	0	0	0
*Not including the one-off costs of assessment and surgery			

5.3 Appendix: Report on the findings from modelling of stroke care provision 2010 (NAO)²⁰

This study aimed to measure the effects of the improvements in stroke provision since 2005, in terms of costs and outcomes, by modelling the stroke care pathway using a long-term perspective of 10 years. They demonstrate that the improvements in the provision of stroke care have been cost-effective, but there is scope for further improvements in value-for-money, especially by extending the provision of stroke units and allowing for better discharge services to be provided to patients.

“Improved patient outcomes from reductions in death and disability can be quantified in terms of ‘quality-adjusted life years’ (QALYs). We estimate that the average number of QALYs per patient has increased to 2.5 from 2.3, for an increase in average per-patient cost of seven per cent in real terms (to £24,900 from £23,300). This represents an incremental cost-effectiveness ratio (ICER) of £5,500 per QALY, well below the standard benchmark for assessing cost-effectiveness in healthcare of £20,000 to £30,000 per QALY gained.”

Comparison of current provision of stroke services compared to previous standards (2005) expressed as average cost per patient:

Table 8 Comparing the Current Scenario with Previous Standards					
	Previous care provision	Current care provision	Change in costs	Change in QALYs	ICER
Average Cost	£23,315	£24,855	£1,540		£5,550
Average QALY	2.26	2.54		0.28	
% Mortality in 10 years	70.81%	66.75%			

It is recognised that there is still scope for further improvement with the provision of stroke units and early supported discharge services to all the patients, with 24/7 coverage of scanning and thrombolysis as shown below.

Table 9 Comparing the Current Scenario with Further Improvements					
	Current care provision	Further improvements	Change in costs	Change in QALYs	ICER
Average Cost	£24,855	£25,950	£1,095		£2,858
Average QALY	2.54	2.92		0.38	
% Mortality in 10 years	66.75%	62.49%			

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20. Appendix

Birmingham, Solihull and the Black Country CCG memorandum
of understanding

DATED **2013**

NHS SANDWELL AND WEST (1)
BIRMINGHAM CCG

NHS BIRMINGHAM CROSSCITY CCG (2)

NHS BIRMINGHAM SOUTH AND (3)
CENTRAL CCG

NHS DUDLEY CCG (4)

NHS SOLIHULL CCG (5)

NHS WALSALL CCG (6)

AND

NHS WOLVERHAMPTON CCG (7)

MEMORANDUM OF UNDERSTANDING

BETWEEN:

- (1) **NHS SANDWELL AND WEST BIRMINGHAM CCG** whose principal address is Kingston House, 438-450 High Street, West Bromwich, B70 9LD;
- (2) **NHS BIRMINGHAM CROSSCITY CCG** whose principal address is Bartholomew House, 142 Hagley Road, Edgbaston, Birmingham, B16 9PA;
- (3) **NHS BIRMINGHAM SOUTH AND CENTRAL CCG** whose principal address is Ground floor, Bartholomew House, 142 Hagley Road, Birmingham, B16 9PA;
- (4) **NHS DUDLEY CCG** whose principal address is Brierley Hill Health and Social Care Centre, Venture Way, Brierley Hill, West Midlands, DY5 1RU;
- (5) **NHS SOLIHULL CCG** whose principal address is Friars Gate, 1011 Stratford Road, Solihull, West Midlands, B90 4BN;
- (6) **NHS WALSALL CCG** whose principal address is Jubilee House, Bloxwich Lane, Walsall, WS2 7JL; and
- (7) **NHS WOLVERHAMPTON CCG** whose principal address is Wolverhampton Science Park, Glaisher Drive, Wolverhampton, WV10 9RU;

together referred to as “the **CCGs**”.

1 Background

- 1.1 The CCGs have agreed to work together on the stroke services reconfiguration project for Birmingham, Solihull and the Black Country, as detailed in the Project Brief document attached at 0 (“the **Project**”).
- 1.2 Each of the CCGs has committed to participate in the option appraisal process and subsequent procurement process in relation to the Project.
- 1.3 The CCGs wish to record the basis on which they will collaborate with each other in relation to the Project.

2 Key objectives for the project

- 2.1 The key objectives of the Project are:

- 2.1.1 to consider and agree the CCGs' future approach to commissioning stroke services across Birmingham, Solihull and the Black Country; and
 - 2.1.2 ensure efficient, safe and equitable stroke services that deliver the intended improvement in outcomes for patients are available and which can be measured, in terms of patient experience and by the reduction in mortality and disability.
- 2.2 The CCGs each acknowledge and agree that co-operation and collaboration between the CCGs in relation to the Project is essential because any change to the way in which stroke services are commissioned will only be possible with the agreement of all of the CCGs.
- 2.3 Each of the CCGs understands and agrees that the purpose of the Project is for the CCGs to work together with the aim of reaching agreement about the future commissioning of stroke services. Each CCG agrees to act reasonably and use all reasonable endeavours to work with the other CCGs and reach agreement with them.

3 Principles of collaboration

- 3.1 The CCGs agree to adopt the following principles when carrying out the Project:
 - 3.1.1 collaborate and co-operate – adhere to the principles set out in this Memorandum of Understanding to ensure that activities are delivered and actions taken as required;
 - 3.1.2 be accountable – take on, manage and account to each other for performance of the respective roles and responsibilities set out in this Memorandum of Understanding;
 - 3.1.3 be open – communicate openly about major concerns, issues or opportunities relating to the Project;
 - 3.1.4 act in a timely manner – throughout the Project and in particular in responding to any time-critical requests or Project milestones;
 - 3.1.5 manage stakeholders effectively;

3.1.6 deploy appropriate resources – ensure sufficient and appropriately qualified resources are available and authorised to act in relation to the Project; and

3.1.7 act in good faith to support achievement of the key objectives set out in clause 2 above and compliance with the principles set out in this clause 3.

4 Project governance

4.1 The arrangements for governance of the Project will be in accordance with the Project Brief at 0 and the terms of reference of the Project Board (schedule 2).

5 Roles and responsibilities of the CCGs

5.1 Sandwell and West Birmingham CCG is acting as co-ordinating commissioner for the Project. As co-ordinating commissioner, it will have overall responsibility for the delivery of the Project and will host the Stroke CCG Project Board to provide the strategic steer for the Project. The role of co-ordinating commissioner is further outlined in the Project Brief at 0.

5.2 While Sandwell and West Birmingham CCG is responsible for carrying out the operational aspects of the Project, the Project Board is responsible for assuring the objectives, approach and achievement of the Project overall, in accordance with the Project Board's terms of reference.

5.3 Each of the CCGs will provide a representative for the Project Board.

5.4 Each of the CCGs may raise agenda items to be discussed by the Project Board. The CCG raising an agenda item shall be responsible for supplying all relevant materials needed to support the proper consideration of the items it raises.

5.5 The CCGs each agree that their participation in the Project is on the basis that the Project Board and its sub-groups are constituted as joint working committees of the CCGs, which make recommendations in connection with the Project.

5.6 The CCGs are each individually responsible for making any commissioning decisions as a result of the Project. Such decisions will be made at CCG Governing Body level.

5.7 The CCGs each acknowledge and agree the importance of adhering to the published timetable for the Project and consequently the importance of acting on the

recommendations of the Project Board and its sub-groups within the timescales set for such actions (and in any event as quickly as reasonably possible).

- 5.8 The Project team is responsible for reporting on the business of the Project Board and its sub-groups to the CCGs, including the publication and circulation of minutes.
- 5.9 By entering into this Memorandum of Understanding, each of the CCGs confirms that in its role as a participant in the Project it understands and agrees to the Project Brief at 0, the governance structure of the Project and the process by which the Project will proceed.
- 5.10 Unless agreed otherwise in writing by the CCGs, each CCG shall bear any costs and expenses that it incurs in complying with its obligations under this Memorandum of Understanding.

6 Escalation

6.1 Escalation of general issues

- 6.1.1 If any of the CCGs has any issues, concerns or complaints about any matter in this Memorandum of Understanding, that CCG shall notify the Chair of the Project Board and the CCGs shall then seek to resolve the issue directly between the Chair of the Project Board and the Project leads for each CCG. If the issue cannot be resolved within a reasonable period of time, the matter may be escalated to the Chairs and Accountable Officers of each of the CCGs for resolution.
- 6.1.2 For the avoidance of doubt, issues relating to the Project generally (and not specifically to the collaboration between the CCGs pursuant to this Memorandum of Understanding) shall be referred to the Project Board for resolution.

6.2 Escalation of third party issues

- 6.2.1 If any of the CCGs receives any formal inquiry, complaint, claim or threat of action from a third party (including, but not limited to, claims made by a provider or requests for information made under the Freedom of Information Act 2000) in relation to the Project, the matter shall be promptly referred to the Project Board. No action shall be taken in response to any such inquiry, complaint, claim or action, to the extent that

such response would adversely affect the Project, without the prior approval of the Project Board (or, if deemed appropriate by the Project Board, the prior approval of the Governing Bodies of each of the CCGs).

6.3 Escalation where the CCGs are unable to reach a consensus

6.3.1 This Memorandum of Understanding explains that decisions are to be made individually by the CCGs but that any reconfiguration of stroke services will only go ahead if all of the CCGs agree to proceed on the same basis. If the CCGs fail to agree unanimously any recommendation pursuant to the Project, the Project Chair may call an extraordinary meeting of the Project Board. The purpose of the meeting will be to understand why there is currently not a consensus and to agree between the CCGs whether to:

- (i) carry out further analysis and review before seeking to make a decision;
- (ii) seek to reach unanimous agreement on the original recommendation; or
- (iii) retain the existing service provision structure and seek to achieve improvements in service provision through contract management.

7 Charges and Liabilities

7.1 Sandwell and West Birmingham CCG will develop a shared central team to work on behalf of all the CCGs as the accountable bodies, working through the Programme Board, using the under spend identified in Cardiovascular Network resources (2012/13) to support and coordinate the programme for a time limited period (April 2013 up to March 2015). If the Programme requires additional funding for completion of key deliverables CCGs will be approached to secure additional funding.

7.2 Except as otherwise provided, each CCG shall bear the cost and expenses that it incurs in complying with its obligations under this Memorandum of Understanding.

7.3 Each CCG shall be liable for any losses or liabilities incurred due to their own or their employee's actions and no party intends that any other parties to this Memorandum of Understanding shall be liable for any loss it suffers or costs incurred as a result of its participation in the Programme.

8 Duration and termination

- 8.1 This Memorandum of Understanding takes effect on the date of signature by all of the CCGs and shall expire on completion, or earlier termination, of the Project.

9 Status of this document

- 9.1 This Memorandum of Understanding is not intended to be legally binding, and no legal obligations or legal rights shall arise between the CCGs pursuant to this Memorandum of Understanding. The CCGs each enter into this Memorandum of Understanding intending to honour all of their obligations.
- 9.2 Nothing in this Memorandum of Understanding is intended to, or shall be deemed to, establish any relationship of partnership, agency or joint venture between the CCGs, nor authorise any of the CCGs to make or enter into any commitments for or on behalf of the other CCGs.

10 Variation

- 10.1 This Memorandum of Understanding may only be varied by agreement in writing signed by the CCGs.

SIGNED by the Parties on the date set out at the start of this Memorandum of Agreement

Signed by the authorised representative of Sandwell and West Birmingham CCG:

Name:	.....	Signature:	.....
Position:	.....		

Signed by the authorised representative of NHS Birmingham Crosscity CCG:

Name:	.....	Signature:	.....
Position:	.....		

Signed by the authorised representative of NHS Birmingham South and Central CCG:

Name:	.....	Signature:	.....
Position:	.....		

Signed by the authorised representative of NHS Dudley CCG:

Name:	.....	Signature:	.....
Position:	.....		

Signed by the authorised representative of NHS Solihull CCG:

Name:	.....	Signature:	.....
Position:	.....		

Signed by the authorised representative of NHS Walsall CCG:

Name:	.....	Signature:	.....
Position:	.....		

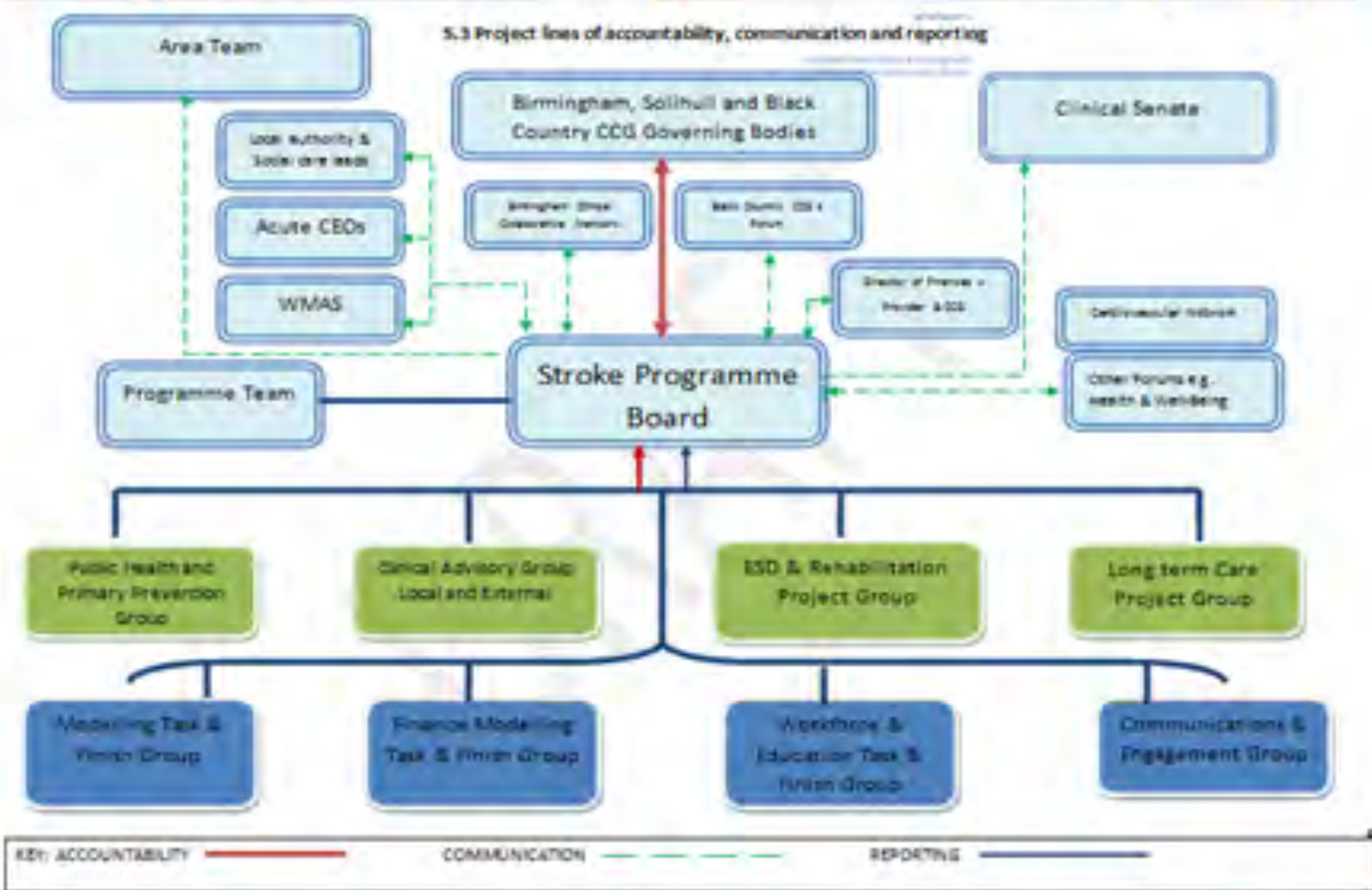
Signed by the authorised representative of NHS Wolverhampton CCG:

Name:	.....	Signature:	.....
Position:	.....		

21. Appendix

Birmingham, Solihull and the Black Country CCG governance framework

Project lines of accountability, communication and reporting



Reviewing stroke services for a healthier future

22. Appendix

London stroke programme governance arrangements

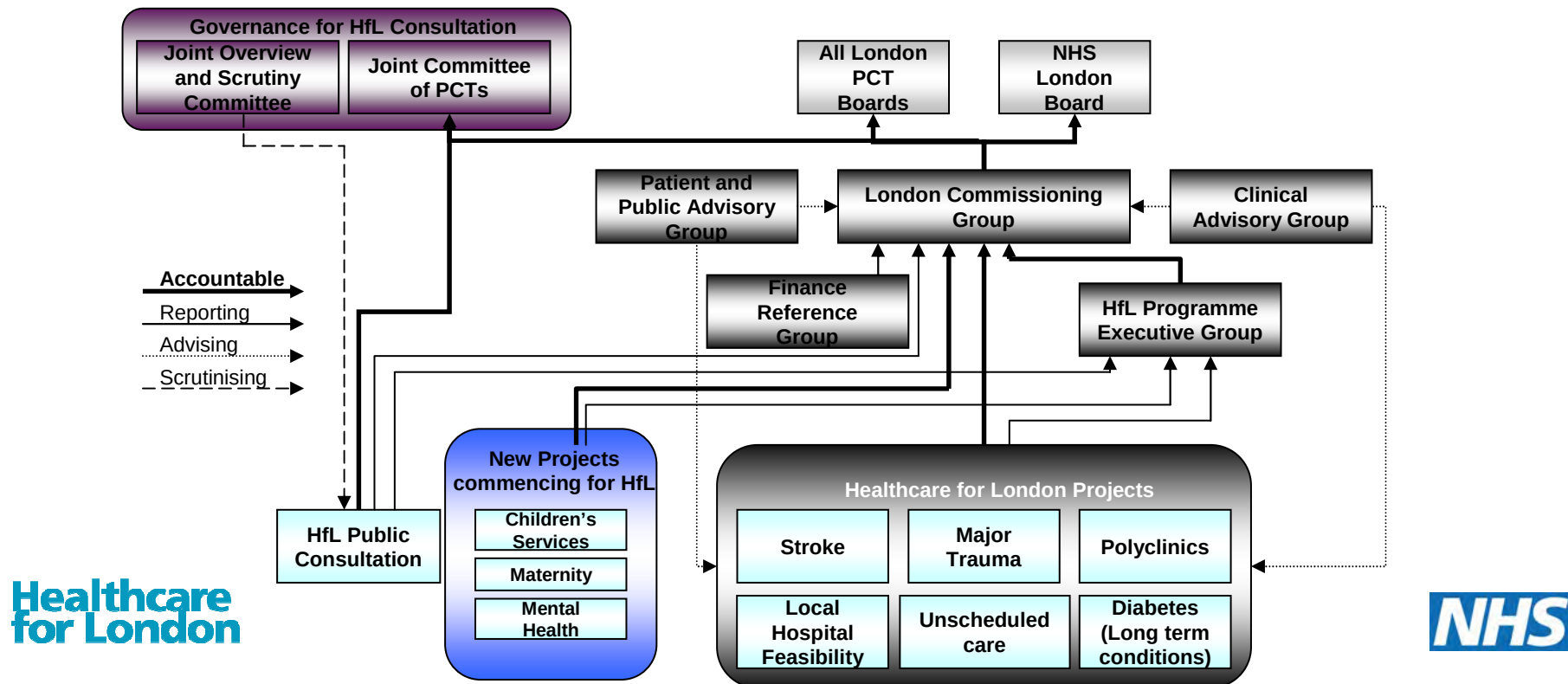


Appendix A : Stroke Project Governance Arrangements

October 2008

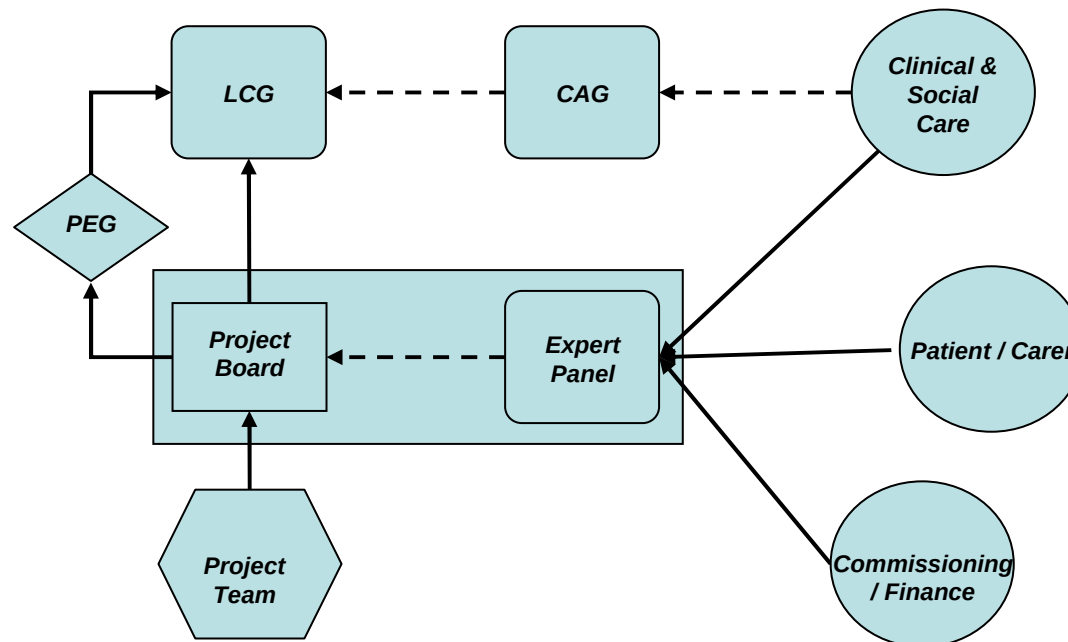
1.1 HfL Governance Structure

- The governance arrangements for all HfL projects within the overall HfL Programme are illustrated below.
- The London Commissioning Group (LCG) will have overall responsibility for delivery of the HfL programme. It will effectively act as the Programme Board providing the strategic steer for the programme. The LCG will be advised by a Clinical Advisory Group and a Patient and Public Advisory Group.
- The LCG is accountable to all London PCT Boards and the NHS London Board.
- Project Boards will be established for individual HfL projects which will be accountable to the LCG for delivery of their projects.
- The HfL Programme Executive Group (PEG) will co-ordinate the overall management of the programme. The PEG will monitor the progress of the individual projects and act as the forum for identifying, resolving and managing issues, interdependencies and risks.



1.2 HfL Stroke Project Governance

- The governance arrangements for the Acute Stroke project within the overall HfL Programme is illustrated below.
- The project board is chaired by Rachel Tyndall (Senior Responsible Officer for the project and Chief Executive of Islington PCT). Rachel reports to and is a member of the London Commissioning Group (LCG).
- Chris Streather (Clinical Director for the project and Medical Director for St. Georges Healthcare NHS Trust) is a project board member and reports to and is a member of the Clinical Advisory Group for Healthcare for London.
- Kevin Hunter / Michael Wilson (Project Manager) reports to and is a member of the Healthcare for London Programme Executive Group (PEG).
- The project board, the LCG and the CAG meet monthly, and the PEG meet bi-weekly. The project board also receives expert input from three panels that meet every month: the clinical and social care panel, the commissioning and finance panel, and the patient and carer panel.
- The clinical and social care panel has representation from across London and across the end-to-end pathway: public health professionals, general practitioners, London Ambulance Service, physicians, nurses, therapies, social care, patients and carers via the Stroke Association and other voluntary sector organisations.



2.1 Stroke Project Board

Stroke Project Board	
Meeting Frequency	Monthly
Location	Healthcare for London
Duration	1.5 hours

The Project Board's role and responsibilities are as follows:

- Provides overall direction and management of the project
- Takes major decisions for the project and make recommendations for approval for PEG and PCT CEs
- Accountable to the PCT CE for the success of the project
- Identifies and manages risks to project delivery and escalates issues to the Programme Executive Group as necessary
- Provides progress reports to the Programme Executive Group and PCT CEs

2.2 Stroke Project Board (membership)

Name	Position	Organisation
Rachel Tyndall	Chair	Healthcare for London
Chris Streather	Clinical Director, Chair	St Georges Healthcare
Steve Peacock	Director of Commissioning	Bexley
Tony Rudd	Clinical Lead	Guys and St Thomas
Gill Cluckie	Stroke Specialist Nurse	Guys and St Thomas
Kevin Hunter / Michael Wilson	Stroke Project Manager	Healthcare for London
Sophie Walmsley	Secretariat	Healthcare for London
Charles Wolfe	Public Health	Kings College
Gary Dakin (when invited)	Workforce Dev Manager	NHS London
Chris Clark	Director of Operations	Stroke Association
John Goldup	Corporate Director - Adults Health and Wellbeing	Tower Hamlets PCT
Ann Radmore	Chief Executive	Wandsworth Teaching PCT
Cathy Ingram	Community Rehabilitation	Lambeth PCT

2.3 Roles and Responsibilities of the Project Board Members

Role	Responsibility
Senior Responsible Officer	• Oversees the development of the Project Initiation Document • Accountable to LCG for delivery and success of project • Maintains communications with wider stakeholder community • Provides monthly updates to LCG on progress of the project and escalates issues where necessary • Ensures that there is a coherent organisational structure and robust project plan • Monitors and controls progress of project including managing issues and risks and escalating to programme level if necessary
Clinical Director	• Accountable to the CAG and LCG for the clinical safety and efficacy of the project • Provides clinical leadership and advice for the project • Acts as clinical advocate for the project • Facilitates identifying other clinical representation within the project as necessary • Engages with or develops pan-London professional networks established by the CAG • Provides monthly updates to the CAG on the progress of the project
Clinical Experts	• Provide day to day clinical advice and support to the Project Manager • Act as first point of contact for clinical issues relating to the project • Acts as clinical advocate for the project • Support the Clinical Director in engaging with pan-London professional networks established by the CAG • Support the Project Manager in arranging and facilitating expert panels and multi-disciplinary workshops as necessary • Support the Clinical Director in identifying appropriate clinical representation within the project as necessary

3.1 Stroke Clinical Expert Panel

Stroke Clinical Expert Panel	
Meeting Frequency	Monthly
Location	NHS London
Duration	1.5 hours

The Clinical Expert Panel's role and responsibilities are as follows:

- Provides clinical input to the project from the wide range of clinical areas involved in Stroke
- Approves the clinical aspects of the project's deliverables
- Feeds in views and insights between the project and the CAG
- Acts as clinical advocates for the project
- Provide endorsement to deliverables produced by the projects

Each member of the Clinical Expert Panel is responsible for representing the opinions and needs of their specialist clinical area to ensure that the project achieves the best clinical outcome for patients.

3.2 Stroke Clinical Expert Panel (membership)

Name	Position	Organisation
Chris Streather	Clinical Director, Chair	St Georges Healthcare
Maggie Rastall	Social Services	Greenwich Teaching PCT
Gill Cluckie	Stroke Specialist Nurse	Guys and St Thomas
Tony Rudd	Clinical Lead	Guys and St Thomas
Kevin Hunter / Michael Wilson	Stroke Project Manager	Healthcare for London
Sophie Walmsley	Secretariat	Healthcare for London
Charles Wolfe	Public Health	Kings College
Mark Whitbread	Clinical Practice Manager	London Ambulance Service
Nick Lawrence	Head of Policy	London Ambulance Service
David Cohen	Consultant Physician	North West London
Liz Robb	Nursing/Rehab	North West London
Heather Tarrant	Team Manager	RB Kensington and Chelsea
Alexander Laidler	Head of Disability and Rehabilitation Services	Southward PCT
Martyn Wake	General Practitioner	St Georges
Joe Korner	Director of Commissioning	Stroke Association
Helen Cutting	Physiotherapist	Tower Hamlets PCT
John Goldup	Corporate Director - Adults Health and Wellbeing	Tower Hamlets PCT
Ken Cutting	Physiotherapist	Tower Hamlets PCT
Lesley Johnson	CAG AMP Lead	WRT
Nicholas Losseff	North Central Stroke Network Clinical Lead	University College London
Patrick Gompertz	North East Stroke Network Clinical Lead	Tower Hamlets PCT
Diane Ames	North West Stroke Network Clinical Lead	Imperial College
Binnie Grant	North West Stroke Network Clinical Lead	Chelsea and Westminster
Geoffrey Cloud	South West Stroke Network Clinical Lead	St Georges Healthcare

4.1 Stroke Patient/Carer Panel

Stroke Patient/Carer Panel	
Meeting Frequency	Ad hoc
Location	NHS London
Duration	1 hour

Name	Organisation
Sally McVicker	Connect
Zia Rehman	Crossroads
Jeffy Wong	Different Strokes
Moira Richardson	Princess Royal Trust for Carers
Sue Hampton	Stroke Association

- The stroke patient/clinical panel provide input from a service provider perspective, and also enable consultation through formal engagement with their members, which include:
 - People who have experienced stroke
 - Family/carers of people who have experienced stroke
 - Representatives from organisations who provide support and advice to families/carers and people with stroke
 - Organisations who promote prevention, treatment and care of people affected by stroke
- Terms of reference of the Patient Panel:
 - Provides London-wide guidance to the Stroke Project from the perspective of the patient or family/carer
 - Provides advice on the quality and provision of services to help support decision making and possible implementation of the project
 - Provides feedback on project papers and materials
 - Wherever appropriate, disseminates the work of the Stroke Project back to the member's organisation and/or the wider community

23-30. Appendix

Birmingham, Solihull and the Black Country stroke programme terms of reference

- Stroke programme board
 - Independent clinical advisory group
 - Local clinical advisory group
 - Public health advisory group
 - Communication and engagement group
 - Patient advisory group
 - Financial advisory group
 - Modelling advisory group
-

Terms of Reference
Stroke Programme Board

Purpose

The stroke programme board takes an overarching strategic view of the development of stroke services across Birmingham, Solihull and the Black Country to achieve a step change improvement in the quality of stroke services.

Accountability

The stroke programme board is accountable to the Birmingham, Solihull and Black Country CCGs.

Expected outcomes

- ensure that all people living in Birmingham, Solihull and the Black Country who have had a stroke have access to high quality stroke services at all stages in the pathway, including a longer term quality of life
- oversee the project governance and structure to ensure that the overall purpose is achieved and to report progress to the Birmingham, Solihull and Black Country CCGs and the area team
- ensure equitable provision of services and a seamless transition in care across the whole patient journey
- ensure that cross boundary resources and patient flows are built in options for future delivery
- ensure that there is sufficient resource to support the communications and engagement implications of the project
- proactively engage with commissioners
- receive monthly updates from the PMO and to resolve any issues causing delay in the set milestones
- identify and share common risks and ensure mitigation against these
- facilitate dialogue with lead clinicians from network stroke advisory groups at key times during the project
- receive the recommendations of the expert external advisory group
- agree the implementation plan to take forward the recommendations.

Clinical outcomes of the programme:

- reduction in mortality rates
- reduction in average length of stay
- reduction in stroke re-admissions
- achievement of 90% stay on a stroke unit
- achievement of diagnosis and treatment for high risk transient ischemic attack (TIA) within 24 hours
- increase in % of patients receiving thrombolysis
- increase in the number of patients discharged to their normal place of residency.

Core membership

- programme board chair – Sandwell and West Birmingham (SWB) CCG Chair
- SWB CCG – accountable officer
- CCG clinical leads
- a representative from CCG accountable officers/directors of commissioning/CCG finance leads
- area team representative
- public health leads
- West Midlands Cardiovascular Network clinical lead
- West Midlands Cardiovascular Network director or nominated lead
- West Midlands Ambulance Trust lead
- communication and engagement lead
- programme director – SWB CCG
- contracting and procurement adviser (to be confirmed)
- Stroke Association
- national clinical director for stroke NHS England
- local authority/social care
- senior research associate – representative of the NIHR HS&DR national evaluation of stroke service reconfiguration (non-participating observer)
- others as appropriate.

The above list is not exhaustive and others may be invited or co-opted to attend the board as required if applicable.

Invitations may be extended to any appropriate personnel to attend and provide evidence, information or expert advice to the board.

Core/voting members may be asked to nominate a deputy, who has full authority to act on behalf of the core/voting member, to attend the board in their place (if applicable).

Secretary

The stroke programme director, with administrative support, will be responsible for managing the board and for drawing the board's attention to best practice, national guidance and other relevant documents, as appropriate.

The board secretary will be responsible for:

- preparation of the agenda in conjunction with the chair and CCG accountable officer
- minuting the proceedings and resolutions of all meetings of the boards, including recording the names of those present and in attendance. Minutes shall be circulated promptly to all members of the board
- keeping a record of matters arising and issues to be carried forward
- advising the board on pertinent areas.

Sub groups

The following sub groups will formally report to the programme board, and each chair will be a member of the board supported by a dedicated clinical lead:

- modelling sub group
- public health and primary prevention sub group
- financial modelling sub group
- local clinical advisory group
- engagement and communications sub group.

Quorum

- the stroke programme board will be considered quorate if the following are in attendance:
 - Chair/Vice-chair
 - minimum of three clinicians across all seven CCGs
 - public health lead
 - communications and engagement lead
 - West Midlands Cardiovascular Network clinical lead
 - West Midlands Cardiovascular Network director or nominated lead
 - project director.
- if a quorate member of the board should be required to leave prior to the conclusion of the meeting, the chair should confirm whether the meeting is still quorate or not. If the meeting is no longer quorate, it may continue but decisions will have to be ratified at the next meeting
- a duly convened meeting of the board at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions vested in or exercisable by the board
- the board may on occasion take a decision by email provided that:
 - the decision taken is by quorum of the board as laid down in its terms of reference
 - if the decision is one which requires a vote, it shall be at the discretion of the chair to decide whether use of email is appropriate
 - the decision is reported to the next meeting and is minuted
 - the emails reflecting the decision are copied to all members of the board, printed, appended to the minutes and retained on file.

Frequency and notice of meetings

- the board shall meet on a bi-monthly basis on a minimum of six occasions per financial year. Additional formal or informal meetings may be arranged and convened by the chair
- meeting papers will be sent out seven days (five working days) in advance of the meeting

Relationship with the CCG Governing Bodies

The stroke programme board will be directly accountable to the Birmingham, Solihull and Black Country CCG governing bodies.

- CCG representatives shall report formally to their respective CCG governing bodies on the key points arising from its proceedings after each meeting
- the board shall make whatever recommendations it deems appropriate on any area within its remit where action or improvement is needed
- the board minutes shall be formally recorded and submitted to the CCG governing bodies according to the respective Board's reporting cycle.

Policy and best practice

- the board will use best practice and policy guidance to inform the stroke transformation programme and to deliver its business.

Conduct of the board

- if any member has an interest, pecuniary or otherwise, in any matter, and is present at the meeting at which the matter is under discussion, he/she must declare that interest as early as possible and shall not participate in the discussions. The chair will have the power to request the member to withdraw until the matter has been completed
- the chair must invite members to declare any interests at the start of each meeting. This will be a specific agenda item. In addition, members may declare an interest at any time during the meeting
- any declarations will be recorded by the minute-taker
- if the chair declares a conflict of interest, the vice-chair will chair that part of the meeting. If both the chair and vice-chair declare an interest, an appropriate member will chair that part of the meeting
- wherever a conflict of interest may be perceived, the matter must always be resolved in favour of the public interest rather than the individual member
- all members and those attending/participating in meetings will be expected to adhere to the Seven Principles of Public Life.

These terms of reference were agreed by the stroke programme board and approved by the CCG governing bodies they are due for review in March 2014.

APPENDIX 1

THE NOLAN SEVEN PRINCIPLES OF PUBLIC LIFE

SELFLESSNESS

Holders of public office should act solely in terms of the public interest. They should not do so in order to gain financial or other material benefits for themselves, their family, or their friends.

INTEGRITY

Holders of public office should not place themselves under any financial or other obligation to outside individuals or organisations that might seek to influence them in the performance of their official duties.

OBJECTIVITY

In carrying out public business, including making public appointments, awarding contracts, or recommending individuals for rewards and benefits, holders of public office should make choices on merit.

ACCOUNTABILITY

Holders of public office are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.

OPENNESS

Holders of public office should be as open as possible about all the decisions and actions that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.

HONESTY

Holders of public office have a duty to declare any private interests relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interest.

LEADERSHIP

Holders of public office should promote and support these principles by leadership and example.

**Terms of Reference
The Independent Clinical Advisory Sub-Group**

Purpose

The independent clinical advisory sub-group will provide the independent component of the Birmingham, Solihull and Black Country stroke programme's governance arrangements to ensure that options for stroke service configuration are based on the optimum solution for yielding maximum quality outcomes.

The Birmingham, Solihull and Black Country stroke clinical advisory sub-group will be advising the stroke programme board on the clinical aspects of the performance of the stroke units and hyper-acute stroke units through the provision of a quarterly and annual report. It will also make recommendations for action in the event of significantly deficient performance in any of the elements of the system.

Accountability

The independent clinical advisory sub-group is accountable to the Birmingham, Solihull and Black Country stroke programme board:

Expected outcomes:

- to identify the clinical standards and evidence-based arrangements necessary to achieve a step change improvement in clinical outcomes and patient experience. This will reflect the whole stroke pathway. It will include:
 - clearly defining the optimum pathway for stroke care
 - setting the language to be used for the levels of stroke care
 - setting standards for the review
- to establish a process for assessment of the emerging local proposals
- to receive and evaluate information on the performance of the Birmingham, Solihull and Black Country stroke units, hyper acute stroke units, neurovascular (TIA) services, community rehabilitation services and West Midlands Ambulance Service in relation to the service specification, the performance indicators and the expected outcomes
- to assess and determine whether local proposals will deliver the step change improvement in outcomes necessary; and where this does not appear to be achievable, or sustainable, identify alternative means of achieving the necessary improvements in outcome
- to offer formal recommendation of a proposal(s) which will be considered by the programme board, which will make the formal decisions relating to the outcome of the hyperacute stroke configuration
- to escalate severe concerns regarding performance to the appropriate commissioning body with recommendations for further action
- to review and make recommendations regarding critical incidents
- to evaluate the model of care to ensure it delivers the required outcomes

- to set parameters for clinical quality and performance which reflect best practice and world class standards
- to provide the Stroke and Cardiac Board with the clinical expertise necessary for its work.

Core membership

- clinical programme board member
- Royal College of Physicians lead stroke physician
- network clinical lead
- nurse consultant
- stroke academic representation
- ambulance trust representation
- therapy representation
- stroke programme team lead
- service user/carer
- social care.

Conduct of meetings

- quorum: 50% + 1 for agreement of decisions must include the chair
- frequency and length of meetings: as required
- if sending a proxy the secretariat should be informed in advance
- secretariat will send out papers within six days where possible
- if a quorate member of the sub-group should be required to leave prior to the conclusion of the meeting, the chair should confirm whether the meeting is still quorate or not. If the meeting is no longer quorate, it may continue but decisions will have to be ratified at the next meeting
- a duly convened meeting of the sub-group at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions vested in or exercisable by the board
- the sub-group may, on occasion, take a decision by email provided that:
 - the decision taken is by quorum of the sub-group as laid down in its terms of reference
 - if the decision is one which requires a vote, it shall be at the discretion of the chair to decide whether use of email is appropriate
 - the decision is reported to the next meeting and is minuted
 - the emails reflecting the decision are copied to all members of the sub-group, printed, appended to the minutes and retained on file.

Relationship with the stroke programme board

The sub-group will be directly accountable to the Birmingham and Black Country CCG – stroke programme board:

- the sub-group through the chair shall report formally to the stroke programme board on the key points arising from its proceedings after each meeting
- the sub-group shall make whatever recommendations it deems appropriate on any area within its remit where action or improvement is needed
- the sub-group minutes shall be formally recorded and submitted to the Stroke Programme Board according to the board's reporting cycle.

Policy and best practice

- the sub-group will use best practice and policy guidance to inform the stroke transformation programme and to deliver its business.

Conduct of the sub-group

- if any member has an interest, pecuniary or otherwise, in any matter, and is present at the meeting at which the matter is under discussion, he/she must declare that interest as early as possible and shall not participate in the discussions. The chair will have the power to request that member to withdraw until the matter has been completed
- the chair must invite members to declare any interests at the start of each meeting. This will be a specific agenda item. In addition, members may declare an interest at any time during the meeting
- any declarations will be recorded by the minute-taker
- if the chair declares a conflict of interest, the vice-chair will chair that part of the meeting. If both the chair and vice-chair declare an interest, an appropriate member will chair that part of the meeting
- wherever a conflict of interest may be perceived, the matter must always be resolved in favour of the public interest rather than the individual member
- all members and those attending/participating in meetings will be expected to adhere to the Seven Principles of Public Life.

These terms of reference were agreed by the independent clinical advisory sub-group and approved by the stroke programme board they are due for review in March 2014.

Appendix 1

THE NOLAN SEVEN PRINCIPLES OF PUBLIC LIFE

SELFLESSNESS

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INTEGRITY

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OBJECTIVITY

In carrying out public business, including making public appointments, awarding contracts, or recommending individuals for rewards and benefits, holders of public office should make choices on merit.

ACCOUNTABILITY

Holders of public office are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.

OPENNESS

Holders of public office should be as open as possible about all the decisions and actions that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.

HONESTY

Holders of public office have a duty to declare any private interests relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interest.

LEADERSHIP

Holders of public office should promote and support these principles by leadership and example.

Terms of Reference The Local Clinical Advisory Group

Purpose

The local clinical advisory group (LCAG) is established to seek specialist clinical views, and support the Birmingham, Solihull and Black Country stroke programme board in accordance with the programme governance arrangements.

The LCAG has been established as a local health economy-wide group to seek clinical views and consult on local clinical pathways where appropriate, for primary prevention, hyper-acute stroke units (HASUs), early supported discharge, rehabilitation and end-of- life-care to ensure that services developed as part of the stroke programme are developed in accordance with best practice and clinical quality guidelines.

Accountability

The LCAG is accountable to and will report formally to the stroke programme board.

Expected outcomes/activities

- to liaise with a variety of providers to gain a local understanding of the implications of the reconfiguration of HASUs across transition to a community-based model
- to provide commissioners and providers with a recommendation on patient access flows through the stroke pathway and sustainability taking into account population needs for Birmingham, Solihull and the Black Country and any boundary impacts
- to provide baseline activity and access performance for the hyper-acute, acute, TIA and repatriation pathways
- to provide robust activity assumptions for stroke mimics and respective repatriation
- to consider the clinical standards and evidence-based arrangements necessary to achieve a step change improvement in clinical outcomes and patient experience. This will reflect the whole stroke pathway
- to advise on and support the development of service specifications to be incorporated into acute contracts for inpatient rehabilitation, rehabilitation and community rehabilitation services
- to act upon advice/guidance provided by the independent clinical advisory group
- to advise on the process of assessment of local clinical information in relation to the options appraisal
- to provide a recommendation on the optimum configuration for the potential reduction of hyper-acute sites ranging from a maximum of six HASU sites to a minimum of three HASU sites
- to provide an update on current workforce and potential gaps required to meet best practice service specification (acute and rehabilitation) via a dedicated workforce sub- group.

Core membership

- Chair – Clinical lead stroke programme board
- Vice-chair – Secondary care consultant
- clinical representative from providers/CCGs

- Cardiovascular Network leads
- stroke project director or nominated representative
- senior project manager – stroke
- acute trust representatives
- acute trust management leads
- West Midlands Ambulance Service director of operations.

Co-opted members

- CCG leads
- Public Health leads
- Cardiovascular Network leads
- CSU strategy and information leads

Invitations will be extended to any appropriate personnel to attend and provide evidence, information or expert advice to the LCAG.

LCAG members may be asked to nominate a deputy/proxy, who has full authority to act on their behalf to attend meetings in their place if required. If a member does send a deputy/proxy, then they must notify the secretary in advance of the meeting.

The chair of the LCAG will be responsible for managing the group, and for drawing the group's attention to best practice, national guidance and other relevant documents as appropriate.

The senior project manager for stroke will be responsible for preparation of the meeting agenda in conjunction with the chair.

The LCAG secretary will be responsible for:

- minuting the proceedings and resolutions of all meetings of the LCAG, including recording the names of those present and in attendance. Minutes shall be circulated promptly to all members of the steering group
- keeping a record of matters arising and issues to be carried forward
- arranging future meetings.

Conduct of meetings

- the quorum for the LCAG shall be representatives in attendance from a minimum of three trusts
- the LCAG shall meet on a monthly basis. Each meeting shall be for a duration of two hours. Additional formal or informal meetings may be arranged and convened by the chair. The frequency of these meetings may be reviewed following the implementation phase of the group
- meeting papers must be sent out seven days (five working days) in advance of the meeting where possible
- if a quorate member of the sub-group should be required to leave prior to the conclusion of the meeting, the chair should confirm whether the meeting is still quorate or not. If the meeting is no longer quorate, it may continue but decisions will have to be ratified at the next meeting or via email

- a duly convened meeting of the LCAG at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions vested in or exercisable by the stroke programme board
- the LCAG may, on occasion, take a decision by email provided that:
 - the decision taken is by quorum of the sub-group as laid down in its terms of reference
 - if the decision is one which requires a vote, it shall be at the discretion of the chair to decide whether use of email is appropriate
 - the decision is reported to the next meeting and is minuted
 - the emails reflecting the decision are copied to all members of the sub-group, printed, appended to the minutes and retained on file.

Relationship with the stroke programme board

The sub-group will be directly accountable to the Birmingham and Black Country CCG stroke programme board:

- the sub-group through the chair shall report formally to the stroke programme board on the key points arising from its proceedings after each meeting
- the sub-group shall make whatever recommendations it deems appropriate on any area within its remit where action or improvement is needed
- the sub-group minutes shall be formally recorded and submitted to the stroke programme board according to the board's reporting cycle.

Policy and best practice

- the LCAG will use best practice and policy guidance to inform the stroke transformation programme and to deliver its business.

Conduct of the sub-group

- if any member has an interest, pecuniary or otherwise, in any matter, and is present at the meeting at which the matter is under discussion, he/she must declare that interest as early as possible and shall not participate in the discussions. The chair will have the power to request the member to withdraw until the matter has been completed
- the chair must invite members to declare any interests at the start of each meeting. This will be a specific agenda item. In addition, members may declare an interest at any time during the meeting
- any declarations will be recorded by the minute-taker
- if the chair declares a conflict of interest, the vice-chair will chair that part of the meeting. If both the chair and vice-chair declare an interest, an appropriate member will chair that part of the meeting
- wherever a conflict of interest may be perceived, the matter must always be resolved in favour of the public interest rather than the individual member
- all members and those attending/participating in meetings will be expected to adhere to the Seven Principles of Public Life.

These terms of reference have been agreed by the Local Clinical Advisory Group and approved by the stroke programme board.

Appendix 1

THE NOLAN SEVEN PRINCIPLES OF PUBLIC LIFE

SELFLESSNESS

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INTEGRITY

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OBJECTIVITY

In carrying out public business, including making public appointments, awarding contracts, or recommending individuals for rewards and benefits, holders of public office should make choices on merit.

ACCOUNTABILITY

Holders of public office are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.

OPENNESS

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HONESTY

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LEADERSHIP

Holders of public office should promote and support these principles by leadership and example.

**Terms of Reference
Public Health Advisory Group**

Purpose

The public health advisory group takes an overarching strategic view of the public health population landscape needs for the provision of stroke services across Birmingham, Solihull and the Black Country to ensure that options for configuration are based on the optimum solution for yielding maximum equity of access and meet the needs of the population.

Accountability

The public health advisory group is accountable to the Birmingham, Solihull and Black Country stroke programme board.

Expected outcomes and objectives of the public health advisory group:

The advisory group will be formed of representatives of key stakeholder organisations interested in the use of public health intelligence to inform the stroke programme. Based on the perspectives and expertise of stakeholders, the group will undertake the following activities with the aim of advising the stroke programme board on its work programme and making recommendations to the stroke programme chair:

- provide strategic advice and direction for the population needs in relation to stroke services
- identify and agree priorities for comparative public health information and intelligence in relation to the priorities for stroke services
- explore optimum methods of communication to achieve maximum leverage to improve the health of the population
- advice on future population prevalence to shape future activity modelling for acute and community care
- feedback on the impact of recent outputs of stroke prevention strategies
- identify opportunities to work collaboratively both across the health community and with wider economic and social partners
- act as a forum for the exchange of good practice
- contribute towards the development of stroke care primary and secondary prevention pathways
- evaluation of the whole service redesign.

Core membership

- Sandwell local authority deputy director of public health (chair)
- programme board clinical lead
- a public health lead from each local authority (one of whom to be elected as vice-chair)
- project director – Sandwell and West Birmingham CCG.

Co-opted members

- Cardiovascular Network lead
- others as appropriate.

The above list is not exhaustive and others may be invited or co-opted to attend the advisory group as required if applicable.

Invitations may be extended to any appropriate personnel to attend and provide evidence, information or expert advice to the advisory group.

Core/voting members may be asked to nominate a deputy, who has full authority to act on behalf of the core/voting member, to attend the advisory group in their place (if applicable).

Secretary

The stroke programme director, with administrative support, will be responsible for managing the advisory group and for drawing the advisory group's attention to best practice, national guidance and other relevant documents, as appropriate.

The advisory group's secretary will be responsible for:

- preparation of the agenda in conjunction with the chair and the CCG accountable officer
- minuting the proceedings and resolutions of all meetings of the advisory group, including recording the names of those present and in attendance. Minutes shall be circulated promptly to all members of the advisory group
- keeping a record of matters arising and issues to be carried forward
- advising the advisory group on pertinent areas.

Quorum

The public health advisory group will be considered quorate if the following are in attendance:

- Chair/Vice-chair
- minimum of 50% representation from local authority public health leads
- programme director or nominated lead.

If a quorate member of the advisory group should be required to leave prior to the conclusion of the meeting, the chair should confirm that the meeting is still quorate or not. If the meeting is no longer quorate, it may continue but decisions will have to be ratified at the next meeting.

A duly convened meeting of the advisory group at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions vested in or exercisable by the advisory group.

The advisory group may, on occasion, take a decision by email provided that:

- the decision taken is by quorum of the advisory group as laid down in its terms of reference
- if the decision is one which requires a vote, it shall be at the discretion of the chair to decide whether use of email is appropriate
- the decision is reported to the next meeting and is minuted
- the emails reflecting the decision are copied to all members of the advisory group, are printed, appended to the minutes and are retained on file.

Frequency and notice of meeting

- the advisory group shall meet on a three weekly basis until the end of March 2014. Additional formal or informal meetings may be arranged and convened by the chair
- meeting papers will be sent out seven days (five working days) in advance of the meeting.

Relationship with the stroke programme board

The advisory group will be directly accountable to the Birmingham, Solihull and Black Country – stroke programme board.

- the advisory group through the chair shall report formally to the stroke programme board on the key points arising from its proceedings after each meeting
- the advisory group shall make whatever recommendations it deems appropriate on any area within its remit where action or improvement is needed
- the advisory group minutes shall be formally recorded and submitted to the stroke programme board according to the Board's reporting cycle.

Policy and best practice

- the advisory group will use best practice and policy guidance to inform the stroke transformation programme and to deliver its business.

Conduct of the advisory group

- if any member has an interest, pecuniary or otherwise, in any matter, and is present at the meeting at which the matter is under discussion, he/she must declare that interest as early as possible and shall not participate in the discussions. The chair will have the power to request the member to withdraw until the matter has been completed
- the chair must invite members to declare any interests at the start of each meeting. This will be a specific agenda item. In addition, members may declare an interest at any time during the meeting
- any declarations will be recorded by the minute-taker
- if the chair declares a conflict of interest, the vice-chair will chair that part of the meeting. If both the chair and vice-chair declare an interest, an appropriate member will chair that part of the meeting

- wherever a conflict of interest may be perceived, the matter must always be resolved in favour of the public interest rather than the individual member
- all members and those attending/participating in meetings will be expected to adhere to the Seven Principles of Public Life.

These terms of reference have been agreed by the public health advisory group and approved by the stroke programme board.

APPENDIX 1

THE NOLAN SEVEN PRINCIPLES OF PUBLIC LIFE

SELFLESSNESS

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HONESTY

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LEADERSHIP

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Terms of Reference Engagement and Communications Sub-Group

Purpose

The vision for the project is to prioritise stroke as a focus for the CCGs and to adopt a clinically and patient-driven model of care. The overall aim is to ensure a uniformly high treatment standard for stroke patients, irrespective of where in Birmingham, Solihull and the Black Country they are when they have a stroke.

The scale of service and facilities change proposed through the programme will have a significant impact on user and carer experience of stroke services. This will require active efforts to engage and consult with a wide range of stakeholders including patients, their carers, their communities, the general public and the workforce as examples.

The engagement and communications sub-group will ensure appropriate methods are used to involve our stakeholders in the review of stroke services whether through effective information and communication or through robust engagement and consultation activity where appropriate.

The engagement and communications sub-group will achieve this purpose by:

- providing specialist advice and guidance in the field of engagement and communication to the programme director and the Stroke Programme Board
- supporting clinicians to actively participate in the review, using a number of different methods
- developing and robust engagement and communication plans across the seven CCGs
- ensuring the engagement and communication plans are effectively and efficiently implemented within the agreed timescales
- stakeholder expectations are managed as communications are Plain English and give clear timelines and objectives
- identifying patient representatives to sit on the patient advisory group
- identifying a patient representative from the patient advisory group to sit in the programme board
- support the objectives of the programme by developing effective information and communication for our population
- identifying engagement and communications opportunities that can be used to keep the local population and other stakeholders informed and up-to-date
- providing a co-commissioner for all media enquiries, to ensure appropriate and timely responses are given.

Reporting arrangements

The engagement and communications sub-group will report to the stroke programme board through the lead co-ordinating engagement and communication manager for Sandwell and West Birmingham (SWB) CCG.

Membership

The membership of the engagement and communications sub-group comprises of engagement and communications leads from each of the following organisations:

- Birmingham Cross City CCG
- Birmingham South Central CCG
- Dudley CCG
- Sandwell and West Birmingham CCG
- Solihull CCG
- Walsall CCG
- Wolverhampton CCG
- Midlands and Lancashire CSU

Members may nominate other individuals to attend the group on their behalf.

Quoracy

Meetings will be quorate if there is at least 50% of the membership in attendance.

Frequency and format of meetings

The engagement and communications sub-group will normally meet monthly. These terms of reference will be reviewed at regular intervals.

**Terms of Reference
Patient Advisory Group**

Purpose

The patient advisory group will act in an advisory capacity to advise, steer, support and contribute to the work of the engagement and communications sub-group.

Accountability

The patient advisory group is accountable to the stroke programme board (through the engagement and communications sub-group).

Specific Role of the patient advisory group

- to be part of the assurance process for the stroke services review particularly relating to communications and engagement activity
- participate in the development of the evaluation criteria associated with the options appraisals process
- participate in the options appraisal process by applying the agreed criteria to the options for the stroke services review
- participate in the Equality Analysis Process
- to advise on and support plans for communication, engagement and any future consultation should that be a requirement
- to ensure that the views of patients and their representatives are fed into and where possible influence the process.

Patient experience outcomes of the project

Representatives who have experienced a stroke, their family carers and organisations that support them will be/feel that they are informed and involved in the stroke review in a timely and effective manner.

Core membership

- engagement and communications lead – SWB CCG
- up to four patient/carer representatives from each of the seven CCGs
- senior project manager – Stroke Services Review –SWB CCG.

The above list is not exhaustive and others may be invited or co-opted to attend the advisory group as required if applicable.

Invitations may be extended to any appropriate personnel to attend and provide evidence, information or expert advice to the group.

Secretary

The engagement and communication lead for SWB CCG will provide administrative support and will be responsible for managing the patient advisory group and for drawing the group's attention to relevant documents, as appropriate.

They will be responsible for:

- preparation of the agenda in conjunction with the senior project manager
- minuting the proceedings and resolutions of all meetings of the group, including recording the names of those present and in attendance
- minutes shall be circulated promptly to all members of the group
- keeping a record of matters arising and issues to be carried forward
- advising the group on pertinent areas.

Quorum

The patient advisory group will be considered quorate if the following are present:

- engagement and communication lead - SWB CCG
- minimum of 50% of patient representatives from across different CCGs
- senior project manager – SWB CCG.

Frequency and notice of meetings

The patient advisory group shall meet on a bi-monthly basis on a minimum of six occasions per financial year. Additional formal or informal meetings may be arranged and convened with agreement by the engagement and communication lead.

Meeting papers will be sent out seven days (five working days) in advance of the meeting.

All members and those attending/participating in meetings will be expected to adhere to the Seven Principles of Public Life.

These terms of reference were agreed by the patient advisory group and approved by the stroke programme board they are due for review in March 2014.

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OBJECTIVITY

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ACCOUNTABILITY

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OPENNESS

Holders of public office should be as open as possible about all the decisions and actions that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.

Holders of public office have a duty to declare any private interests relating to their public duties.

HONESTY and to take steps to resolve any conflicts arising in a way that protects the public interest.

LEADERSHIP

Holders of public office should promote and support these principles by leadership and example.

Terms of Reference

Financial Modelling Sub-Group

Purpose

The financial modelling sub-group takes an overarching strategic view of the financial landscape for the provision of stroke services across Birmingham, Solihull and the Black Country to ensure that options for configuration are based on the optimum solution for yielding maximum cost benefit outcomes.

Accountability

The financial modelling sub-group is accountable to the Birmingham, Solihull and Black Country stroke programme board:

Expected outcomes

- to provide commissioners and providers with a recommendation on financial flows through the stroke pathway and sustainability
- to identify the current financial envelope available within Birmingham, Solihull and the Black Country West Midlands Ambulance Service (WMAS) geographical boundaries
- to make a firm financial recommendation on the day three repatriation tariff, day seven and day ten potential financial tariff split points
- to work with providers to establish the cost of delivering the proposed model of delivery against the specification
- to identify the options for configuration from a value for money point of view
- to make a recommendation to the programme board regarding optimal configuration to contain costs within the financial envelope available
- to consider financial penalties for delayed repatriation of patients as per the major trauma work
- to provide a benchmark for costing early supported discharge (ESD) teams as sustainability of the tariff work is directly linked to value for money being demonstrated by effective ESD teams.

Core membership

- Chair – Sandwell and West Birmingham (SWB) CCG director of finance
- stroke programme board CCG clinical leads
- financial representatives from provider organisations
- CCG accountable officers/directors of commissioning /CCG finance leads
- WMAS lead
- West Midlands Cardiovascular Network director or nominated lead
- project director – SWB CCG
- others as appropriate.

The above list is not exhaustive and others may be invited or co-opted to attend the sub-group as required if applicable.

Invitations may be extended to any appropriate personnel to attend and provide evidence, information or expert advice to the sub-group.

Core/voting members may be asked to nominate a deputy, who has full authority to act on behalf of the core/voting member, to attend the sub-group in their place (if applicable.)

Secretary

The stroke programme director, with administrative support, will be responsible for managing the sub-group and for drawing the sub-group's attention to best practice, national guidance and other relevant documents, as appropriate.

The sub-group secretary will be responsible for:

- preparation of the agenda in conjunction with the chair
- minuting the proceedings and resolutions of all meetings of the sub-group including recording the names of those present and in attendance. Minutes shall be circulated promptly to all members of the sub-group
- keeping a record of matters arising and issues to be carried forward
- advising the sub-group on pertinent areas.

Quorum

- the finance modelling sub-group will be considered quorate if the following are in attendance:
 - Chair/vice-chair
 - minimum of four financial representatives from provider organisations
 - minimum of four CCG representatives
 - West Midlands Cardiovascular Network director or nominated lead
 - WMAS lead
 - programme director
- if a quorate member of the sub-group should be required to leave prior to the conclusion of the meeting, the chair should confirm whether the meeting is still quorate or not. If the meeting is no longer quorate, it may continue but decisions will have to be ratified at the next meeting
- a duly convened meeting of the sub-group at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions vested in or exercisable by the sub-group
- the sub-group may on occasion take a decision by email provided that:
 - the decision taken is by quorum of the sub-group as laid down in its terms of reference
 - if the decision is one which requires a vote, it shall be at the discretion of the chair to decide whether use of email is appropriate
 - the decision is reported to the next meeting and is minuted
 - the emails reflecting the decision are copied to all members of the sub-group, printed, appended to the minutes and retained on file.

Frequency and notice of meetings

- the sub-group shall meet on a monthly basis on a minimum of 12 occasions per financial year. Additional formal or informal meetings may be arranged and convened by the chair
- meeting papers will be sent out seven days (five working days) in advance of the meeting.

Relationship with the Stroke Programme Board

The sub-group will be directly accountable to the Birmingham and Black Country CCG – stroke programme board

- the sub-group through the chair shall report formally to the stroke programme board on the key points arising from its proceedings after each meeting
- the sub-group shall make whatever recommendations it deems appropriate on any area within its remit where action or improvement is needed
- the sub-group minutes shall be formally recorded and submitted to the stroke programme board according to the board's reporting cycle.

Policy and best practice

- the sub-group will use best practice and policy guidance to inform the stroke transformation programme and to deliver its business.

Conduct of the sub-group

- if any member has an interest, pecuniary or otherwise, in any matter, and is present at the meeting at which the matter is under discussion, he/she must declare that interest as early as possible and shall not participate in the discussions. The chair will have the power to request the member to withdraw until the matter has been completed
- the chair must invite members to declare any interests at the start of each meeting. This will be a specific agenda item. In addition, members may declare an interest at any time during the meeting
- any declarations will be recorded by the minute-taker
- if the chair declares a conflict of interest, the vice-chair will chair that part of the meeting. If both the chair and vice-chair declare an interest, an appropriate member will chair that part of the meeting
- wherever a conflict of interest may be perceived, the matter must always be resolved in favour of the public interest rather than the individual member
- all members and those attending/participating in meetings will be expected to adhere to the Seven Principles of Public Life.

These terms of reference have been agreed by the finance modelling sub-group and approved by the stroke programme board.

APPENDIX 1

THE NOLAN SEVEN PRINCIPLES OF PUBLIC LIFE

SELFLESSNESS

Holders of public office should act solely in terms of the public interest. They should not do so in order to gain financial or other material benefits for themselves, their family, or their friends.

INTEGRITY

Holders of public office should not place themselves under any financial or other obligation to outside individuals or organisations that might seek to influence them in the performance of their official duties.

OBJECTIVITY

In carrying out public business, including making public appointments, awarding contracts, or recommending individuals for rewards and benefits, holders of public office should make choices on merit.

ACCOUNTABILITY

Holders of public office are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.

OPENNESS

Holders of public office should be as open as possible about all the decisions and actions that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.

HONESTY

Holders of public office have a duty to declare any private interests relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interest.

LEADERSHIP

Holders of public office should promote and support these principles by leadership and example.

Terms of Reference

Modelling Sub-Group

Purpose

To ensure the Birmingham, Solihull and Black Country stroke programme has a robust modelling framework to assure commissioners and providers alike of the sustainability of the proposals, taking into account access to hyper-acute, acute, transient ischemic attack (TIA) and repatriation pathways.

Accountability:

The sub-group will be accountable to the stroke programme board.

Expected outcomes:

- to build on the previous work that has been done on stroke modelling by the Midlands and East stroke review
- to provide commissioners and providers with a recommendation on patient access flows through the stroke pathway and sustainability taking into account population needs for Birmingham, Solihull and the Black Country and any boundary impacts
- to provide baseline activity and access performance for the hyper acute, acute, TIA and repatriation pathways
- to provide robust activity assumptions for stroke mimics and respective repatriation
- to provide information on the potential impact and implication to West Midlands Ambulance Service (WMAS) activity
- to provide information on the potential impact of repatriation to local acute units for the different modelling scenarios
- to provide an update on current workforce and potential gaps required to meet best practice service specifications
- to provide a recommendation on the optimum configuration for the reduction of hyper-acute sites ranging from a maximum of six hyper acute (HASU) sites to a minimum of three HASU sites.

Membership:

- WMAS lead (Chair/vice-chair)
- Clinical lead (stroke programme board member)
- Sandwell and West Birmingham (SWB) CCG finance leads
- WMAS director of operations
- CSU strategy/information leads
- Public Health lead
- Cardiovascular network leads
- CCG leads
- stroke programme lead.

Co-opted members:

- acute trust representative
- communication and engagement leads.

The above list is not exhaustive and others may be invited or co-opted to attend the sub group as required if applicable.

Invitations may be extended to any appropriate personnel to attend and provide evidence, information or expert advice to the sub-group.

Core/voting members may be asked to nominate a deputy, who has full authority to act on behalf of the core/voting member, to attend the committee in their place (if applicable).

Secretary:

The stroke programme director, with administrative support, will be responsible for managing the sub-group and for drawing the sub-group's attention to best practice, national guidance and other relevant documents, as appropriate.

The sub-group's secretary will be responsible for:

- preparation of the agenda in conjunction with the chair and CCG accountable officer
- minuting the proceedings and resolutions of all meetings of the sub group, including recording the names of those present and in attendance. Minutes shall be circulated promptly to all members of the sub group
- keeping a record of matters arising and issues to be carried forward
- advising the sub-group on pertinent areas.

Quorum:

The finance modelling sub-group will be considered quorate if the following are in attendance:

- Chair/vice-chair
- clinical lead
- SWB finance lead
- programme director or nominated lead
- CCG representative.

If a quorate member of the sub-group should be required to leave prior to the conclusion of the meeting, the chair should confirm whether the meeting is still quorate or not. If the meeting is no longer quorate, it may continue but decisions will have to be ratified at the next meeting.

A duly convened meeting of the sub-group at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions vested in or exercisable by the sub-group.

The sub-group may on occasion take a decision by email provided that:

- the decision taken is by quorum of the sub-group as laid down in its terms of reference
- if the decision is one which requires a vote, it shall be at the discretion of the chair to decide whether use of email is appropriate
- the decision is reported to the next meeting and is minuted
- the emails reflecting the decision are copied to all members of the group, printed, appended to the minutes and retained on file.

Frequency and notice of meetings

- the sub group shall meet on a monthly basis on a minimum of nine occasions per financial year. Additional formal or informal meetings may be arranged and convened by the chair
- meeting papers will be sent out seven days (five working days) in advance of the meeting.

Relationship with the stroke programme board

The sub-group will be directly accountable to the Birmingham, Solihull and Black Country CCG stroke programme board:

- the sub-group through the chair shall report formally to the stroke programme board on the key points arising from its proceedings after each meeting
- the sub-group shall make whatever recommendations it deems appropriate on any area within its remit where action or improvement is needed
- the sub-group minutes shall be formally recorded and submitted to the stroke programme board according to the board's reporting cycle.

Policy and best practice

- the sub-group will use best practice and policy guidance to inform the stroke transformation programme and to deliver its business.

Conduct of the sub-group

- if any member has an interest, pecuniary or otherwise, in any matter, and is present at the meeting at which the matter is under discussion, he/she must declare that interest as early as possible and shall not participate in the discussions. The chair will have the power to request that member to withdraw until the matter has been completed
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31. Appendix

Birmingham, Solihull and the Black Country confidentiality agreement

[ON HEADED PAPER OF RECIPIENT OF CONFIDENTIAL INFORMATION]

TO: Sandwell and West Birmingham CCG

Kingston House,
438-450 High Street,
West Bromwich,
B70 9LD

[DATE]

Dear Sirs,

Confirmation of non-disclosure of confidential information relating to the BIRMINGHAM, SOLIHULL AND BLACK COUNTRY STROKE PROGRAMME (the “Programme”)

1 Disclosure

1.1 We acknowledge that as a participant in the Programme we will be given access to confidential information relating to Clinical Commissioning Groups and Providers of stroke services (including their operations and business affairs) across the Birmingham, Solihull and Black Country geographical area.

1.2 For the purposes of this agreement, “**Protected Material**” means:

1.2.1 the information referred to in paragraph 1.1 above;

1.2.2 other information (whether or not contained in documents) relating to any of the CCGs and/or Providers of stroke services referred to in paragraph 1.1 above;

1.2.3 the fact that such information has been provided; and

1.2.4 information on certain business relationships relating to stroke services.

1.3 In consideration of the disclosure to us of the Protected Material for the purposes of participating in the Programme (“**Purpose**”), we will keep the Protected Material confidential. Accordingly, for a period of two years following completion of the Programme we shall not, without your prior written consent, either:

1.3.1 communicate or otherwise make available any Protected Material to any third party except in accordance with paragraphs 1.4 or 2; or

- 1.3.2 use the Protected Material for anything other than the Purpose.
- 1.4 We may disclose the Protected Material to the minimum extent required by:
 - 1.4.1 any order of any court of competent jurisdiction or any competent judicial, governmental or regulatory body; or
 - 1.4.2 the rules of any listing authority or stock exchange on which our shares are listed or traded; or
 - 1.4.3 the laws or regulations of any country with jurisdiction over our affairs (provided, in the case of a disclosure under the Freedom of Information Act 2000, none of the exemptions to that Act applies to the Protected Material disclosed).
- 1.5 We may disclose the Protected Material to those of our employees who need to receive the Protected Material for the purposes of the Programme.

2 Limitations on obligations

- 2.1 The obligations set out in paragraph 1 shall not apply, or shall cease to apply, to such of the Protected Material as we can show to your reasonable satisfaction:
 - 2.1.1 has become public knowledge other than through disclosure by us in breach of this agreement; or
 - 2.1.2 was already known to us prior to disclosure for the purposes of the Programme; or
 - 2.1.3 has been received by us from a third party who did not to our knowledge acquire it in confidence from you and was not otherwise prohibited from disclosing the information to us.

3 Return of the protected material

- 3.1 We shall, upon request, return to you all documents and other records of the Protected Material or any of it in any form and whether or not such document or other record was itself provided by you.

4 Other parties

- 4.1 We acknowledge and agree that this agreement is made with you in your capacity as lead commissioner in relation to the Programme but that all of the parties referred to in paragraph 1.1 above may be adversely affected by any breach of this agreement. Accordingly, we acknowledge and agree that each of those parties may enforce the terms of this agreement as if they were a party to it.

5 Governing law and jurisdiction

- 5.1 This letter and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the law of England and Wales.
- 5.2 Each party irrevocably agrees that the courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim arising out of or in connection with this letter or its subject matter or formation.

Yours faithfully,

.....
[NAME OF RECIPIENT]

We hereby acknowledge receipt and accept the contents of this letter:

Signed
[NAME OF AUTHORISED SIGNATORY]

For and on behalf of Sandwell and West Birmingham CCG

Date

32. Appendix

Birmingham, Solihull and the Black Country declaration of interests

Birmingham, Solihull and Black Country Stroke Programme

Declaration and Register of Members Interests Year 2013

Member and employee declaration form: financial and other interests

Notes:

- Within 28 days of a relevant event, members and employees need to register their financial and other interests
- If any assistance is required in order to complete this for, then the member or employee should contact the Programme Support Officer
- The completed form should be sent by both e mail and signed hard copy to the Programme Support Officer
- Any changes to interests declared must also be registered within 28 days of the relevant event by completing and submitting a new declaration form.
- Members and employees completing this declaration form must provide sufficient detail of interest so that a member of the public would be able to understand clearly the sort of financial or other interest the member or employee has and the circumstances in which a conflict of interest with the business or running the programme might arise.
- If in doubt as to whether a conflict of interest could arise, a declaration of the interest should be made.
-

Interests that must be declared:

- Roles and responsibilities held within member practice.
- Directorships, including non-executive directorships, held in private companies or PLCs.
- Ownership or part ownership of private companies, businesses or consultancies likely or possibly seeking to do business with the CCG.
- Shareholdings (more than 5%) of companies in the field of health and social care.
- Positions of authority in an organisation (e.g. charity or voluntary organisation) in the field of health and social care.
- Any connection with a voluntary or other organisation contracting for NHS services
- Research funding/grants that may be received by the individual or any organisation they have an interest or role in.
- Any other role or relationship which the public could perceive would impair or otherwise influence the individual's judgement or actions in their role within the CCG.
- Whether such interest are those of the individual themselves or of a family member, close friend or other acquaintance of the individual.
- Other specific interests

Declaration:

Name in full:		
Position within CCG		
Interests		
Type of Interest	Details	Personal interest or that of a close family member, close friend or other acquaintance
Roles and Responsibilities held within member practice		
Directorships, including non-executive directorships held in private companies or PLCs		
Ownership or part ownership of private companies, businesses or consultancies likely or possibly seeking to do business with the CCG		
Shareholdings (more than 5%) of companies in the field of health and social care		
Positions of authority in an organisation (e.g. charity or voluntary organisation) in the field of health and social care		
Any connection with a voluntary or other organisation contracting for NHS services		
Research funding/grants that may be received by the individual or any organisation they have an interest or role in		
Any other role or relationship which the public could perceive would impair or otherwise influence the individual's judgement or actions in their role within the CCG		
Other specific interest		

To the best of my knowledge and belief, the above information is complete and correct. I undertake to update as necessary the information provided and to review the accuracy of the information provided regularly and no longer than annually. I give consent for the information to be used for the purpose described in the (CCG's Constitution) and published accordingly.

Signed:

Date:

33. Appendix

Birmingham, Solihull and the Black Country stroke programme brief

Stroke Services Reconfiguration Programme Brief
Birmingham, Solihull and Black Country
June 2014

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- 2. Context**
- 3. Programme Scope:**
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1. Purpose

To provide an overview of the Birmingham, Solihull and Black Country Stroke reconfiguration Programme. The programme aims to draw together work undertaken to date by the Midlands and East Stroke Review and seeks to understand if there is a need to reconfigure local stroke services to deliver better patient outcomes.

2. Context

In 2010, the West Midlands Regional Quality Review Service led a review process in co-ordination with the West Midlands Cardiac and Stroke Networks. The purpose of the review was to assess compliance with the WMQRS (West Midlands Quality Review Service) quality standards for acute stroke and Transient Ischaemic Attacks (TIA) and to train future reviewers. The review team included a Stroke Consultant, Stroke Nurse, an Allied Health Professional and members of WMQRS and the Stroke Network. The process consisted of site visits and discussions with a multidisciplinary team. The outputs of the assessment process were used to inform the quality of care that was being delivered by each provider and to assess the capability of providers to deliver 24/7 thrombolysis and other stroke services.

The review process showed that there was significant variation in the quality of care that is provided across the region. The West Midlands Strategic Health Authority was still concerned about the model / configuration for stroke services in the region. In January 2012 the NHS across the Midlands and East approved a clinically led comprehensive review of stroke across the region, to identify options that would improve outcomes by improving mortality, reduce chances of long term disability and improve patient experience.

The Midlands and East Stroke Review for the Birmingham, Solihull and Black Country area concluded that there are six hospital trusts, which deliver nine Hyper Acute Stroke Units (HASU). Hyper Acute Stroke Units provide specialist stroke care in the first 72 hours after the stroke. The regional review recognised that strong collaborative work and clear governance arrangements were required to take this work forward at a local level during 2013/14 and considered a range of options from three to six HASU sites, all of which required local appraisal. Since this time a public consultation took place in Sandwell and West Birmingham to configure stroke services at Sandwell General Hospital, resulting in 8 HASU sites across the area. There are further plans to move to six sites with a public consultation taking place at Heart of England Foundation Trust, considering the options of moving HASU services from both the Solihull and Good Hope site to the Heartland location.

There is evidence to suggest that changing the specification of the stroke care pathway in Birmingham, Solihull and the Black Country could lead to improved outcomes for patients. An important part of this pathway relates to the hyper-acute stroke units. This review will look at whether six hyper-acute sites is appropriate for the area and if they can deliver the necessary improvements to patient care. Analysis of travel times suggests that it may be feasible to move to between three and six sites, with patients able to be conveyed to hospital within the recommended 30 minutes. However Clinical Commissioning Groups (CCGs) are clear that other factors such as quality of care, workforce and patient experience also need to be considered. This review will consider these factors to determine the recommended number

of HASU sites for the area. No decision has been made, and the review may determine that six sites are the most appropriate configuration for stroke services.

The evidence suggests that there is a minimum specification that all hyper-acute stroke units should achieve if they are to provide optimal care to patients. This centres on the timeliness of response and requires 24/7 consultants on call, as well as access to rapid scanning and thrombolysis services. This specification recommends that HASUs see a minimum of 600 confirmed stroke patients per year to improve clinical quality, by enabling clinicians to treat enough patients to maintain their skills. National and regional evidence also indicates that if patients have access to larger units they have a reduced risk of morbidity, reduced chance of long term disability and quicker access to thrombolysis services.

Sandwell and West Birmingham Clinical Commissioning Group (SWB CCG) is leading the Birmingham and Black Country Stroke Reconfiguration Programme. SWB CCG will have overall responsibility for the delivery of the programme and will host the Stroke CCG Programme Board to provide the strategic steer for the programme. The decision on the future placement of hyper-acute and acute stroke centres will sit with the respective CCG Governing Bodies; the role of the programme board will be to advise and recommend the preferred model for hyper-acute stroke units.

The focus of the review is to assess if there is a need to reconfigure hyper-acute stroke units to deliver improved clinical outcomes for patients. Our aim is for all stroke patients to receive high quality specialist consultant support 24/7. Working with clinicians, providers, patients and stakeholders we hope to agree a recommended model (number of HASUs) across the area. This work will need to consider clinical evidence, impact on neighbouring areas and current services.

3. Programme Scope

3.1 Provider & CCG Landscape

The intended reconfiguration of services is in relation to the following provider Trusts;

Birmingham Community Healthcare NHS Trust
Heart of England NHS Foundation Trust
Royal Wolverhampton Hospitals NHS Trust
Sandwell and West Birmingham NHS Trust
The Dudley Group NHS Foundation Trust
University Hospitals Birmingham NHS Trust
Walsall Healthcare NHS Trust
West Midlands Ambulance Trust

These are respectively commissioned by;

Birmingham Cross City Clinical Commissioning Group
Birmingham South Central Clinical Commissioning Group
Dudley Clinical Commissioning Group
Sandwell and West Birmingham Clinical Commissioning Group

Solihull Clinical Commissioning Group
Walsall Clinical Commissioning Group
Wolverhampton Clinical Commissioning Group

The population for the programme will require a solution that takes in Birmingham, Solihull and the Black Country. Therefore the work will focus on the:-

- population registered with GPs within the boundaries of the seven CCGs of Birmingham and Black Country (BBC)
- people who live within the seven CCGs boundaries, but who are not registered with a GP
- people who access emergency health care services within Birmingham, Solihull and the Black Country either on an ad hoc basis, or based upon the traditional referral flow (catchments of acute organisations).

3.2 Clinical scope

The Midlands and East Service Specification divides the pathway into eight phases and specifies the standards to be achieved in each (Appendix 1). These are:-

- primary prevention
- pre-hospital
- acute phase
 - Hyper-acute stroke unit (HASU) services
 - Acute stroke (ASU) services
 - Transient Ischaemic Attack (TIA) services
 - tertiary care (i.e vascular and neurology care)
- in-hospital rehabilitation
- community rehabilitation
- long term care and support
- secondary prevention
- end of life.

3.3 Outside scope:

Tertiary care (neuro-surgical referral) and strokes occurring in children are both outside the direct scope of the programme.

3.4 Interdependencies:

To understand the above services, a wider number of interdependences will require consideration, these include:

- accident and emergency services
- intensive and critical care
- general medicine
- geriatric medicine
- radiology

- neurology services
- vascular surgery
- voluntary sector
- lifestyle interventions
- geographical boundaries.

4. Programme Vision and Outcomes:

4.1 Vision

The vision for stroke services is to prioritise stroke as a focus condition for the adoption of a clinically-driven and clinically-owned model of care. The overall aim is to ensure a uniformly high treatment standard for stroke patients, irrespective of where in the Birmingham, Solihull and Black Country they suffered their stroke.

4.2 Outcomes

- reduction in stroke mortality rates
- reduction in average length of stay
- reduction in stroke re-admissions
- achievement of 90% stay on stroke ward
- increase in the percentage of patients receiving thrombolysis
- achievement of diagnosis and treatment for high risk TIA within 24hrs
- increase in the number of patients discharged to their normal place of residency.

4.3 Co-ordinating Commissioner Role

SWB CCG in conjunction with the Cardiovascular Network Team, will ensure that specifications for the service reflect the agreed guidelines and protocols developed through the Birmingham, Solihull and Black Country area. SWB CCG will ensure performance management arrangements for the programme are robust; clinical and financial risks are assessed and managed; and that robust and transparent arrangements are in place for the consideration of service developments against agreed priorities. It is important to recognise that the local performance management of services will continue to sit with each individual CCG.

SWB CCG will develop a shared central team to work on behalf of all the CCGs as the accountable bodies, working through the Programme Board, using the under spend identified in Cardiovascular Network resources (2012/13) to support and coordinate the programme for a time limited period (April 2013 up to March 2015).

5. Approach and Next Steps

It is recognised that each of the phases with the services specification will have a number of specific standards to be delivered and so will need to be treated as a specific project, with clear timescales and distinct actions and responsibilities. However it is intended these will all form part of an overall interlinked programme of work, with oversight by the Birmingham, Solihull and Black Country CCG

Stroke Project Board, which will ensure overall connectivity and that an integrated pathway of care is in place.

The programme will be designed into the following project specific strands as follows:

5.1 Hyper-acute Project:

This strand will support an options appraisal for future hyper-acute and acute phase sector configuration. It is recognised that this will be complex and will therefore require the most capacity and focus. This phase includes:-

- pre-hospital phase
- hyper-acute stroke services
- acute stroke services
- TIA services.

As above, it is also recognised that the programme will require a solution that takes in both Birmingham and the Black Country and also acknowledges other neighbouring economies. In addition managing the interface between the acute phase and the rehabilitation phase, and the rehabilitation and long term care phases may also provide challenges.

5.2 Non Hyper-acute Projects:

Working with lead CCG representatives and with the respective provider organisation the review seeks to understand current stroke service provision against the standards and criteria set out in the best practice service specification. The role of the programme team will be to support the gap analysis and recommendation to achieve best practice for the prevention, acute, rehabilitation, community and end of life phases of the pathway.

- inpatient and community rehabilitation project:
- long term care project
- end of life project
- prevention framework project.

CCGs should ensure that they can support the evaluation and gap analysis of the above stroke pathway phases and to receive the recommendation from the individual projects. Respective funding for local service change will need to be agreed with each individual CCG and respective provider.

5.3 Programme Deliverables:

The Programme will support the development of the following deliverables in order to successfully complete the programme:

- providing submissions to the Area Team at given points on progress and also to confirm the intentions on future delivery.
- a decision making framework agreed across all CCGs to support a robust decision making process
- mapping of current service delivery and gaps for all phases

- the construction of a Project Initiation Document/phased implementation plans for each section of the pathway including a risk management framework
- an Options Appraisal for future acute sector configuration
- cost benefit analysis to support recommendation of optimum configuration
- a Communication and Engagement Plan with expected schedules identified for both internal and external engagement and communication of project progress to key stakeholders including Overview and Scrutiny Committees and the public
- a Resource Plan including an appraisal of current and likely future service costs, and a recommended locally agreed reimbursement system, that contains:-
 - details of all current payments to trusts for stroke services (in scope)
 - details of current service costs (incl fixed and staff costs)
 - recommendations for a revised reimbursement system, based on an unbundled Payment by result tariff to support the financial sustainability of the proposed HASU options
- a completed Health Needs Assessment and Equality Impact Assessment
- relevant consultation process undertaken within relevant legislative guidance and defined outcomes achieved
- commissioning intentions for subsequent year(s)
- agreement of KPIs and monitoring framework for each CCG
- plan of action for all issues raised during the review
- review closure and handover.

6. Procurement Strategy:

In determining the optimum procurement route, consideration needs to be given to the requirements of The Procurement, Patient Choice and Competition (no 2) Regulations and the subsequent Monitor together with the EU Public Procurement Directives. Although the former does provide for service reconfigurations to be undertaken without a formal procurement process taking place the Regulations highlight the need for commissioners to act transparently and to ensure “that potential providers have a reasonable opportunity to express their interest in providing the services in question”.

The clinical requirements of the hyper-acute stroke service are that:

- it must be provided in an acute setting which has intensive care facilities and specialist stroke clinicians; and
- there are time limits for patients to be transferred to the provider by the Ambulance Trust.

If the CCGs decide that it is essential that these two conditions are met for these services, “all potential provider” will mean only NHS Acute Trusts which can be reached within the required time limits.

If the Programme Board reaches a decision endorsed by the seven CCGs, AT and OSC that six HASU centres are retained, this can be dealt with by way of variation of their existing specifications as part of the usual annual contracting round. There is no need for any competitive process because it falls within the usual process for dealing with services which can only be provided by local Acute NHS Trusts. As

there would not be decision to choose between those Trusts but continuing to work with all of them, there would be no change from current commissioning practice.

The Programme Board will consider the proposed procurement process and the issues relating to it as set out above, and ensure that, an appropriate “case” is prepared for the preferred route.

7. Stakeholder Engagement

To support the achievement of the programme it is necessary to clarify the components of the system and assign appropriate roles according to the tasks to be undertaken to oversee and provide assurance. The table below highlights the key stakeholder groups which we can identify as immediately critical to the project:

7.1 Key Stakeholders

Role	Body/Group
Lead	CCG Chairs and Accountable Officer Stroke Programme Board
Assure	CCGs Acute Stroke Providers Community Stroke providers WMAS Social Care providers CCG Governing Bodies
Deliver	All Stroke Providers
Oversee	Cardiovascular Network Area Team CCG Lead Commissioner Clinical Reference Groups
Check/Challenge	Directors of Commissioning Directors of Finance Directors of Public Health Provider Director of operations Clinical Reference Group
Support/Enable	Cardiovascular Network Leads Voluntary Sector
Consult/Engage	Health and Well-Being Boards Overview and Scrutiny HealthWatch The Public Providers

7.2 Stakeholder Engagement

Key Stakeholders	Engagement	Role	Communications
CCGs	Stroke Programme Board CCG Governing Bodies CCG local stroke meetings	Actively shape the development of the local system proposal according to local commissioning intentions and health economics. As commissioners, take the lead in the preparation of and consultation on reconfiguration proposals. Accountable for the final decision on optimum HASU configuration	CCC Chairs Accountable Officers Directors of Commissioning Chief Financial Officer Clinical Leads CCG members
Providers	Provider Events 1:1 meetings Stroke Programme Sub-groups Ad-hoc communication	Work with commissioners to develop case for change, pre-consultation business case and consultation documentation and to take forward implementation. In collaboration with other providers as part of a local system, develop proposals and plans for how services will meet the standards set out in the regional best practice stroke service specification. Responsible for service change and improving quality of stroke services	CEOs Director of Operations Finance Directors Consultant Clinical lead Divisional Manager Stroke Coordinator Nursing and therapy leads
Cardiovascular Network	Stroke Programme Board Stroke Programme Sub-groups Ad-hoc communication	Provide oversight of the service from a West Midlands perspective and expert challenge the achievement of key milestones. The Network to provide advice to the system in support of the strategic development of stroke services in line with recommendations contained within the National Stroke Strategy, Royal College Physicians and National Institute for Health and Care Excellence guidance.	Clinical leads Management leads

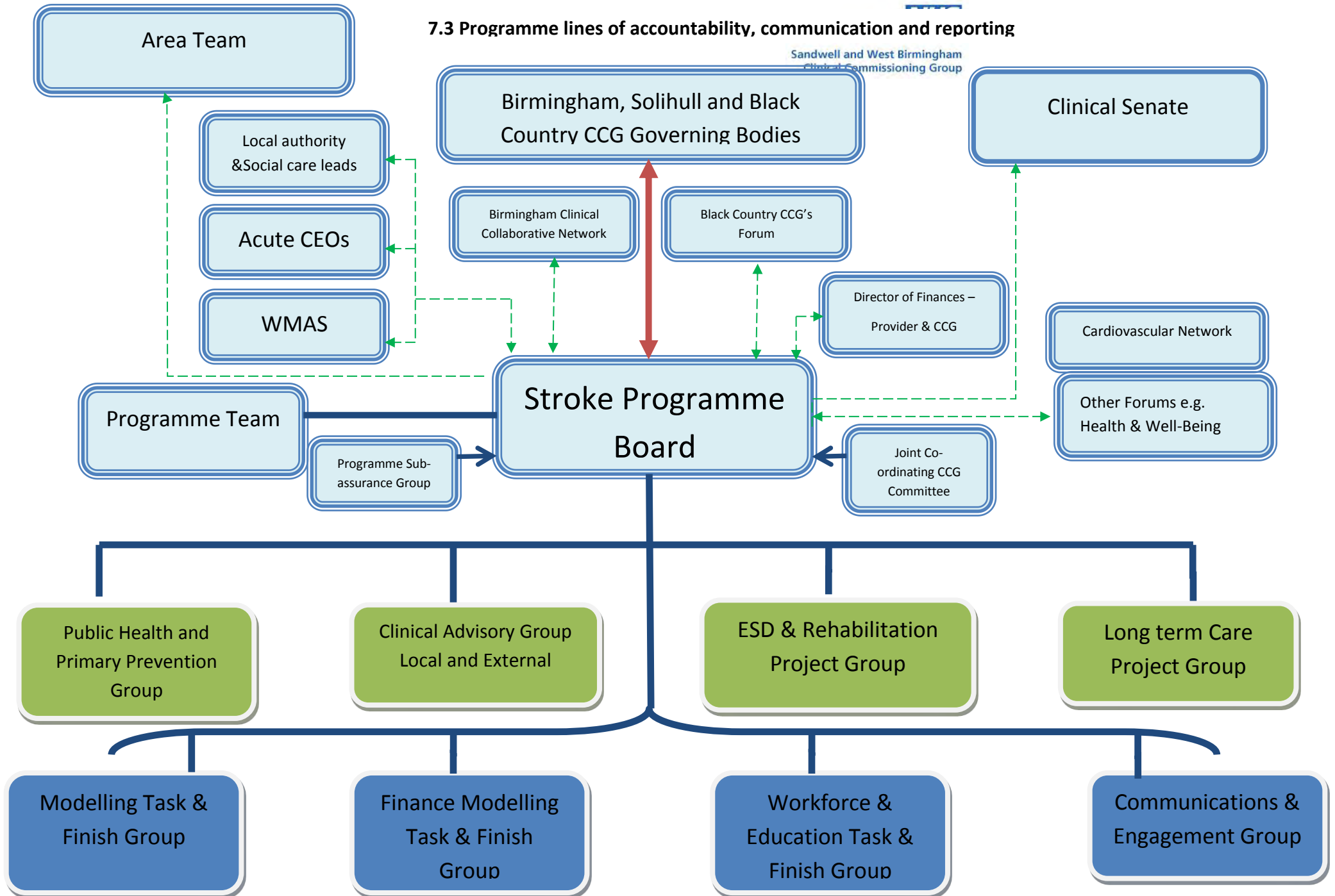
Stroke Programme Board	Board meetings Ad-hoc communication	Provides overall direction and management of the project Takes major decisions for the project and make recommendations for approval for CCGs Accountable to the CCGs for the success of the programme Identifies and manages risks to project delivery and escalates issues to the Programme Board Co-ordinate and develop local system proposals on the future service provision in order to achieve the stroke service specification. Ensure cross boundary issues are explored and resolution sought with neighbouring areas/ stroke networks. Engage and seek support from local stakeholders in relation to these proposals via both pre-consultation and formal consultation. Make a clear recommendation to the CCGs and Area Team on the future system change to be implemented.	Refer to SPB TORs
Clinical Senate	West Midlands Clinical Senate meeting	This forum will provide advice on the clinical configuration for hyper and acute reconfiguration and the respective services specification for quality improvement and sustainability.	Clinical senate members
Independent Clinical Advisory Group	Sub-group developed using the framework of the EEAG TORs	This group will provide clinical input to the programme from a wide range of clinical areas involved in stroke and will approve the clinical aspects of the projects deliverables and act as a clinical advocate for the project. Provides clinical input to the programme from the wide range of clinical areas involved in stroke Approves the clinical aspects of the programmes deliverables Feeds in views and insights between the project and the programme board Acts as clinical advocates for the programme Provide endorsement to deliverables produced by the programme	Refer to TORs

		Each member of the Clinical Expert Panel is responsible for representing the opinions and needs of their specialist clinical area to ensure that the programme/projects achieve the best clinical outcome for patients.	
Local Clinical Advisory Group	Local Sub-group developed	Provide specialist clinical views Provide advice to inform the programme/ project outcomes, criteria and provider submission template. Provide clinical views and consultation forum on local clinical pathways where appropriate, for Primary Prevention, Hyper Acute Stroke Units, Early Supported Discharge, Rehabilitation and End of Life Care to ensure that services developed as part of the Stroke Programme are developed in accordance with best practice and clinical quality guidelines.	Refer to TORs
Area Team	Stroke Programme Board Ad-hoc meetings	Ensure that CCGs develop proposals for reconfiguration that are robust and fit for purpose (in line with the legal framework and current guidance) and that commissioners carry out consultations appropriately Will be consulted and informed of the clinical configuration for hyper and acute reconfiguration and the respective services specification for quality improvement and sustainability.	Area team members
Health and Well-Being Boards / Overview Scrutiny Committee	Communication and engagement plan to be developed	Scrutinise the planning, provision and operation of health services. Ensure that NHS organisations are held to account for their decisions on behalf of the people they serve. To provide insight and guidance in the development of new services. To ensure all groups are treated equally.	To be agreed
Patient and Public	Communication and engagement plan to be	To provide insight and guidance in the development of new services.	To be agreed

	developed		
Secretary of State (SofS)	To be agreed if required	Power to endorse or reject proposals referred by the OSC to ensure the effective provision of comprehensive health services in accordance with the NHS Act 2006.	If required
Independent Reconfiguration Panel (IRP)	To be agreed if required	Advises the SofS on proposals that have been contested locally	If required

7.3 Programme lines of accountability, communication and reporting

Sandwell and West Birmingham
Clinical Commissioning Group



KEY: ACCOUNTABILITY

COMMUNICATION

REPORTING

7.4 Programme Team membership

Role	Lead	Designation
Chair	Dr Nick Harding	Chair Sandwell and West Birmingham CCG
Deputy Chair	Dr Helen Hibbs	Wolverhampton CCG Accountable officer
Programme Sponsor	Andy Williams	Accountable Officer Sandwell and West Birmingham CCG
Finance Management lead	James Green	Chief Financial Officer Sandwell and West Birmingham CCG
Finance Clinical lead	Dr Helen Hibbs	Wolverhampton CCG Accountable Officer
Modelling Management lead	Matt Ward	West Midlands Ambulance Trust
Modelling Clinical lead	Dr Helen Hibbs	Wolverhampton CCG Accountable officer
Primary Prevention and Public Health lead	Jyoti Arti	Deputy Director of Public Health – Sandwell Local Authority
Primary Prevention and Public Health Clinical lead &	Dr Nick Harding	Chair Sandwell and West Birmingham CCG
Communications and Engagement Lead	Jayne Salter-Scott	Senior Commissioning Engagement lead Sandwell and West Birmingham
Communication Lead	Jenny Fullard	Communication and Engagement Lead Central Midlands CSU
Communications and Engagement Clinical Lead	Dr Nick Harding	Chair Sandwell and West Birmingham CCG
Independent Clinical Advisory Group	Dr Raj Mohan	Clinical lead Walsall CCG
Procurement Advisor	Alan Turrell	Head of Contracting and Procurement Walsall CCG
Procurement Leads	Mike Evans and Gary Hemer	Senior Procurement and Contracting Manager Central Midlands CSU
Analytical Support	Steve Wyatt	Central Midlands CSU
Cost Benefit Analysis	To be agreed	TBC
Programme Director	Nighat Hussain	Sandwell and West Birmingham CCG
Senior Programme Manager	Liz Green	Sandwell and West Birmingham CCG
Project Programme Officer	Stephanie Green	Sandwell and West Birmingham CCG

7.5 High Level Project Milestones and outputs:

Milestone	Timeframe
Scoping	December 2014
Activity/Travel time modelling	December 2013 – February 2014
Financial Modelling	December 2013 – July 2014
Public Health Needs Assessment/HIA/EQIA	December 2013 – June 2014
Independent Expert Advisory Group Review of provider Recommendation	December 2013 – June 2014
Cost Benefit Analysis	March –July 2014
West Midlands Strategic Clinical Senate Assurance Panel	June – September 2014
Gateway Stage 1 Review	September 2014
NHS Assurance panel	October 2014
Decision by CCGs and AT	October/November 2014
Potential Public Consultation	November onwards

8. Assurance Process:

The reconfiguration assurance process describes the approach by which proposals for major stroke service change will be supported by the Birmingham Solihull and Black Country CCGs and how they will be reviewed by the Birmingham, Solihull and Black Country Area Team and Overview and Scrutiny Committees to ensure they meet all the requirements.

The Birmingham Solihull and Black Country Stroke CCGs will not support the Stroke programme to proceed to the next stage in the reconfiguration scheme without the successful completion of the following three stages of reconfiguration:

8.1 Consultation Phase

The pre-consultation process: including developing a robust clinical case for change and holding extensive dialogue with a wide range of stakeholders including OSCs, Health and Well-Being Boards and Councils, the public, their representatives, patients, carers, clinicians and NHS staff.

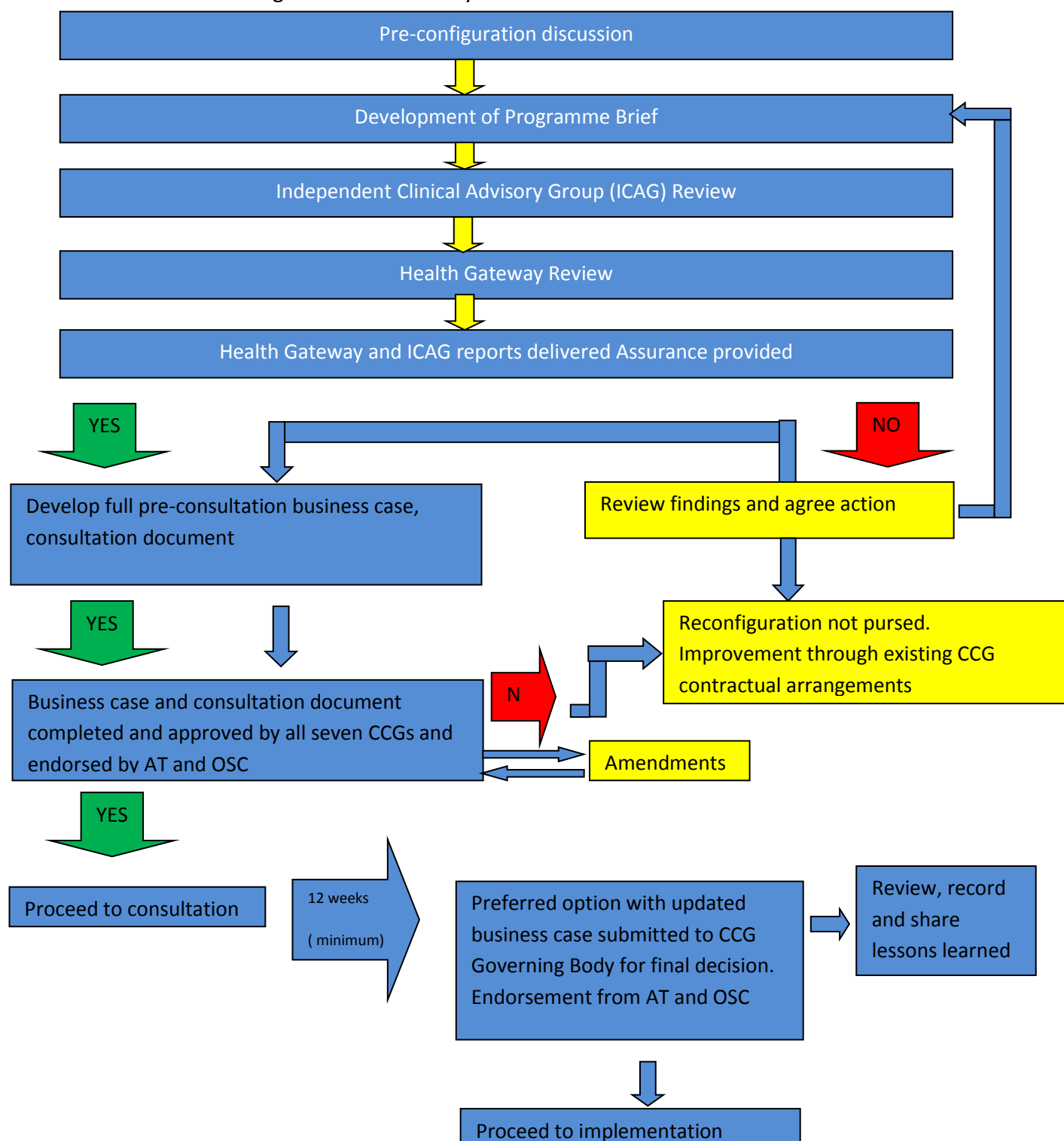
The consultation process: managing the consultation process, producing documentation and ensuring that statutory requirements to consult the public, healthcare professionals and other statutory bodies (including Overview and Scrutiny Committees) are met.

The post-consultation process: decision making process including sign-off with appropriate bodies and managing any subsequent reviews or challenges.

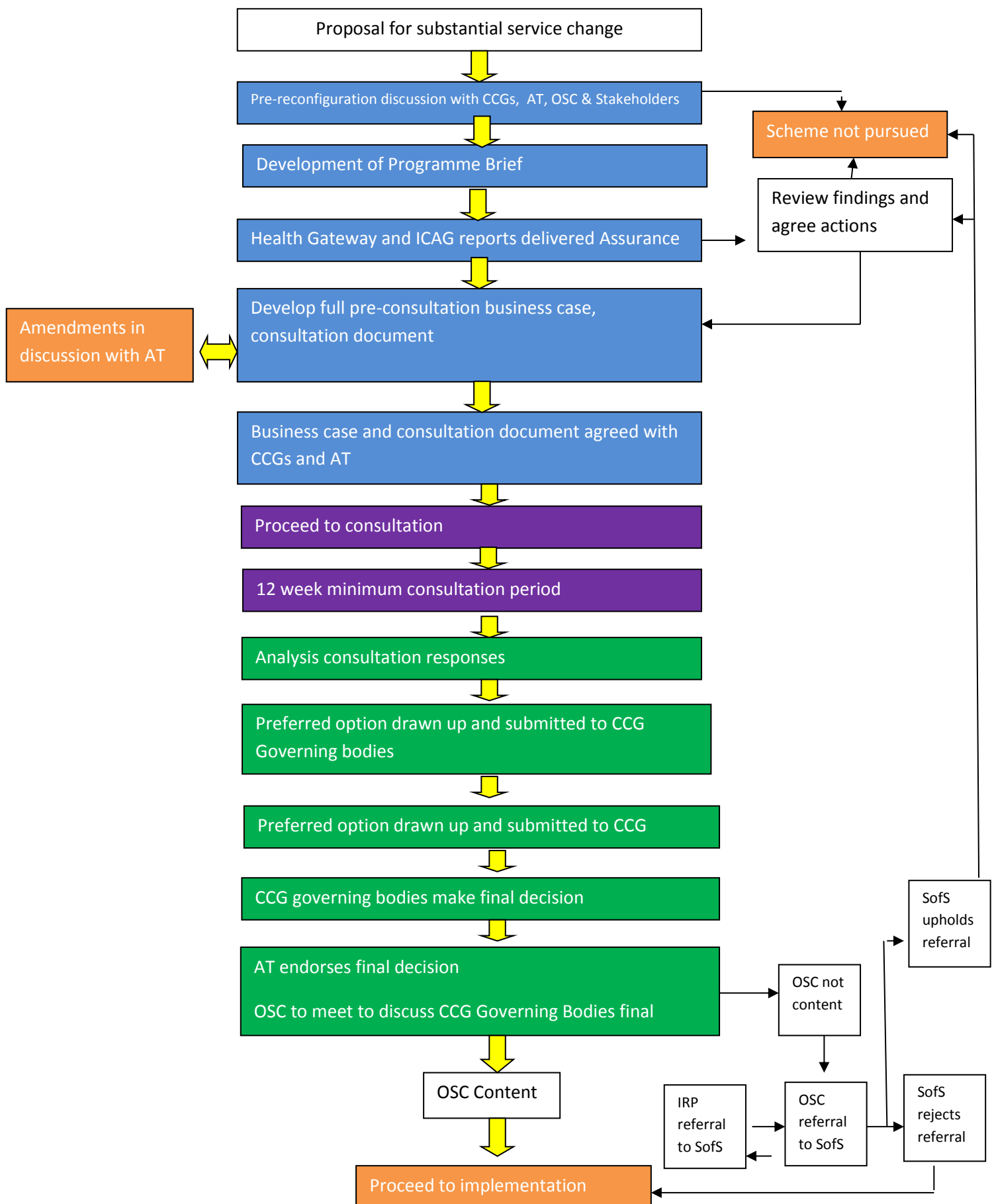
Designation Decision and Configuration Implementation -

Implementation of the configuration of stroke services and optimal care pathways will be informed by the outcome of consultation on the configurations for service delivery and occur from December 2014.

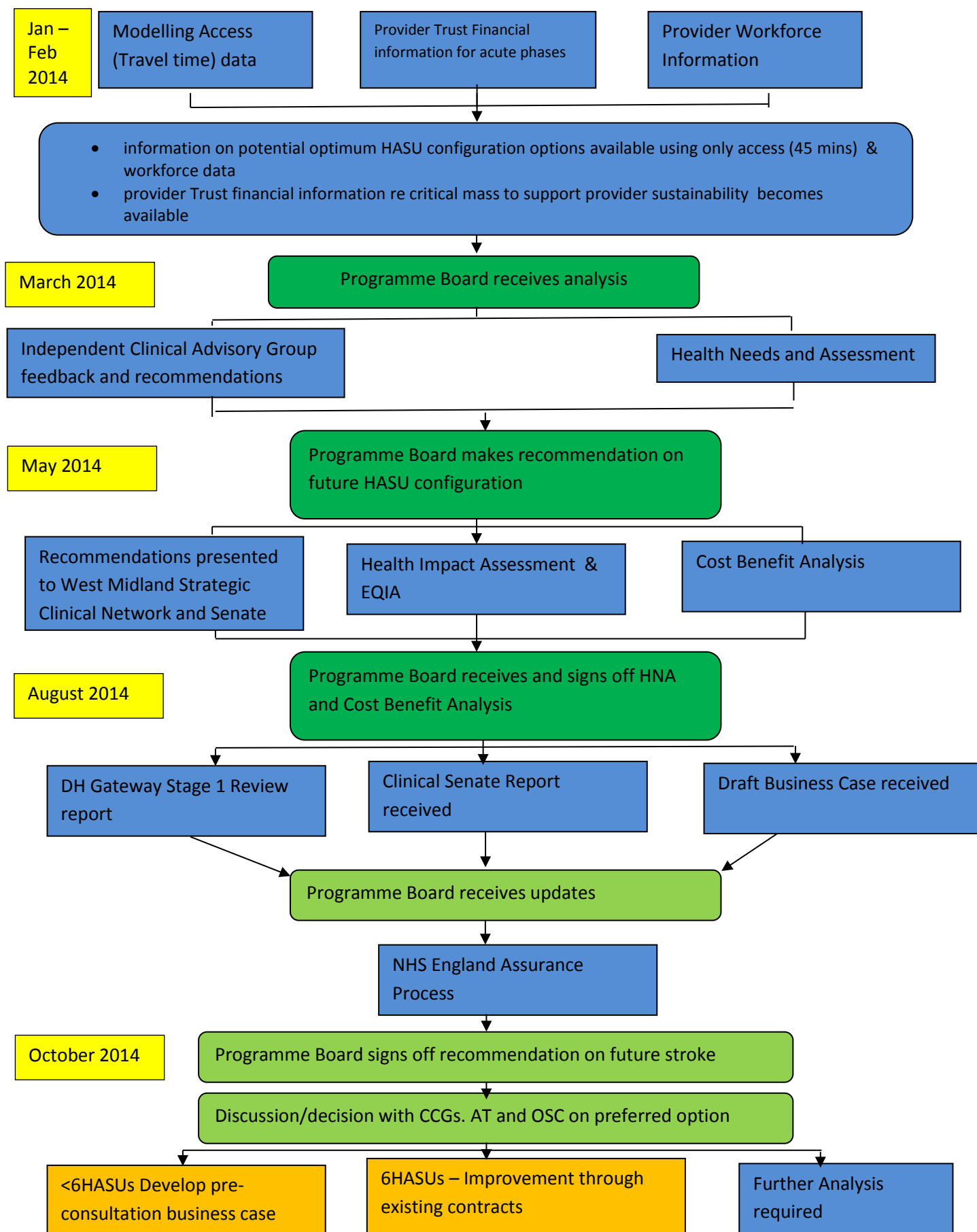
It is anticipated that the Programme Board will reach a recommendation on the future hyper-acute service configuration by July/August 2014. The following process will be followed to reach an agreement across key stakeholders:



8.2 Overview of the reconfiguration/consultation process:



8.3 Key Decision Points: January – February 2014



9. Communication Plan:

If the preferred option is a reduction of the number of HASU centres for stroke services, then a formal patient and public consultation process would be undertaken. The following narrative highlights the different phases of stakeholder and patient & public engagement that the programme will follow.

9.1 Engagement Phase (pre-consultation)

9.1.1 Phase 1

Identify and agree key stakeholders

Objective for engagement (pre-consultation) phase to consult on:

- share principles of decision making
- develop and agree framework to be applied to Option Appraisal process.

9.1.2 Phase 2

To ensure that stakeholders are consulted on Option Appraisal process. To also ensure that Stakeholders fully engaged in pre-consultation process

- a) Providers:
 - providers signed up to option appraisal process.
- b) CCGs
 - CCGs engaged through Programme Board.
- c) Patient and Public:
 - patients, carers and their representatives are engaged through the establishment of a Patient Advisory Group
 - patient representatives participating in Programme Board and Option Appraisal Panel.

9.1.3 Phase 3

Outcome of Option Appraisal process feedback to stakeholders and used to inform formal consultation documentation and plans.

9.1.4 Engagement Phase (formal consultation) Phase 4

Formal Consultation launched

9.2 Role of Patient Advisory Group

- consult Principles of Decision Making
- consult on Option Appraisal process (OAP)
- representative on Programme Board
- representative on OAP
- participation in Impact Assessment (EQiA) Workshop
- part of assurance process for the Programme Board around:

- Equality Analysis Process
- Consultation Plan and Consultation Documentation.

10. Affordability

It is perfectly legitimate for CCG decisions to take into account affordability, given the limited resources available and the requirement to break even. There is also an express duty on CCGs to exercise their functions effectively, efficiently and economically (section 14Q, NHS Act 2006) and this should also be taken into account. The best approach is to be clear about this issue from the outset, so as to ensure transparency.

In addition, if the programme makes a recommendation to reduce HASU centres it is likely to be appropriate to consider including an affordability ceiling in the tender documents following the options appraisal. The programme will use the cost of the current service, the financial sub-group will support the analysis to demonstrate that the affordability ceiling is appropriate, supported by a clear audit trail that shows how this figure was calculated. NHS rules on agreeing prices for services where there is no mandatory tariff are also clear that prices should, among other things, be fair.

Finally, if a decision is made not to reconfigure the services because the options are unaffordable, the Programme Board will ensure that the reasons for the decision are fully documented so as to demonstrate that the decision is robust.

11. Option Appraisal Process:

11.1 Optimum HASU configuration

It is important to acknowledge that HASU configuration below three HASUs will not be considered for two reasons. The first critical mass from London and Manchester suggest that stroke activity volumes of 1300 and population coverage of one million provide optimum financial viability. The second is that the bed capacity requirements required for anything less than 3 HASUs would provide significant pressure on current services and require significant investment. Further validation will be supported by Trust clinical and financial submissions.

Financial Advice on volume of activity to support critical mass:

The financial sub-group will provide evidence from provider returns to support the optimum configuration to achieve financial critical mass to ensure provider financial stability. Overall financial landscape will be demonstrated using the current Pbr and local tariff to define the most cost-effective option.

Decision on optimum configuration:

The information above will be populated as demonstrated below to support the Optimum HASU configuration decision:

	Option 6	Option (s) 5	Option (s)4	Option (s)3
Meets 45 minutes access travel time				
Meets minimum clinical critical mass 600 and maximum clinical critical mass 1500				
Meets Health Needs				
Cost affordability / Affordability				
Optimum configuration				

11.2 Option Appraisal Principles:

The Stroke Programme Board has agreed a period of consultation/market engagement with the six current providers to obtain information (non- financial & financial) to understand better the capability and capacity of providers to deliver current and future activity models. This information will be presented to the Independent Clinical Advisory Group Panel to review and recommend the most appropriate model that meets the clinical, financial and demographic solution for the Birmingham, Solihull & Black Country CCGs. The process will be carried out with a robust framework to ensure confidentiality is maintained and under no circumstances will any provider submission response be discussed with another provider or providers.

The current stage of the option appraisal process asks providers to put forward evidence of their capacity and capability to deliver current service and supporting information to provide increased level of stroke activity to support a high quality HASU in line with the Midlands and East Service Specification.

The future configuration model assumes that irrespective of any HASU configuration change all current providers will retain the provision of Stroke Acute, Outpatient TIA, Inpatient and community rehabilitation, long term care services and end of life care. The joint provider and CCGs modelling sub-group will determine the length of stay for the acute and community phase and recommend the optimum hand-off points.

Provider submissions are not required to address how the West Midlands Ambulance Service will support stroke services, or the triage protocol to be used.

Should the decision be taken to reduce the number of HASU centres, there is an expectation that HASU stroke services to be operational in 2016. It is recognised that the proposed acute stroke service providers may not currently have the infrastructure in place to meet the requirements for increased level of activity from the outset. Therefore, as part of the

provider submissions process, providers will be asked to provide evidence of requirements already met, and estimates for when the remaining requirements could be achieved.

High level plans for meeting those requirements not already met, within maximum specified timeframes will be required including, where applicable the proposed funding streams and other 'deliverability' factors.

11.2.1 Use of Provider Submissions in the Option appraisal process:

As part of the options appraisal, the programme is engaging with providers to obtain information which will help to inform the decision as to the future configuration of stroke services in the Birmingham, Solihull and the Black Country. The information gathered will be used to assess current service provision and to test the feasibility of the proposed future configurations.

Each provider submission will be reviewed to understand the capability and capacity of providers to deliver current and proposed activity models. This will inform an analysis as to the most appropriate model to meet the clinical, financial and demographic solution for the Birmingham, Solihull & Black Country CCGs.

Areas for Review of Provider Submission Evaluation
Quality of Services
Workforce including Innovation and Research& Development
Access
Ease of Delivery
Improved Strategic fit
Cost and affordability

The definition of the headings is described below:

a) Quality of Services

Definition: Quality and continuity of care for stroke patients across the pathway. This also covers clinical critical mass which is the minimum throughput of patients to be maintained in order to ensure quality of service. It takes account of the number of patients required for an acute stroke service provider to be clinically effective, based on incidence and population.

Outcome: High level of quality for the stroke system improving patients' outcomes. Improving patients' outcomes is dependent on a step-change in the quality and continuity of care across the stroke pathway.

b) Workforce including Innovation and Research& Development

Definition: Heading covers workforce issues (attracting and retaining the best healthcare professionals, and investing in them via an accredited training and development programme, as well as rotating staff appropriately across the pathway and between similar care settings) and patient experience. This includes delivering quality education and training for staff and for the improvement to continue through innovation and research.

Outcome: Optimum workforce to support stroke patients.

c) Access

Definition: Maximum time taken for a stroke patient to be assessed at the point of arrival and treated within a HASU thereby helping improve quality and reduce health inequalities. Also considers accessibility by public transport to, HASU, ASU and TIA services.

Outcome: A stroke patient should be able to access a HASU that delivers access to high quality care. The access heading will also consider access to a HASU within a maximum of 30 minutes (by an ambulance with a blue light), this element will be picked up from WMAS returns. Patients and visitors will have access to local ASU and TIA services.

d) Ease of Delivery

Definition: The need for the acute stroke service provider to improve substantially from where it is now. Also covers implementation of infrastructure, capacity and feasibility of acute stroke service providers.

Outcome: Continued quality service to stroke patients.

e) Improved Strategic Fit

Definition: The ability of providers to work effectively with neighbouring providers. Networks will need to provide adequate coverage of the entire Birmingham, Solihull and Black Country population, whereby a simple system will be easier to manage.

Outcome: Optimum service to stroke patients supporting collaborative capability across Network, Providers, Local Authority, Voluntary Sector and CCGs.

f) Cost and Affordability

Definition: The balance between impact on patient outcomes with the incremental cost of providing the new acute stroke services in a particular configuration. There are many competing priorities in Birmingham, Solihull and Black Country and the financial impact of

the proposed changes for stroke must be evaluated against the impact on the overall healthcare system.

Outcome: Affordability of service within the current financial envelope ensuring high quality services can be safely provided.

11.2.2 The Review Process

Provider submissions will be reviewed as part of the option appraisal process. In reviewing the information received, provider submissions will be treated as confidential and will not be disclosed to other providers.

The provider submission review process will be co-ordinated by the Stroke Programme Board comprising members of the Independent Clinical Advisory Group and led by the National Stroke Clinical Lead.

The review of submissions will be undertaken by a review panel comprising clinicians and NHS senior management that are not associated with any Birmingham, Solihull and Black Country Acute Trusts.

It should be noted that the provider submissions will only be used to inform the options appraisal for future service configuration and not to assess and score individual providers against each other. Any assessment of the relative merits of individual providers will only take place as part of any procurement process which may flow from this options appraisal and would not take into account any information provided at this engagement stage.

11.2.3 Option Appraisal Process:

The option appraisal process will be carried out in line with the following methodology, which will support an evaluation method measuring quality and price. All six headings will have an equal score of out of a 100 and this will be distributed evenly within the subheadings of each area. The options with the highest score representing the most economically advantageous option.

Areas for Review of Provider Submission Evaluation	Score
Quality of Services	16.7
Workforce including Innovation and Research& Development	16.7
Access	16.7
Ease of Delivery	16.7
Improved Strategic fit	16.7
Cost and Affordability	16.7
Total	100

The questions that are to be answered by provider templates will be scored as follows:-

Score	Definition
5	Meets the standard exactly and demonstrates innovation.
4	Meets the standard exactly
3	Meets the standard in most aspects
2	Fails to meet the standard in most aspects
1	Fails to meet the standard
0	No response submitted

The scores will be summarised for each options as follows:

	<u>Option 6</u>	<u>Option (s)5</u>	<u>Option (s) 4</u>	<u>Option (s)3</u>
Quality of Services				
Workforce including Innovation and Research& Development				
Access				
Ease of Delivery				
Improved Strategic fit				
Cost and Affordability				
Total weighting for each option				

11.2.4 Timetable for change:

If a decision is made to reduce the number of HASU centres it is anticipated that the proposed new services will go-live from 2016, with a step-change in the quality of service being delivered from the outset and commitment to an implementation plan achieve the requirements detailed under the option appraisal headings (above) within the first 18 months.

The Programme Board will take into consideration potential timeframes for service change when considering the recommendation for future service configuration and reserve the right to change the go-live date based on the information submitted by providers.

A long list of possible configurations will then be reduced to a short list through analysis of how individual configurations compare against the factors outlined above. The short listing will be conducted by a panel of representatives from the Independent Clinical Advisory Group, who will generate a recommendation to take forward to the Stroke Project Board. The Stroke Project Board will then approve the recommendation and issue it to the Birmingham, Solihull and Black Country CCGs to agree future stroke service provision.

In September 2014, it is anticipated that a shortlist of provider configurations will be brought to a public consultation. The decision on which configuration options will be included in the consultation will then be communicated to providers. The final decision on which configuration will be designated will be taken in December 2014 following the public consultation.

12. Cost-Benefit Analysis:

The cost-benefit analysis will support CCGs to make a decision on the optimum configuration of HASUs. Key objectives will be:

- provide the cost-benefit of the option appraisal configuration to demonstrate the marginal cost-benefit of each configuration
- provide a return on investment for each of the configurations from six HASU sites to a minimum of three sites.

12.1 Development of an Economic Model

An economic model will be developed based on the outcomes of the options appraisal carried out by the programme board. It is anticipated that this will provide a number of scenarios which can be included in the economic modelling. The model will calculate the costs of the different options identified for HASU provision and will allow the benefits of HASU treatment to be modelled. The benefits of reconfiguration of HASU provision will be identified through the literature review but the key metrics are likely to include:

- reduction in length of hospital stay;
- improved mortality rates;
- reduction in future event rates.

If data is available the model will seek to understand the potential effect of changes on aspects such as mortality and health-related quality of life, then these benefits will be calculated in terms of quality adjusted life years (QALYs). These benefits can then be monetised by applying a value per QALY, based on the range used by the National Institute for Health and Care Excellence (NICE), which uses a threshold value of between £20,000 and £30,000 per QALY.

In modelling the costs, the key metrics are likely to include:

- staffing costs;
- hospital bed occupancy;
- costs of drugs and procedures, e.g. thrombolysis.

Activity data for patients will be gathered where possible from local systems. If local data is unavailable, data will be extracted from the Hospital Episode Statistics (HES) database, held by the Health and Social Care Information Centre. Data will be gathered from care providers where possible so that local variations in cost can be accounted for. Where data is unavailable, it will be extracted from publicly available national sources such as NHS Reference Costs, Payment by Results Tariffs, Unit costs of Health and Social Care, the Drug Tariff and the British National Formulary, as applicable.

An additional consideration for each of the options will be the cost of patient repatriation. For each of the options, the additional number of patient journeys that would need to be made to repatriate patients from the HASU to their local hospital will be calculated. This will be done on the assumption that repatriation will be to a patient's local hospital rather than to their home address and unit costs of ambulance or patient transport journeys will be used to provide estimated costs.

12.2 Cost-benefit analysis of optimal HASU services configuration

Once the economic model is constructed, it will be used to estimate the costs and benefits for each of the options. The return on investment will be calculated for each option and presented in short, medium and longer-term scenarios. Demographic and epidemiological data from local and national sources will be used to project the costs and benefits forward into future years. Relevant discount rates and net present values will be used to make those estimates, adhering to the requirements of the Green Book.¹

The model will present the user with additional components to test the 'uncertainty' of the parameter values used. For example, one-way and two-way sensitivity analysis will be conducted around the key parameter values such as costs and activity rates. This will be used to explore the sensitivity of the findings for each of the options.

13. High Level Risks & Challenges

As part of the process to date a number of key challenges & risks have been identified that will need to be worked through as part of the detailed discussions in order to support determination of the final preferred delivery model and also ensure that delivery is sustainable.

Key Risk and Challenges Include:

A. Case for changes:

The case for change needs to be revisited to understand the current quality of services and the gap to meet the best practice service specification; this may delay the option appraisal process due to the time it will take to carry out a comprehensive review.

B. Modelling Framework:

¹ The Green Book: Appraisal and Evaluation in Central Government. HM Treasury, 2011.

The programme no longer has access to the Deloitte's model and recruiting this may take a significant amount of time thus causing a delay in carrying out the option appraisal process.

C. Financial impact:

- it is recognised that the current 6 trusts have not achieved a 100% of the Stroke Best Practice tariff payment, initial analysis shows that this could lead to a cost pressure of 4.5 million to CCGs
- a reduction in sites could introduce an additional costs in ambulance conveyance and repatriation cost to local hospital sites for the acute care episode
- there is a risk that CCGs may not be able to collectively agree a mechanism where cost pressure are shared across the 7CCGs
- if the optimum configuration is to reduce HASU sites and this leads to an introduction of a cost pressure that CCGs are unable to support. CCGs will need to demonstrate a robust process if they decide collectively not to go ahead with the reconfiguration.

D. Service Outcomes & Performance Standards

- general concern has been raised regarding the achievability of a number of the standards, particularly without a step-increase in resources and also because of the reliance that this would place systems not within a provider's control.
- in particular it is felt that a burden of work would be likely to move to out of hours e.g. scanning, which again would require a step-increase in resources to fund this premium rate activity which is not recognised at present.
- a reduction in HASU sites may have an adverse impact on other clinical areas such as A&E, General Medicine, Geriatric Medicine, Neurology and Radiology.

E. Workforce

The staffing levels required to achieve the expected performance standards are likely to require significant investment and recruitment of additional staff in each area.

Key Risks

A number of interdependencies exist which will impact on successful delivery of the programme. In particular failure to agree a revised resourcing mechanism will present a high level of risk to sustainability and affordability of any new models of care, and will also impact on the ability to agree the final configuration of the hyper-acute delivery. Delivery of the pathway is also heavily reliant on provider collaboration.

References

Healthcare for London Acute stroke designation documentation

NHS Midlands and East stroke service specification 2012

Birmingham, Solihull and Black Country Option Appraisal Documents 2013

NHS London Reconfiguration Guide 2011

34. Appendix

Social Value Act guidance template



The Public Services (Social Value) Act 2012

Guidance & Assessment Template

Purpose:

1. To define what Social Value is
2. To advise the Governing Body/Programme Board/Project Team regarding the duty to consider Social Value within the procurement
3. To outline what this means and how we can consider social value within the procurement process and documentation

What is Social Value?

The Public Services (Social Value) Act 2012 requires all public services contracts to be subject to appropriate social value criteria where applicable. These criteria should be relevant to the subject of the contract and proportionate to the value and potential impact that could be achieved.

“Social value” is a way of thinking about how scarce resources are allocated and used. It involves looking beyond the price of each individual contract and looking at what the collective benefit to a community is when a public body chooses to award a contract. Social value asks the question: ‘If £1 is spent on the delivery of services, can that same £1 be used, to also produce a wider benefit to the community?’

Source: Social Enterprise UK Public Services (Social Value) Act 2012: A brief guide

Considering Social Value

Duties to Consider Social Value

- commissioners need to ensure that this Act is considered prior to the actual procurement exercise commencing.
- commissioners must consider the **economic, environmental and social benefits** of the approach before procuring services.
- this should take place within the pre-procurement (planning) stage for services where social value could be considered to have greatest effect, and reflected in the Procurement Terms of Reference.
- commissioners should consider how and what is being procured may improve the social, environmental and economic wellbeing of the relevant area, how these factors might secure any such improvement, and consider the need to consult
- enable the **citizen and user perspective** on potential services to be taken into account in the development of outcomes and specifications for the services.

An example of Social Value

Midlands and Lancashire CSU
Kingston House
438-450 High Street
West Midlands
B70 9LD



“It could mean that a mental health service is delivered by an organisation that actively employs people with a history of mental health problems to help deliver the service. The social value of commissioning these services comes through the person with mental health problems having a job where they may otherwise have been unemployed, their becoming more socially included, and having a say in how mental health services are run. It also means a local job for a local person.” Source: Social Enterprise UK Public Services (Social Value) Act 2012: A brief guide

Key Questions to Consider re Social Value

How might what is being proposed to be procured improve the economic, social and environmental wellbeing of the relevant area?

Benefits	Description of action or input that will be improved by the procurement	How will these be achieved in the procurement process/documentation?
Economic	EXAMPLE: Right place and right time efficiencies e.g. unnecessary admissions to A & E	Add to the Specification a requirement for the new provider to work very closely with other stakeholders to support and develop knowledge and skills around child and young adults mental health symptoms
Social (some of these factors may/can be interlinked with economic benefits)	EXAMPLE: Increased social networks and inclusion generally in community and society	Include questions for bidders to respond to in the ITT: How will the service encourage and build a knowledge base of community assets that service users can access to enable them to increase their social networks and links within the community? How will you use social media as a medium to encourage social networking and opportunities for peer support?
Environmental	EXAMPLE: Increased awareness of environmental factors that promote positive social and emotional wellbeing	Add text to the Specification: The service will address the environmental factors that can impact on emotional and social wellbeing e.g. working with families to offer therapeutic approaches that utilise community assets such as parks and open spaces. Include a bidder question: describe how you will work with other providers to identify and address areas within the families' environment that may negatively impact upon emotional wellbeing and mental health?



How are we going to embed Social Value in the procurement process?

Pre-Procurement

The Public Services (Social Value) Act 2012 suggests that potential bidders for services should be engaged before the procurement process commences. This may be achieved by:

- discussing with interested parties at a market engagement event
- including as part of the consultation process (and use the outcome(s) in the PQQ and/or ITT)
- undertake an equality assessment and health impact assessment that considers the wider impact of service change and whether it would adversely impact any groups
- assess outcomes and next steps.

Procurement Process & Documentation - Next Steps

- **OJEU PIN/Contract Notice/Contracts Finder Notice:**
If social value is to be included in the requirement via the specification, this can be advised by the notice or supporting documentation. It is essential that any criteria that are used are relevant and proportional to the contract that is being let.
- **PQQ:** If social value is to be included in the requirement via the specification, consider devising a specific Social Value question in Section H of the PQQ which can be measured as part of the evaluation.
- **ITT:** consider devising text for the Specification and/or including a specific question in the ITT Technical Envelope, with an appropriate evaluation methodology.

Contract Management

- **contract management:** consider how the value/impact of Social Value will be managed or monitored during the contract.

Please refer to the following template in considering Social Value.

NOTE: The use of this template is intended as a guide only. The Commissioner should obtain additional expert advice as they deem appropriate when considering Social Value.



Examples of Social Value

Generation of Savings for the Public Purse – Rather than just relying on price at the point of Contract award commissioners and procurement managers could consider cost reductions over the period of the contract. Bidders could be assessed on a strategy for cost reduction over the life of the contract or increased supply of services within contracts without increases in cost.

Employment – Creating Jobs – The largest cost of any Service contract is staff. Consider a requirement to include within contracts appropriate requirements for the creation of local jobs.

Note: The use of the Social Value Act does not over rule other Public Sector regulations. Therefore care must be taken not to disqualify any business that is not based within the area, whilst using the Act to stress the economic benefits that any contract may bring.

Skills Training – A contract can include provisions for the number of employment and training opportunities that a Contractor must provide eg the need to advertise vacancies locally and the need to target a specific group, like young people or the long-term unemployed (although not defined by locality).

Helping Local Business – The use of local suppliers has an immediate economic benefit and is more likely to ensure that further investment is made in the local economy.

Quality of Environment – Requirements can be included within construction and infrastructure projects which enhance the quality of the built environment. These may be limited to architectural design, but could also include requirements for planting, rainwater collection and re-use.

Carbon reduction measures are a good way to evidence outcomes relating to this. Inclusion of specific carbon reduction measures can be considered as part of the contractual aims. Eg, does the supplier use vehicle tracking and route planning to reduce carbon impact of travel. If so what targets have been specified and how would the benefits be measured?

Equality & Diversity - While commissioners are already subject to the requirements of the equality duty in procurement as set out in the Equality Act 2010 the Social Value Act may provide an excellent opportunity to include measurable equality and diversity targets within the workforce employed as a result of the contract award.



Social Value Assessment Template

1	Title of Procurement Commissioner	
2	Detail the relevant area for this procurement	<i>(NB: The "relevant area" is all the areas (places) in which the service will be carried out):-</i>
3	How might what is going to be procured improve the: (a) economic well-being; and/or (b) social well-being; and/or (c) environmental well-being of the relevant area? Give details. If one or more of (a), (b) or (c) listed above is not relevant, please explain why.	
4	How do you propose to achieve the improvement/s through the procurement? Explain the measures here that you will take to ensure that the improvements listed in 3 are achieved	
5	<u>Consultation</u> Who will be affected by this procurement? (Examples of groups affected include, the incumbent contractor, service users, potential service users)	



7	Which of the affected groups detailed in 6 above do you propose to consult? If you do not propose to consult a particular group, you should <u>also explain why here</u>.	
8	If relevant, attach a report detailing the consultation and the results and briefly explain the impact that the consultation has had on the planned procurement.	

Completed by Commissioner.

Date.....

35. Appendix

**Birmingham, Solihull and the Black Country communications
and engagement plan**

Stroke Transformation Programme 2014 -2016

Communications and Engagement Plan

Date	Version	Author	Change description
31.12.13	1	JF	1 st draft
06.01.14	1.b	JF	Updated 1 st draft
Approvals			
Date	Version	Author	Change description



Background

National and regional evidence indicates that reconfiguring stroke services could lead to improved outcomes for patients. Sandwell and West Birmingham CCG is leading on a review across Birmingham, the Black Country and Solihull to identify if there is a need to reconfigure services locally.

Stroke is a major cause of death with 12,000 people in the Midlands and East of England dying during 2009. By working together the NHS and its partners aim to improve stroke, transient ischaemic attack (TIA) and rehabilitation services, so that patients suffering a stroke will have a better chance of survival, better recovery and better quality of life for the future.

This review is looking at the whole stroke pathway, however, in particular, will be considering hyper-acute stroke units (HASUs), the specialist units which treat patients in the first 72 hours after a stroke.

This Communications and Engagement Plan aims to support the programme board in communicating the objectives of the review and supporting effective engagement with patients and stakeholders to help the CCGs reach the right decision for their local populations.

For further background information see the frequently asked questions.

Aim:

The vision for the project is to prioritise stroke as a focus for the CCGs and to adopt a clinically and patient-driven model of care. The overall aim is to ensure a uniformly high treatment standard for stroke patients, irrespective of where in the Birmingham, Solihull and Black Country area they suffered a stroke.

Objectives:

- stakeholders (including current and future patients/ carers and relatives) have the opportunity to influence each phase of the review, through face-to-face and written communications
- stakeholders are kept informed at each stage of the review, through monthly bulletins
- stakeholder expectations are managed as communications are in plain English and give clear timelines and objectives
- supporting clinicians to actively participate in the review, via email and face-to-face meetings during each phase.

The above objectives will need to be reviewed throughout the lifetime of the programme.

Key messages:

Reviewing stroke services for a healthier future.

Key messages for stakeholders:

- the seven clinical commissioning groups are reviewing local stroke services following national and regional clinical best practice to improve local services
- our aim is for all patients to have access to quality, specialist care 24/7 365 days a year

- by having larger specialist units, clinicians are able to maintain their skills by treating enough patients per year. Patients would have quicker access to stroke wards and more patients would receive thrombolysis treatment
- our data shows that having between three and six sites would ensure patients can access hospitals in the recommended time, however, this may not be appropriate locally and all CCGs are keen to consider impact on quality, clinical workforce, patient experience and access before making any decisions
- no decisions have been made, the review may show that all six units are needed
- a reduction will only be considered if there is a benefit to patients
- this is not about cutting funding to stroke services, there is no planned reduction in funding
- if significant changes are planned a public consultation will be carried out
- this review will look at the whole stroke patient journey from initial specialist treatment, to the rehabilitation and therapy services needed post-stroke
- national and regional evidence suggests hyper acute stroke units should see a minimum of 600 patients to ensure safe and quality care for patients.

Public messages

- the seven clinical commissioning groups are reviewing local stroke services following national and regional clinical best practice to improve local services
- our aim is for all patients to have access to quality specialist care 24/7 365 days a year
- by having larger specialist units, clinicians are able to maintain their skills by treating enough patients per year. Patients would have quicker access to stroke wards and more patients would receive thrombolysis treatment
- no decisions have been made, the review may show that the current units provide the optimum care for our area
- changes will only be made if there is a benefit to patients
- this is not about cutting funding to stroke services, there is no planned reduction in funding
- if significant changes are planned a public consultation will be carried out.

Audience (Stakeholder mapping for phases 1 and 2)

		LEVEL OF INTEREST	
		Low	High
		A – Minimal effort	B – Keep informed
Level of power	Low		• other providers e.g. therapy services (L) • social care services (L) • neighbouring CCGs – Staffordshire, Warwickshire © • young people (L) • future patients (L) • patient transport services (L) • care homes (L) • public ©.
	High	• Local Medical Committees (LMC) (L) • Local Pharmaceutical Committees (LPC) (L) • Cardiovascular Network (C) • CQC (C) • Trust Development Authority (C) • Public Health England (C) • local media (C).	• patient representatives (PPG networks) (L) • key groups: - Healthwatch (L) - voluntary sector • local stroke associations (L) • Asian Stroke Victim Association (L) • Age UK (L) • carers associations (L) • existing stroke meetings- Young Stroke Exercise Groups (Different Strokes) (L) - local community and faith groups (L) - equality representatives e.g. LGBT groups (L) - <i>Irish, Asian and Afro-Caribbean groups?(L)</i> • staff and GP members (seven CCGs) (L) • stroke clinicians (via providers) (C) • patient members (L) • hospital foundation trust members (C via providers) • NHS England (C) • Health and Wellbeing Board (C) • OSC – regional and local (C) • local MPs and health portfolio councillors (C) • Council leaders, directors of public health (L) • providers- BCHT/Heart of England/ RWT/SWBH/DGoH/UHB/WHT/WMAS (C) • stroke review sub-groups (C).

Potential channels of communication

	Phases one and two	Phases three and four
Owned	GP e-bulletins CCG intranet sites Patient forums / networks / meetings	WellTV CCG websites Blogs
Earned	Voluntary sector networks: word of mouth	Facebook Blogs Forums Re-tweets
Social media	Monitoring of social media Specific use of social media- if particular engagement activities are needed	Twitter Facebook Blogs
Digital		Surveys CSU website CCG websites Apps
Print	Pre-consultation materials	Leaflets, posters, printed banners, postcards etc. Direct mail
Advertising	Not anticipated	Paid for advertising in print or radio, bus, outdoor advertising etc.
PR	Media statements	Media releases, interviews, case studies

Communications approach

Below is a high level summary of communications activity during the stroke review. For a detailed action list see the attached Communications and Engagement Action Plan.

Phase	Key Activities	Notes	Owner	Date
Phases one and two: - identifying if there is a need to reconfigure services - identify and agree key stakeholders - inform people about the review - develop and agree framework/criteria - which the CCGs will use to decide how many HASUs are needed. (Effectively what is	Provider launch: 13 December	Comms support: - presentation - advice and support - event planning - facilitation.	NH	13.12.13
	Patient and Stakeholder Event: 30 January	Bulletin issued direct or via local comms and engagement managers for local contacts.	JSS	January 14

most important to people- access, workforce, quality etc.)	Development of Patient Advisory Group.	Monitored by SWBCCG	JSS	Dec 13
	Stakeholder bulletin issued to phase one key stakeholders (minimum monthly basis.)		Communications lead: JF, sign off NH and AW and NH	Dec 13
	GP communications: Regular updates through existing channels. Attendance at locality meetings.		JF/NH	Jan/14 ongoing
	Face-to-Face meetings: attending local groups to present the review. Offer extended to all groups to give a presentation.		JSS and Local engagement reps	Dec 13/ Jan/ 14 ongoing
	Central e-mail established to provide one point of contact for communications.		SG	
	Proactive media statements are not planned during this phase until more detailed options are known. Reactive statements will be prepared.	Support with: • media handling • presentations • advice and support.	JF and CSU media team	Dec 13/ongoing
				Dec 13/Jan14

	Social media: Proactive social media statements are not planned, however all accounts will be monitored and individual responses given. Social media can also be used to engage on specific questions. An audit of current social media conversation, will assess feedback within the community. Presentations to key stakeholders: • Governing Bodies • OSC • Healthwatch • Health and Wellbeing Board. Materials: • strapline and design banner • briefing FAQs • invites to events • monthly bulletin • core presentation.		JF with support from wider CSU team JSS and local engagement leads to organise. JF with wider CSU communications and engagement team to support. JF with support from wider CSU communications and engagement team. Signed off by programme board.	Jan 14 Jan 14 ongoing Dec13-Feb 14
Phase three Outcome of options appraisal process feedback to stakeholders. Pre-consultation engagement activity on	Patient Advisory Group meetings ongoing- including involvement in preparation of pre-consultation	Bi-monthly		Ongoing

options, prior to full consultation. Final support	materials. Monthly stakeholder bulletin		Communications Lead: JF, sign off NH and AW and NH	May- July 14
	GP communications: Regular updates through existing channels. Attendance at locality meetings.		JF/JS/NH	May-July 2014
	Pre-consultation materials prepared explaining outcome of phases one and two.	Materials: • online survey • consultation materials • web information.	JF with wider CSU comms and engagement support. Sign off by programme board.	May-July 14
	Support to engagement leads, if focus groups are required during pre- consultation engagement process	Support with: • media handling • presentations • advice and support.	JSS and local engagement leads, with support from JF where required.	June/July 14
	Presentations to key stakeholders: • Governing Bodies • OSC • Healthwatch • Health and Wellbeing Board Support to Governing Body meetings: Media handling Report guidance		JSS and local engagement leads to organise. JF with wider CSU communications and engagement team to support. JF with support from CSU media support	Potentially July 14

	Presentations			
Potential formal consultation	Monthly stakeholder bulletin to continue Development of formal consultation Communications and Engagement Plan.			Potentially June-August 14
Procurement	Monthly stakeholder bulletin to continue. Refresh of Communications and Engagement Plan to take account of procurement process.	Sensitivity required to ensure communications do not breach corporate guidelines.		Ongoing Dec 14 ongoing

Patient Advisory Panel

A Patient Advisory Panel has been established, with representatives from all seven CCG areas. This panel will work closely with the programme board to ensure the patient voice is considered at all points during the review. A representative from this panel will sit on the programme board. Terms of reference for the panel are being established.

Media enquiries

To avoid unnecessary public concern, phase one will not be a proactive media campaign. Engagement activity will focus on working with patient groups, stroke voluntary groups and clinicians. However frequently asked questions and communications packs will be developed and agreed.

Reactive media statements will be prepared in the event of any media attention. Key spokespeople will be trained. All media enquiries will be handled by the communications lead for the Stroke Review (Jenny Fullard), working closely with communication teams in the individual CCGs and providers.

Media spokespeople

- Dr Nick Harding, chair
- Andy Williams, accountable officer for Stroke Review

Risks

Risk	Likelihood	Impact	Action
Negative media attention	Medium	Medium	Keep key stakeholders informed through bulletins Clear and consistent approach to media messages Media statements planned
Impact on HEFT consultation- mixed messages	Medium	Medium	Work closely with HEFT colleagues and CCGs to share messages in advance
Consultation fatigue	High	Medium	Keep engagement activity appropriate and work collaboratively with other consultation leads where required
Potential public consultation in the year before a general election- leading to increased focus	Medium	High	Keep MPs and prospective MPs informed throughout the review via the bulletin and existing meetings

Monitoring

The Communications and Engagement Action Plan identifies any actions taken and planned future activity. The Central Midlands and Lancashire CSU's communications and engagement team will also monitor any media and social media comments regarding the review.

Depending on the outcome of the review, this Communications and Engagement Plan will be updated to reflect future phases, including if necessary a full consultation Communications and Engagement Plan.

36-41. Appendix

- Document A – Option appraisal, provider engagement and procurement process
 - Document B – Guidance on the option appraisal assessment process
 - Document D – HASU assessment submission
 - Document E – ASU assessment submission
 - Document F – TIA assessment submission
 - Document G – Rehabilitation and long-term care
-

Hyper-acute and Acute Stroke Services, Option Appraisal and Provider Engagement and Procurement Process

1. Provider engagement:

Use of provider submissions in the option appraisal process:

As part of the options appraisal, we are engaging with providers to obtain information which will help to inform the decision on the future configuration of stroke services in Birmingham, Solihull and the Black Country. The information gathered will be used to assess current service provision and to test the feasibility of the proposed future configurations.

When reviewing provider submissions, we will consider a number of qualitative and financial factors, which will test the capability and capacity of providers generally to support a better understanding of future stroke service provision.

Areas for Review of Provider Submission Evaluation
Quality of Services
Workforce including Innovation and Research & Development
Access
Ease of Delivery
Improved Strategic fit
Cost and affordability

The definition of the headings is described below:

Quality of services

Definition: Quality and continuity of care for stroke patients across the pathway. This also covers critical mass which is the minimum throughput of patients to be maintained in order to ensure quality of service. It takes account of the number of patients required for an acute stroke service provider to be clinically effective, based on incidence and population.

Outcome: High level of quality for the stroke system improving patients' outcomes. Improving patients' outcomes is dependent on a step-change in the quality and continuity of care across the stroke pathway.

Workforce including innovation and research and development

Definition: Heading covers workforce issues (attracting and retaining the best healthcare professionals, and investing in them via an accredited training and development programme, as well as rotating staff appropriately across the pathway and between similar care settings) and patient experience. This includes delivering quality education and training for staff and for the improvement to continue through innovation and research.

Outcome: Optimum workforce to support stroke patients.

Access

Definition: Maximum time taken for a stroke patient to be assessed at the point of arrival and treated within a Hyper Acute Stroke Unit (HASU) thereby helping improve quality and reduce health inequalities. Also considers accessibility by public transport to, HASU, Acute Stroke Unit (ASU) and Transient Ischaemic Attack (TIA) services.

Outcome: A stroke patient should be able to access a HASU that delivers access to high quality care. The access heading will also consider access to a HASU within a maximum of 30 minutes (by an ambulance with a blue light); this element will be picked up from WMAS returns. Patients and visitors will have access to local SU and TIA services.

Ease of delivery

Definition: The need for the acute stroke service provider to improve substantially from where it is now. Also covers implementation of infrastructure, capacity and feasibility of acute stroke service providers.

Outcome: Continued quality service to stroke patients.

Improved strategic fit

Definition: The ability of providers to work effectively with neighbouring providers. Networks will need to provide adequate coverage of the entire Birmingham, Solihull and Black Country population, whereby a simple system will be easier to manage.

Outcome: Optimum service to stroke patients supporting collaborative capability across Network, Providers, Local Authorities, Voluntary Sector and CCGs.

Cost and affordability

Definition: The balance between impact on patient outcomes with the incremental cost of providing the new acute stroke services in a particular configuration. There are many competing priorities in Birmingham, Solihull and Black Country and the financial impact of the proposed changes for stroke must be evaluated against the impact on the overall healthcare system.

Outcome: Affordability of service within the current financial envelope ensuring high quality services can be safely provided.

2. Timetable for change:

If a decision is made to reduce the number of HASU centres it is anticipated that the proposed new services will go-live from 2016, with a step-change in the quality of service being delivered from the outset and commitment to an implementation plan to achieve the

requirements detailed under the option appraisal headings (above) within the first 18 months.

We recognise that the proposed acute stroke service providers may not currently have the infrastructure in place to fully comply with the option appraisal headings from the outset. Therefore as part of the option appraisal process, providers will be asked to provide evidence of requirements already implemented with plans for monitoring the service, and/or estimates for when the remaining requirements could be achieved and how this would be implemented.

The programme board will take into consideration potential timeframes for service change when considering the recommendation for future service configuration and reserve the right to change the go-live date based on the information submitted by providers.

Provider submissions will be reviewed as part of the options appraisal process. This review process will be co-ordinated by the stroke programme board comprising members from the Independent clinical advisory group and led by the national stroke clinical lead. The review of submissions will be undertaken by a review panel comprising clinicians and NHS senior management that are not associated with any Birmingham, Solihull and Black Country acute trusts.

The information gathered for each option will be taken through an assurance check by the National Stroke Clinical Lead. At the option appraisal stage, this is only to inform the viability of each option and not to score individual providers against each other

A long list of possible configurations will then be reduced to a short list through analysis of how individual configurations compare against the factors outlined above. The short listing will be conducted by a panel of representatives from the independent clinical advisory group, who will generate a recommendation to take forward to the stroke programme board. The stroke programme board will then consider the recommendations and propose options to the Birmingham, Solihull and Black Country CCGs to agree future HASU stroke service provision.

In September 2014, it is anticipated that a shortlist of provider configurations will be brought to a public consultation. The decision on which configuration options will be included in the consultation will then be communicated to providers. The final decision on which configuration will be designated will be taken in December 2014 following the public consultation. Any decision to reduce the number of HASU centres will be followed by a competitive procurement tender process.

3. Option appraisal process:

The options appraisal process will be carried out in accordance with this document and the document entitled "Guidance on the Options Appraisal Process".

The data gathered from providers will provide insight to the capability and capacity of providers generally to support optimum stroke HASU configurations. This will inform any decision as to future service configuration. It should be noted that provider submissions will

only be used for this purpose and not to assess and score individual providers against each other. Any assessment of the relative merits of individual providers will only take place as part of a procurement process which may follow from this options appraisal and would not take into account any information provided at this stage.

References

Healthcare for London Acute stroke designation documentation

NHS Midlands and East stroke service specification 2012

Birmingham, Solihull and Black Country Stroke Services

Guidance on the Option Appraisal process

Introduction

This paper provides guidance to Birmingham, Solihull and Black Country providers of stroke services on the option appraisal process to improve the quality of stroke services in the Birmingham, Solihull and Black Country. The stroke programme board has agreed a period of consultation/market engagement with the six current providers to obtain information (non-financial & financial) to understand better the capability and capacity of providers to deliver current and future activity models. This information will be presented to the external expert panel to review and recommend the most appropriate future model that meets the clinical solution for the Birmingham, Solihull & Black Country CCGs. The process will be carried out with a robust framework to ensure confidentiality is maintained and under no circumstances will any provider submission response be discussed with another provider or providers.

The document includes details of:

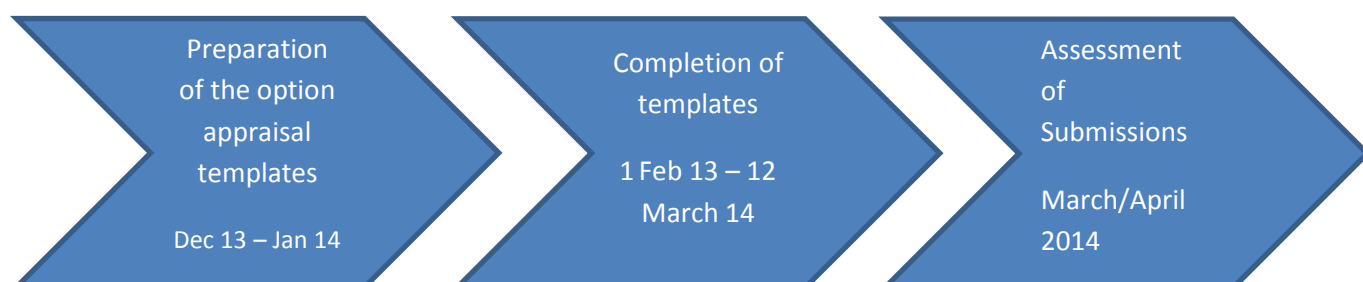
1. The timeline for the provider submissions for the options appraisal process
2. Provider submission requirements
3. The clarification process for provider questions
4. The process for submissions
5. The assessment process
6. Procurement strategy

The pack comprises of the following documents:

- Document A – Option Appraisal, Provider Engagement and Procurement Process
- Document B – Guidance on the Option Appraisal Assessment Process
- Document C – Revised Midlands and East Service Specification
- Document D – HASU Assessment Submission
- Document E – ASU Assessment Submission
- Document F – TIA Assessment Submission
- Document G – Rehabilitation and Long Term care
- Document H – Finance template

1. The Timeline for the provider submissions for the options appraisal process

The figure below illustrates the key dates and milestones:



2. Provider submission requirements

The current stage of the option appraisal process asks providers to put forward evidence of their capacity and capability to deliver current service and supporting information to provide increased level of stroke activity to support a high quality HASU, in line with the Midlands and East Service Specification.

The future configuration model assumes that irrespective of any HASU configuration change all current providers will retain the provision of stroke acute, outpatient TIA, inpatient and community rehabilitation, long term care services and end of life care. The joint provider and CCGs modelling sub-group will determine the length of stay for the acute and community phase and recommend the optimum hand-off points.

Providers are asked to submit evidence supporting their ability to provide high quality stroke services for:

- Current activity levels across HASU, ASU, outpatient TIA, inpatient and community rehabilitation, long term care stroke services and end of life care. The supporting information must include how providers could improve services where there is a gap to meet the Midlands and East Service Specification.
- Spoke model – providers must demonstrate that if they were unsuccessful in achieving HASU status they would still be able to provide high quality ASU, Outpatient TIA, inpatient and community rehabilitation, long term care stroke services and end of life care.
- Hub - provider submissions must provide evidence of capability to provide specified levels of activity. Providers must include demand and capacity modelling to support stroke mimic activity ensuring use of local intelligence of current stroke mimic activity. Evidence must demonstrate that providers are able to access local pathways for their current patient activity and also have process to transfer patients to out-of-area pathways
 - 600 confirmed strokes per annum
 - 900 confirmed strokes per annum
 - 1200 confirmed strokes per annum
 - 1500 confirmed strokes per annum
 - 1800 confirmed strokes per annum
 - 2100 confirmed strokes per annum
 - 2400 confirmed strokes per annum

Provider submissions are not required to address how the West Midlands Ambulance Service will support stroke services, or the triage protocol to be used.

Should the decision be taken to reduce the number of HASU centres, we expect HASU stroke services to be operational in 2016. We recognise that the proposed acute stroke service providers may not currently have the infrastructure in place to meet the requirements for increased level of activity from the outset. Therefore, as part of the provider submissions process, providers will be asked to provide evidence of requirements already met, and estimates for when the remaining requirements could be achieved.

High level plans for meeting those requirements not already met, within maximum specified timeframes will be required including, where applicable the proposed funding streams and other 'deliverability' factors.

Each provider submission will be reviewed to understand the capability and capacity of providers to deliver current and proposed activity models. This will inform an analysis as to the most appropriate model to meet the clinical, financial and demographic solution for the Birmingham, Solihull & Black Country CCGs.

3. Questions on this process?

Providers are encouraged to identify issues on which they would like clarification as early as possible in the option appraisal process. Clarification questions should be submitted via email to swbccg.strokebhamandbc@nhs.net. The email should be entitled 'Clarification Questions'.

4. The process for submissions

The deadline for receipt of provider submissions is the 12 March 2014. Providers are requested to send an electronic copy of their submission, on the enclosed template by the specified deadline.

The electronic copy of the submissions should be sent to:

swbccg.strokebhamandbc@nhs.net

Submissions should include of the following documents:

- Documents D to H - Provider Clinical /Operation information
- Document I – Provider Financial information

Please note that provider templates can only be evaluated on the basis of the available information provided.

5. The review process

Provider submissions will be reviewed as part of the option appraisal process. In reviewing the information received, provider submissions will be treated as confidential and will not be disclosed to other providers.

The provider submission review process will be co-ordinated by the stroke programme board comprising members of the independent clinical advisory group and led by the national stroke clinical lead.

The review of submissions will be undertaken by a review panel comprising clinicians and NHS senior management that are not associated with any Birmingham, Solihull and Black Country Acute Trusts. The review process is detailed in Document A entitled 'Review Process'.

It should be noted that the provider submissions will only be used to inform the options appraisal for future service configuration and not to assess and score individual providers against each other. Any assessment of the relative merits of individual providers will only take place as part of any procurement process which may follow from this options appraisal and would not take into account any information provided at this engagement stage.

In July 2014, it is anticipated that a shortlist of provider configurations will be submitted to the Birmingham, Solihull and Black Country CCGs to agree future stroke service provision. In

September 2014, if a decision to reduce the number of HASUs is recommended it is anticipated that a shortlist of provider configurations will be brought to a public consultation.

The decision on which configuration options will be included in the consultation will then be communicated to providers. If a decision to reduce HASU centres is reached, the final decision on which configuration will be designated will be taken in December 2014 following the public consultation.

6. References

Healthcare for London Acute stroke designation documentation

NHS Midlands and East stroke service specification 2012

Birmingham, Solihull and Black Country Stroke Review

Hyper-Acute Stroke Services (HASU) Evaluation Template

Evaluation template for the provision of HASU service:

This template will be used to evaluate HASU services. It demonstrates how the option appraisal process will assess the options available to ensure high quality HASU services. The evaluation template is broken down into the following sections:

- guidance notes
- declaration of organisations commitment to provide HASU service, including details of provider and partnering provider where appropriate
- an overview which supports the demonstration of high level detail on capacity, key strengths and challenges in delivering a HASU service and a business plan to support this
- the option appraisal criteria sections allows providers to give evidence of key criteria already met and how they would plan to meet those criteria not met at present and also demonstrates future service sustainability.

Guidance notes:

As part of the Midlands and East Stroke Review, the Midlands and East External Expert Advisory Group (EEAG) produced an evidence based best practice specification for the stroke pathway. This specification has been updated by the Local Clinical Advisory Group to reflect the SSNAP performance standards and is being used to identify the changes necessary to achieve a step change improvement in stroke care.

Local health systems are invited to identify proposals of how the specification can be delivered across its health economy. Please ensure you have read the service specification thoroughly before completing this template for proposals.

This paper sets out a template for proposal returns and guidance notes to support local health systems, and the Stroke Programme team will be responsible for coordinating the response template as detailed in this document.

This document outlines the key criteria required to be met by providers intending to provide a future hyper acute stroke unit (HASU) service. A HASU service provides the immediate response to a stroke, where the patient is stabilised and receives primary intervention. The length of stay in a HASU is typically no longer than 72 hours. Provision of an acute stroke unit (ASU) and Transient Ischaemic Attack (TIA) service is mandatory for all acute providers. Providers completing the evaluation template for the provision of HASU services must also ensure that they have read and understood the criteria outlined in the ASU evaluation document. It is expected that the HASU will provide ASU and TIA outpatient services for

their current geographical catchment area. Exceptionally, where local arrangements are in operation or planned, supplementary evidence of the seamless transfer of patients between care settings must be provided.

The evaluation criteria for the provision of a HASU service have been developed in collaboration with local clinical experts, the National Stroke Clinical Lead SSNAP, National Stroke Strategy and NICE guidelines, underpinned by established evidence of good clinical practice, and are divided into six sections:

High level criteria against which the Independent expert advisory group will assess local proposals

The criteria set out below will be used by the Independent Clinical Advisory Group to assess emerging proposals.

Benefit realisation criteria:

- quality of services
- workforce including innovation and research & development
- access
- ease of delivery
- improved strategic fit

The cost and affordability criteria will be assessed by a sub-group of the CCG Financial Stroke Programme Sub-Group

- cost and affordability

Format of proposals and timescale for submission

Proposals should cover all the stages in the stroke services pathway, as defined on page 4 of the stroke services specification. The structure of both the detailed Template and Executive Summary Template follows the stroke pathways structure to ensure comprehensive responses to the service specification. Providers are therefore asked to carry out an assessment of when they expect to meet the criteria for the respective activity levels

Option appraisal process:

The option appraisal process will be carried out in line with the following methodology, all six headings will have an equal score out of 100 and this will be distributed evenly within the subheadings of each area.

Areas for review of provider submission evaluation	Score
Quality of services	16.7
Workforce including innovation and research& development	16.7
Access	16.7
Ease of delivery	16.7
Improved strategic fit	16.7
Cost and affordability	16.7
Total	100

The questions that are to be answered by provider templates will be scored as follows for the following question:

Score	Definition
5	Meets the standard exactly and demonstrates innovation
4	Meets the standard exactly
3	Meets the standard in most aspects
2	Fails to meet the standard in most aspects
1	Fails to meet the standard
0	No response submitted

The Stroke Review Programme recognises that the proposed acute stroke service providers may not currently have the entire infrastructure in place to meet all of the criteria. If the decision is made to reduce from the current HASU configuration and implementation period will be agreed with providers to complete their mobilisation plans to deliver all criteria, thus achieving a gold standard HASU service.

Provider scoring:

Providers will be asked to score specific criteria relating to increased activity volumes to determine if the provider can support the activity and the anticipated timeframes to deliver the increased activity.

For each criterion graded as 5, providers will be expected to produce a concise qualitative summary of how they currently meet the criterion and how they intend to maintain this provision in the future. Please include a concise summary of any processes and protocols in place, inputs and outputs e.g audits, future improvement plans. Suitable evidence that may be documented as part of the summary are listed against each criterion in the tables below.

For criterion graded as 1-4, providers will be expected to provide a concise qualitative plan for establishing the infrastructure to meet the criterion in full within the timeline of that grading. As part of this plan, please provide details of the current status of each criteria, any processes and protocols to be put in place, and intended inputs and outputs. Suitable evidence that may be documented as part of the summary are listed against each criterion in the tables below.

For criterion graded 0, providers should estimate when this will be met, providing plans as outlined above.

Please note summaries/plans for each criterion and respective level of activity will be limited to 300 words. Extension of wording beyond this limit or additional/supplementary documentation may not be considered by the evaluation panel.

Please note that evaluation submissions for HASU, ASU, TIA and Rehabilitation including Long term care will be marked in isolation; therefore please refrain from cross-referencing between bid submissions.

Declaration of organisational commitment:

Declaration of commitment by the proposed HASU clinical lead and management lead, Chief Executive of the Trust and any partnering providers if appropriate will be required to endorse the submission.

Evaluation overview:

Clinical structure and governance framework

Providers will be expected to submit details of clinical structure, the governance framework for the organisation and evidence of fully functioning facilities to support the provision of a high quality HASU. A diagrammatic representation of the clinical structure and/or governance framework may be submitted as supplementary documentation.

Capacity Plan:

Providers will be expected to provide details of their Capacity Plan demonstrating how it will provide a HASU service to all stroke patients. Detailing the proposed bed-capacity for the HASU unit, further information on the Capacity Plan may be submitted as supplementary information. Providers will be expected to provide a high-level overview of the key strengths and challenges currently facing the provider.

Business Plan:

Providers will also be expected to provide a Business Plan for meeting set-up costs of a HASU service. Initial analysis by the Stroke Financial Sub-Group shows that the HASU configuration options could lead to the following incremental confirmed stroke patient volumes. This will allow the optional appraisal process to consider all viable HASU options:

Number of confirmed strokes
600
900
1200
1500
1800
2100
2400

Further information on the Business Plan may be submitted as supplementary documentation if applicable.

Supplementary information:

Supplementary information must be clearly referenced with the evaluation template i.e HASU/ASU/TIA or rehabilitation, the name of the provider and the criteria number i.e HASU template, Hospital X, Criterion X. Reference should also be made in the evaluation template (under the relevant question), referencing the presence of supplementary documentation to ensure that the option appraisal process reviews all the documentation.

All templates should be submitted as per the instructions in Document B “Option Appraisal Process” by **Friday 14 March 2014**

Please note summaries/plans for each criterion should be limited to 300 words.

Declaration of interest:

Section A	
Name of proposed site for stroke service:	
Name of NHS Trust to which the hospital site belongs	
Trust Chief Executive	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Stroke Clinical lead	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Section B: partnering Trust (s) complete if appropriate	
Name of proposed site for stroke service:	
Name of NHS Trust to which the hospital site belongs	
Trust Chief Executive	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Stroke Clinical lead	
Name	
Work Address	
E-mail	
Telephone	
Signature	

HASU evaluation criteria:

Clinical Quality:

Section A

Q1 Clinical (A)		
Criterion	Please provide a concise summary of clinical structure to support delivery of a high quality Hyper -Acute stroke to promote continuous measurement and improvement of the HASU service. A diagram outlining the clinical structure of the initiation (and partnering institution) may be submitted if appropriate.	
For internal Use only		
Evaluation score		Comments:

Clinical (A) Q1 – Provider information

Q2 Clinical (A)		
Criterion	Demonstrate all clinical services take responsibility for all aspects of data collection, keeping stroke register, and participating in national stroke audit (SSNAP) either directly or via upload of equivalent local data that enables comparison with regional and national peers)	
For internal Use only		
Evaluation score		Comments:

Clinical (A) Q2 – Provider information

Clinical (A) Q3		
Criterion	Demonstration of a stroke management group to oversee service delivery and improvement, review performance standards, impact of new guidance and methods for improvement of service	
For internal Use only		
Evaluation score		Comments:

Q3 Clinical (A) – Provider information

Q4 Clinical (A)		
Criterion	Please describe your approach to continuous quality improvement including, ensuring that the evidence base of clinical practice is reviewed and where necessary guidelines and protocols are updated e.g. with NICE guidance, national and local audit reports etc. and how this contributes to delivery of QIPP and value for money	
For internal	Use only	
Evaluation score		Comments:

Q4 Clinical (A) – Provider information

Q5 Clinical (A)		
Criterion	Please describe how your systems for clinical risk management and investigation will be applied to Stroke services including reviews of morbidity and mortality and identification and investigation of adverse incidents using root cause analysis methodology	
For internal	Use only	
Evaluation score		Comments:

Q5 Clinical (A) – Provider information

Q6 Clinical (A)		
Criterion	Please provide a high level overview of your plans to ensure that patient records and patient information are accessible at Hub & Spoke sites	
For internal	Use only	
Evaluation score		Comments:

Q6 Clinical (A) – Provider information

Section B – Clinical Quality

Please define your current stroke management patient pathway from ambulance handover to assessment and admission to HASU/ASU etc.

For example; During admission where does a patient first arrive A & E/ Medical Assessment Unit /HASU, where are patients assessed A&E/ HASU, where are patients sent to for onsite inpatient rehabilitation/ESD/intermediate care/off-site rehabilitation etc.

Criteria:

Under each criterion, you will be requested to provide a self-assessed score regarding the estimated time of implementation. In the text box provided, you should give summary which justifies the score you have entered:

- For criterion graded as 0-4, providers will be expected to provide a concise qualitative plan for establishing the infrastructure to meet the criterion in full within the timeline of that grading.*
- For criterion graded 0, providers should estimate when this will be met, providing plans as outlined above.*

Please note summaries/plans for each criterion will be limited to 300 words.

Q7 Clinical (B)								
Criterion	Provide evidence that the service has a pre-alert pathway and process for transferring stroke patients from A&E to HASU.							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q7 Clinical (B) – Provider information

Q8 Clinical (B)								
Criterion	A radiology service responsible for the following: - CT scanning for suspected Stroke patients (24/7) - CT reporting by radiology or Stroke Consultant (24/7) A contingency plan to ensure continuity of provision of CT scanning service in case of a breakdown							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q8 Clinical (B) – Provider information

Q9 Clinical (B)								
Criterion	Established thrombolysis pathway							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q9 Clinical (B) – Provider information

Q10 Clinical (B)								
Criterion	Evidence of 24/7 availability of appropriately trained staff in eligibility assessment and administering thrombolysis treatment							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q10 Clinical (B) – Provider information

Q11 Clinical (B)								
Criterion	Evidence of 24/7 availability of appropriately trained staff in assessment of suspected stroke patients who are ineligible for thrombolysis treatment							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q11 Clinical (B) – Provider information

Q12 Clinical (B)								
Criterion	Evidence of provision for 24/7 consultant cover provided by a least 6 consultants on a rota able to make thrombolysis and hyper-acute treatment decisions							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q12 Clinical (B) – Provider information

Q13 Clinical (B)								
Criterion	Evidence of daily assessment of all TIA patients by stroke team Anticipated throughput high/ low risk TIA admissions per year							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q13 Clinical (B) – Provider information

Q14 Clinical (B)		
Criterion	Operational protocol to manage HASU bed capacity to ensure HASU capacity is accessible and patients are transferred in a timely manner to ASU	
For internal	Use only	
Evaluation score		Comments:

Q14 Clinical (B) – Provider information

Q15 Clinical (B)		
Criterion	Evidence of length of time for Senior Doctor Review after admission (Consultant, Associate Specialist, or Senior Specialist Registrar)	
For internal	Use only	
Evaluation score		Comments

Q15 Clinical (B) – Provider information

Q16 Clinical (B)		
Criterion	Urgent access to essential investigations e.g cardiac echo in selected patients, carotid imaging	
For internal	Use only	
Evaluation score		Comments:

Q16 Clinical (B) – Provider information

Q17 Clinical (B)								
Criterion	Evidence of consultant led HASU team, to meet the requirements of the service volumes the Trust is offering to provide							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q17 Clinical (B) – Provider information

Q18 Clinical (B)		
Criterion	Evidence of daily Consultant ward rounds 7 days a week	
For internal Use only		
Evaluation score		Comments:

Q18 Clinical (B) – Provider information

Q19 Clinical (B)		
Criterion	Proposals to support arrangements for timely repatriation to appropriate local or co-located ASU	
For internal Use only		
Evaluation score		Comments:

Q19 Clinical (B) – Provider information

Q20 Clinical (B)		
Criterion	Evidence of sharing information between HASU and ASU, if not co-located (Yes/No)	
For internal	Use only	
Evaluation score		Comments:

Q20 Clinical (B) – Provider information

Q21 Clinical (B)		
Criterion	Access is also available to tertiary care services (onsite or offsite with clear protocols) to provide: • Neuro surgery • Vascular surgery Evidence of management plan for access to neurosurgery, interventional neuro-radiology and vascular surgery for appropriate patients	
For internal	Use only	
Evaluation score		Comments:

Q21 Clinical (B) – Provider information

Q22 Clinical (B)		
Criterion	Acute stroke services have access (not necessarily onsite) to the following support services and clinical interpretation: • Brain imaging (MRI and CT)¹ • Carotid imaging (including ultrasound, MRA, CTA) • Based on carotid imaging/ stenosis, CEA should be undertaken as soon as possible and within 7 days² of symptoms (CEA Surgery is the responsibility of the Vascular Centre)	
For internal	Use only	
Evaluation score		Comments:

Q22 Clinical (B) – Provider information

¹ Brain imaging should be performed immediately (ideally the next imaging slot and definitely within 1 hour) for people with acute stroke if several conditions apply, else as soon as possible and at most within 24 hours (RCP 2012 – 4.5.1 A & B)

² RCP 2012 – 4.4.1 C

Q23 Clinical (B)								
Criterion	100% of appropriate patients to receive continuous physiological monitoring (ECG, oximetry, blood pressure) by appropriately trained staff							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q23 Clinical (B) – Provider information

Q24 Clinical (B)	
Criterion	Please provider data for the following standards, including data completeness and any plans to improve data quality if appropriate. Data should be provided for Q1- 4 2012/13 and Q1-3 for 2013/14
1	Proportion of patients directly admitted to a stroke unit within 4 hours of clock start.(SSNAP)
2	% seen & assessed within 30 Min of arrival (SSNAP)
3	Proportion of patients who were thrombolysed within 60 mins of clock start (SSNAP)
4	Proportion of patients who were thrombolysed within 45 mins of clock start (SSNAP)
5	Proportion of patients who were thrombolysed within 30 mins of clock start (SSNAP)
6	Proportion of applicable patients who were given a swallow screen within 4H of clock start (SSNAP)
7	Proportion of applicable patients who were given a formal swallow assessment with 72H of clock start (SSNAP)
8	Proportion of applicable patients who are assessed by a nurse within 24H AND at least one therapist within 24H and all relevant therapists within 72H of clock start (SSNAP)
9	Proportion of all stroke patients given thrombolysis (all stroke types) (SSNAP)
10	Proportion of patients who spent at least 90% of their stay on a stroke unit (SSNAP)
11	Carotid Duplex performed with 24 hrs of admission patients suitable for CE (this is not all patients)
12	Proportion of patients scanned within 1 hour of clock start
13	Proportion of patients scanned within 24 hours of clock start
14	Number of patients diagnosed with a stroke as an inpatient
15	Proportion of applicable patients in AF on discharge who are discharged on

	anticoagulants or with a plan to start anticoagulation.
16	SSNAP can determine: AF before stroke or If discharged alive, in AF (TBC by LCAG)
For internal	Use only
Evaluation score	Comments:

Q24 Clinical (B) – Provider information

Workforce Criteria:

Section A:

Q1 Workforce (A) Q1	
Criterion	Evidence and completion of leadership training for key members of the stroke team to support stroke service improvement Evidence of appropriate training offered to stroke clinical team. Provision of, and attendance at, MDT Stroke training governance programme.
For internal	Use only
Evaluation score	Comments:

Q1 Workforce (A) – Provider information

Q2 Workforce (A)	
Criterion	Detail the number of posts, rotated between HASU, ASU and Inpatient/Community Rehabilitation and what is the plan for rotation of posts across the professional groups along the patient pathway. Please provide information if the Trust has considered working in collaboration with another provider to support effective rotation and skilling of staff.
For internal	Use only
Evaluation score	Comments:

Q2 Workforce (A) – Provider information

Q3 Workforce (A)		
Criterion	Q3 - Recruitment plans for vacant positions and proposal for filling vacant positions	
For internal Use only		
Evaluation score		Comments:

Q3 Workforce (A) – Provider information

Q4 Workforce (A)		
Criterion	Demonstration of participation in stroke related research, as a key part of the HASU services. To be part of a research network, have a dedicated stroke research lead and actively participate in research (e.g. On the role of interventional radiology in treatment of acute ischaemic stroke or whether the increased intensity of therapy results in improved outcomes) Work with Stroke Research Networks Providers of stroke services are actively engaged with their local stroke network. Be open to performing and participating in national and international trials	
For internal Use only		
Evaluation score		Comments:

Q4 Workforce (A) – Provider information

Section B Workforce:

Q5 Workforce (B)								
Criterion	Evidence that the stroke service is consultant stroke specialist led: Access to consultant stroke specialist³ decision making for all hyper acute stroke related issues, including thrombolysis 24/7: In person or via telemedicine⁴ Sustainable on-call consultant with stroke training rota (no more than 1:6) At least daily consultant stroke specialist rounds, 7 days a week							
For internal Use only								
Evaluation score								Please provide reasoning for evaluation score if different from provider self – assessment

³ A stroke specialist is defined as a healthcare professional with the necessary knowledge and skills in managing people with stroke, usually evidenced by having a relevant further qualification and keeping up-to-date through CPD; it does not require the person to exclusively see people with stroke (RCP 2012 – 3.2)

⁴ Telemedicine with telephone and video, with a local specialist stroke nurse (and IT support and regular audits for quality) can be used as an alternative to face-to-face with a stroke specialist (RCP 2012 – 3.4)

Q5 Workforce (B) – Provider information

Q6 Workforce (B)							
Criterion	Multidisciplinary Team: Hyper acute services have a sufficient multi-disciplinary team on rota to provide service outcomes with an identified consultant stroke specialist clinical lead: • 24/7 availability of appropriately trained staff for assessment of all patients, including thrombolysis eligibility assessment • Specialist stroke nursing is available for the care and monitoring of all hyper acute service patients Meet at least once a week to exchange information about individual patients⁵						
For internal Use only							
Evaluation score							Comments:

⁵ RCP 2012 – 3.2.1 F

Q6 Workforce (B) – Provider information

Workforce (B) Q7								
Criterion	Staffing Numbers Hyper acute services provide minimum staffing ratios⁶ of: • 6 BASP thrombolysis trained physicians on a rota 24/7 • 2.9 WTE nurses per bed to comply with 80:20 trained vs. untrained skill mix • 0.73 WTE Physiotherapist per 5 beds (respiratory & neuro) • 0.68 WTE Occupational Therapist per 5 beds • 0.68 WTE S&LT per 10 beds • Access to social worker Where the Trust would like to deliver increased volumes they must demonstrate plans to increase respective workforce to meet the criteria							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q7 Workforce (B) – Provider information

Q8 Workforce (A)	
Criterion	Evidence of Stroke physician attendance at British Association of Stroke Physicians (BASP) includes European or World Stroke Association meetings & Karolinska institute Sweden, European stroke conference.
For internal Use only	
Evaluation score	Comments:

Q8 Workforce (B) – Provider information

⁶ RCP 2012 – 3.3

Q9 Workforce (B)		
Criterion	Evidence of development of HASU staff to provide external training. Teaching responsibility on stroke courses. Response to external teaching request.	
For internal Use only		
Evaluation score		Comments:

Q9 Workforce (B) – Provider information

Access:

Q1 Access		
Criterion	Please describe your current arrangements and future plans to ensure the Stroke service delivers optimum patient experience and high quality outcomes. Ensuring that patients and their carers are informed throughout the care pathway on a regular and timely basis?	
For internal Use only		
Evaluation score		Comments:

Q1 Access – Provider information

Q2 Access		
Criterion	Please describe the process the Trust uses to ensure patients are involved in any service change for stroke pathways	
For internal Use only		
Evaluation score		Comments:

Q2 Access – Provider information

Q3 Access		
Criterion	Please demonstrate that the stroke service has conducted an assessment of the patient's care pathway to identify any negative differential impacts of the service on people who have a protected characteristic (as listed in the Equality Act 2010) and that it fully complies with the requirements of s149 of the Equality Act 2010 (the 'general' duty) and any specific equality duties published as part of the Public Sector Equality Duty. Any action plan arising from this assessment should be provided with clear timescales for completion	
For internal Use only		
Evaluation score		Comments:

Q3 Access – Provider information

Q4 Access		
Criterion	Formal links exist with patient and carer organisations e.g. local users' forum, Stroke Association Group, community stroke clubs. Please evidence how you use support from the Voluntary Sector to improve patient experience i.e Organisational/Individual	
For internal	Use only	
Evaluation score		Comments:

Q4 Access – Provider information

Q5 Access		
Criterion	Please provide details of how you will ensure education of service users presenting with conditions that can be self-managed and referral to health promotion and lifestyle services.	
For internal	Use only	
Evaluation score		Comments:

Q5 Access – Provider information

Q6 Access		
Criterion	Availability of car parking for increased volumes of confirmed stroke activity. High Level Business plan to support capacity planning for parking	
For internal	Use only	
Evaluation score		Comments:

Q6 Access – Provider information

Ease of Deliverability

Q1 Ease of deliverability								
Criterion	Please provide details of the proposed bed capacity of the HASU service. Please note that the beds allocated to a HASU cannot be allocated to a ASU. To support the configuration please provide details of the proposed minimum and maximum bed capacity you might wish to offer. • Current bed capacity • Proposed bed capacity • Minimum bed capacity (to ensure financial stability) • Maximum bed capacity Site Name(s) and Postal code (s)							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed score								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)
								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q1 Ease of deliverability – Provider information

Q2 Ease of deliverability								
Criterion	Please include information on any infrastructure requirements that the Trust is dependent on to deliver increased volumes of HASU activity outlined in the guidance section. Evidence can highlight that within a set level of activity such as 900 no infrastructure is required however anything above that would require an additional ward etc Please also highlight if there are any interdependencies with other projects such as Urgent care.							
Activity	600	900	1200	1500	1800	2100	2400	
Provider self-assessed								5 Criteria currently implemented
								4 Criteria will be implemented by anticipated 'go live' (January 2016)

score								3 Criteria will be implemented by 6 months from 'go live'
								2 Criteria will be implemented by 12 months from 'go live'
								1 Criteria will be implemented by 18 months from 'go live'
								0 Criteria will not be implemented until after 18 months from 'go live'
For internal Use only								
Evaluation score								Comments:

Q2 Ease of deliverability – Provider information

Q3 Ease of deliverability		
Criterion	Please provide proposals/operational plans/clinical protocols to transfer patients internally and externally for mimics where appropriate Impact assessment on internal pathways, confirmed stroke and mimic repatriation	
For internal Use only		
Evaluation score		Comments:

Q3 Ease of deliverability – Provider information

Q4 Ease of deliverability		
Criterion	Please provide contingency plans to support evidence of a sustainable Stroke service. For example CT Scanner failure, Urgent care pressures, HASU bed capacity unavailability etc	
For internal Use only		
Evaluation score		Comments:

Q4 Ease of deliverability – Provider information

Q5 Ease of deliverability		
Criterion	What are the major strengths of your proposed HASU service?	
For internal Use only		
Evaluation score		Comments:

Q5 Ease of deliverability – Provider information

Q6 Ease of deliverability		
Criterion	What are the key challenges and areas in need of development within your proposed HASU service to meet the key performance standards and how do you propose to overcome these?	
For internal Use only		
Evaluation score		Comments:

Q6 Ease of deliverability – Provider information (limited to 300 words)

Q7 Ease of deliverability		
Criterion	Are there any areas/standards that you anticipate will not be in place by April 2015 for <u>current volume</u> of patients that the Trust is receiving?	
For internal Use only		
Evaluation score		Comments:

Q7 Ease of deliverability – Provider information

Strategic Fit:

Q1 Strategic Fit		
Criterion	Evidence of systems to support cross trust working where applicable	
For internal Use only		
Evaluation score		Comments:

Q1 Strategic Fit - Provider information

Q2 Strategic Fit		
Criterion	Demonstrate the benefits /adverse impact of inter-dependence with other services, in the event that the Trust does not secure a HASU service and at what level will any risks with interdependencies come into play	
For internal Use only		
Evaluation score		Comments:

Q2 Strategic Fit - Provider information

Q3 Strategic Fit		
Criterion	Please give information of achievement of 4 hour A&E target for 12/13 and 13/14 to date and any plans to improve performance.	
For internal Use only		
Evaluation score		Comments:

Q3 Strategic Fit - Provider information

Q4 Strategic Fit		
Criterion	Please provide detail of the arrangements in place between the acute trust and your CCG to ensure co-working in the Stroke/TIA pathway	
For internal Use only		
Evaluation score		Comments:

Q4 Strategic Fit - Provider information

Cost and Affordability:

Q1 Cost and Affordability		
Criterion	Please provide a concise business case supported by the agreed financial template to support meeting the set-up and running cost of a stroke service. Please include evidence of a gap assessment between current and planned service, set-up and running cost estimates for planned service and a financial plan for meeting these estimated costs. Further supplementary documentation may be submitted if appropriate	
For internal Use only		
Evaluation score		Comments:

Q1 Cost & affordability - Provider information

Q2 Cost and Affordability		
Criterion	Evidence of sustainable operational processes to support the most cost-effective service delivery. • Activity vs. workforce • Throughput of bed capacity • Reduction in readmission for stroke • Evidence of pooled resources has been considered	
For internal Use only		
Evaluation score		Comments:

Q2 Cost & affordability - Provider information

Birmingham, Solihull and Black Country Stroke Review

Evaluation template for the provision of Acute Stroke Unit (ASU) service:

This template is intended for those providers who currently provide ASU services. It demonstrates how provider services will support current and future HASU configurations. The evaluation template is broken down into the following sections:

- guidance notes
- declaration of organisation's commitment to provide ASU service, including details of provider and partnering provider where appropriate
- an overview which supports the demonstration of high level detail on capacity, key strengths and challenges in delivering a ASU service and a business plan to support this
- the option appraisal criteria sections allows providers to give evidence of key criteria already met and how they would plan to meet those criteria not met at present and also demonstrates future service sustainability

Guidance notes:

As part of the Midlands and East Stroke Review, the Midlands and East External Expert Advisory Group (EEAG) produced an evidence based best practice specification for the stroke pathway. This specification is being used to identify the changes necessary to achieve a step change improvement in stroke care. This specification has been updated by the Local Clinical Advisory Group to reflect the SSNAP performance standards and is being used to identify the changes necessary to achieve a step change improvement in stroke care.

Local health systems are invited to identify proposals of how the specification can be delivered across its health economy. Please ensure you have read the service specification thoroughly before completing this template for proposals.

This paper sets out a template for proposal returns and guidance notes to support local health systems, and the Stroke Programme team will be responsible for coordinating the response template as detailed in this document.

This document outlines the criteria required to be met by providers who currently have an acute stroke unit (ASU) service. An ASU service provides the care following the hyper-acute episode response to a stroke, where the patient is stabilised and receives primary intervention. The length of stay in ASU is typically should start typically from day 4 following the admission for stroke. Provision of a transient ischaemic attack (TIA) service is mandatory for a provider if they intend to bid for provision of an ASU service. It is expected that ASU services are provided for the current geographical catchment area. Exceptionally, where local arrangements are in operation or planned, supplementary evidence of the seamless

transfer of patients between care settings must be provided. All providers will be asked to complete the template supporting the provision of a TIA service.

The evaluation criteria for the provision of an ASU service have been developed in collaboration with local clinical experts, National Stroke Clinical Leads, SSNAP, the National Stroke Strategy and NICE guidelines, underpinned by established evidence of good clinical practice, and are divided into six sections:

High level criteria against which the Independent Clinical Advisory Group will assess local proposals

The criteria set out below, will be used by the Independent Clinical Advisory Group to assess emerging proposals.

benefit realisation criteria:

- quality of services
- workforce including innovation and research & development
- access
- ease of delivery
- improved strategic fit

The cost and affordability criteria will be assessed by a sub-group of the CCG Financial Stroke Programme Sub-Group

- cost and affordability

Format of proposals and timescale for submission

Proposals should cover all the stages in the ASU through to end of life as defined in the stroke services pathway, as defined on page 4 of the stroke services specification. The structure of template follows the stroke pathways structure to ensure comprehensive responses to the service specification. Providers are therefore asked to carry out an assessment of when they expect to meet the criteria for the respective activity level

Option appraisal process:

The option appraisal process will be carried out in line with the following methodology, which will support an evaluation method measuring quality and price. All six headings will have an equal score out of 100 and this will be distributed evenly within the subheadings of each area.

Areas for review of provider submission evaluation	Score
Quality of services	16.7
Workforce including innovation and research & development	16.7
Access	16.7
Ease of delivery	16.7
Improved strategic fit	16.7
Cost and affordability	16.7
Total	100

The questions that are to be answered by provider templates will be scored as follows for the following question:-

Score	Definition
5	Meets the standard exactly and demonstrates innovation
4	Meets the standard exactly
3	Meets the standard in most aspects
2	Fails to meet the standard in most aspects
1	Fails to meet the standard
0	No response submitted

The Stroke Review Programme recognises that the proposed acute stroke service providers may not currently have the entire infrastructure in place to meet all of the criteria. An implementation period will be agreed with providers to complete their mobilisation plans to deliver all criteria, thus achieving a gold standard ASU service.

Declaration of organisational commitment:

Declaration of commitment by the proposed ASU clinical lead and management lead, Chief Executive of the Trust and any partnering providers if appropriate will be required to endorse the submission.

Evaluation overview:

Birmingham, Solihull and Black Country Stroke Review 2014 – ASU Evaluation Template

Clinical Structure and Governance Framework:

Providers will be expected to submit details of clinical structure, governance framework for the organisation evidence of fully functioning facilities to support the provision of a high quality ASU. A diagrammatic representation of the clinical structure and/or governance framework may be submitted as supplementary documentation.

Capacity Plan:

Providers will be expected to provide details of their Capacity Plan demonstrating how it will provide an ASU service to all stroke patients. Detailing the proposed bed-capacity for the ASU unit, further information on the Capacity Plan may be submitted as supplementary information. Providers will be expected to provide a high-level overview of the key strengths and challenges currently facing the provider.

Business Plan:

Providers will also be expected to provide a Business Plan for meeting set-up costs of an ASU service that meets the best practice criteria.

Further information on the business plan may be submitted as supplementary documentation if applicable.

Supplementary information:

Supplementary information must be clearly referenced with the evaluation template i.e. ASU/ASU/TIA or rehabilitation, the name of the provider and the criteria number i.e. ASU template, Hospital X, Criterion X. Reference should also be made in the evaluation template (under the relevant question), referencing the presence of supplementary documentation to ensure that the option appraisal process reviews all the documentation.

All templates should be submitted as per the instructions in Document A “Option Appraisal Process” by **Friday 14 March 2014**

Please note summaries/plans for each criterion should be limited to 300 words.

Declaration of interest:

Section A	
Name of proposed site for stroke service:	
Name of NHS Trust to which the hospital site belongs	
Trust Chief Executive	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Stroke Clinical lead	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Section B: partnering Trust (s) complete if appropriate	
Name of proposed site for stroke service:	
Name of NHS Trust to which the hospital site belongs	
Trust Chief Executive	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Stroke Clinical lead	
Name	
Work Address	
E-mail	
Telephone	
Signature	

ASU evaluation criteria:

Clinical Quality

Section A :

Q1 Clinical (A)		
Criterion	Please provide a concise summary of clinical structure to support delivery of a high quality Hyper -Acute stroke to promote continuous measurement and improvement of the ASU service. A diagram outlining the clinical structure of the initiation (and partnering institution) may be submitted if appropriate.	
For internal	Use only	
Evaluation score		Comments:

Q1 Clinical (A) – Provider information

Q2 Clinical (A)		
Criterion	Demonstrate all clinical services take responsibility for all aspects of data collection, keeping stroke register, and participating in national stroke audit (SSNAP) either directly or via upload of equivalent local data that enables comparison with regional and national peers)	
For internal	Use only	
Evaluation score		Comments:

Q2 Clinical (A) – Provider information

Q3 Clinical (A)		
Criterion	Demonstration of a stroke management group to oversee service delivery and improvement review of performance standards, impact of new guidance and methods for improvement of service	
For internal	Use only	
Evaluation score		Comments:

Q3 Clinical (A) – Provider information

Q4 Clinical (A)		
Criterion	Please describe your approach to continuous quality improvement including, ensuring that the evidence base of clinical practice is reviewed and where necessary guidelines and protocols are updated e.g. with NICE guidance, national and local audit reports etc. and how this contributes to delivery of QIPP and value for money.	
For internal Use only		
Evaluation score		Comments:

Q4 Clinical (A) – Provider information

Q5 Clinical (A)		
Criterion	Please describe how your systems for clinical risk management and investigation will be applied to Stroke services including reviews of morbidity and mortality and identification and investigation of adverse incidents using root cause analysis methodology	
For internal Use only		
Evaluation score		Comments:

Q5 Clinical (A) – Provider information

Q6 Clinical (A)		
Criterion	Please provide a high level overview of your plans to ensure that patient records and patient information are accessible at Hub & Spoke sites	
For internal Use only		
Evaluation score		Comments:

Q6 Clinical (A) – Provider information

Clinical Criteria - Section B

Q7 Clinical (B)		
Criterion	Plan to support timely admission for all stroke patients from HASU to ASU.	
For internal Use only		
Evaluation score		Comments:

Q7 Clinical (B) – Provider information

Q8 Clinical (B)		
Criterion	A radiology service responsible for the provision of the following: • CT scanning and reporting • MRI reporting • Ultrasonic angiology	
For internal Use only		
Evaluation score		Comments:

Q8 Clinical (B) – Provider information

Q9 Clinical (B)		
Criterion	Evidence of Consultant or equivalent led ward rounds per week	
For internal Use only		
Evaluation score		Comments:

Q9 Clinical (B) – Provider information

Q10 Clinical (B)		
Criterion	Evidence of Multidisciplinary meetings at least once a week	
For internal Use only		
Evaluation score		Comments:

Q10 Clinical (B) – Provider information

Q11 Clinical (B)		
Criterion	Availability of supporting services e.g. orthotics, podiatry, orthotics, dietetics	
For internal Use only		
Evaluation score		Comments:

Q11 Clinical (B) – Provider information

Q12 Clinical (B)		
Criterion	Availability of rehabilitation facilities e.g. access to physio gym, OT kitchen, SALT equipment	
For internal Use only		
Evaluation score		Comments:

Q12 Clinical (B) – Provider information

Q13 Clinical (B)		
Criterion	Demonstration of agreed referral pathway's from ASU to community rehabilitation provider for ESD and community rehabilitation	
For internal Use only		
Evaluation score		Comments:

Q13 Clinical (B) – Provider information

Q14 Clinical (B)		
Criterion	Evidence for arrangements for timely discharge of patients from ASU with appropriate health and social care support packages i.e. ESD/Community rehabilitation	
For internal Use only		
Evaluation score		Comments:

Q14 Clinical (B) – Provider information

Q15 Clinical (B)		
Criterion	Plan for management of average length of stay	
For internal Use only		
Evaluation score		Comments:

Q15 Clinical (B) – Provider information

Q16 Clinical (B)		
Criterion	Sharing of information between ASU and GP and rehabilitation provider if applicable	
For internal Use only		
Evaluation score		Comments:

Q16 Clinical (B) – Provider information

Q17 Clinical (B)		
Criterion	Evidence of Consultant led ASU team including evidence of dedicated junior medical team trained in stroke management	
For internal Use only		
Evaluation score		Comments:

Q17 Clinical (B) – Provider information

Q18 Clinical (B)		
Criterion	Evidence of 100% of appropriate patients to receive weekly nutritional screening	
For internal Use only		
Evaluation score		Comments:

Q18 Clinical (B) – Provider information

Q19 Clinical (B)		
Criterion	Provision of named contact within the care setting for each patient	
For internal Use only		
Evaluation score		Comments:

Q19 Clinical (B) – Provider information

Q20 Clinical (B)		
Criterion	Evidence of the use of the outcome measure e.g, Rankin score	
For internal	Use only	
Evaluation score		Comments:

Q20 Clinical (B) – Provider information

Q21 Clinical (B)		
Criterion	Evidence of a protocol to initiate suitable secondary prevention measures in all appropriate patients	
For internal	Use only	
Evaluation score		Comments:

Q21 Clinical (B) – Provider information

Q22 Clinical (B)		
Criterion	Acute stroke services have access (not necessarily onsite) to the following support services and clinical interpretation: • Brain imaging (MRI and CT)¹ • Carotid imaging (including ultrasound, MRA, CTA) • Based on carotid imaging/ stenosis, CEA should be undertaken as soon as possible and within 7 days² of symptoms Access is also available to tertiary care services (onsite or offsite with clear protocols) to provide: • Neuro surgery • Vascular surgery	
For internal	Use only	
Evaluation score		Comments:

Q22 Clinical (B) – Provider information

¹ Brain imaging should be performed immediately (ideally the next imaging slot and definitely within 1 hour) for people with acute stroke if several conditions apply, else as soon as possible and at most within 24 hours (RCP 2012 – 4.5.1 A & B)

² RCP 2012 – 4.4.1 C

Q23 Clinical (B)		
Criterion	Please provider data for the following standards, including data completeness and any plans to improve data quality if appropriate. Data should be provided for Q1- 4 2012/13 and Q1-3 for 2013/14	
1	Proportion of applicable patients who have rehabilitation goals agreed within 5 days of clock start	
2	Proportion of applicable patients who have a continence plan drawn up within 3 weeks of clock start.	
3	Proportion of applicable patients who were assessed by an OT within 72h of clock start.	
4	Proportion of applicable patients who were assessed by a Physiotherapist within 72h of clock start.	
5	Proportion of applicable patients who were assessed by a speech and language therapist within 72h of clock start.	
6	Compliance (%) against the therapy target of an average of 25.7 minutes of OT across all patients (Target = 45 Minutes x (5/7) x 0.8 which is 45 minutes of OT x 5 out of 7 days per week x 80% of patients)	
7	Compliance (%) against the therapy target of an average of 25.7 minutes of Physio across all patients (Target = 45 Minutes x (5/7) x 0.8 which is 45 minutes of Physio x 5 out of 7 days per week x 80% of patients)	
8	Compliance (%) against the therapy target of an average of 25.7 minutes of SALT across all patients (Target = 45 Minutes x (5/7) x 0.8 which is 45 minutes of SALT x 5 out of 7 days per week x 80% of patients)	
9	Proportion of applicable patients who have mood and cognition screening by discharge.	
10	Proportion of applicable patients receiving a joint health and social care plan on discharge	
For internal Use only		
Evaluation score		Comments:

Q23 Clinical (B) – Provider information

Workforce Criteria:

Section A

Q1 Workforce (A)		
Criterion	Evidence and completion of leadership training for key members of the stroke team to support stroke service improvement. Evidence of appropriate training offered to stroke clinical team provision of and attendance at, MDT Stroke training governance programme	
For internal Use only		
Evaluation score		Comments:

Q1 Workforce (A) – Provider information

Q2 Workforce (A)		
Criterion	Detail the number of posts, rotated between HASU, ASU and Inpatient/Community Rehabilitation and what is the plan for rotation of posts across the professional groups along the patient pathway. Please provide information if the Trust has considered working in collaboration with another provider to support effective rotation and skilling of staff	
For internal Use only		
Evaluation score		Comments:

Q2 Workforce (A) – Provider information

Q3 Workforce (A)		
Criterion	Q3 - Recruitment plans for vacant positions and proposal for filling vacant positions	
For internal Use only		
Evaluation score		Comments:

Q3 Workforce (A) – Provider information

Q4 Workforce (A)		
Criterion	Demonstration of participation in stroke related research, as a key part of the ASU services.	
	To be part of a research network, have a dedicated stroke research lead and actively participate in research. Work with Stroke Research Networks. Providers of stroke services are actively engaged with their local stroke network. Be open to performing and participating in national and international trial	
For internal Use only		
Evaluation score		Comments:

Q4 Workforce (A) – Provider information

Section B

Q5 Workforce (B)		
Criterion	Please provide evidence of a dedicated ASU (independent of HASU) multidisciplinary team comprising of ³ : • Nurses: 1.35 WTE per bed (65:35 trained to untrained skill mix) • Physiotherapists: 0.84 WTE per 5 beds • Occupational Therapists: 0.81 WTE per 5 beds • Speech & Language Therapists: 0.81 WTE per 10 beds • Psychologists • Dieticians • Social workers	
For internal Use only		
Evaluation score		Comments:

Q5 Workforce (B) – Provider information

³ RCP 2012 – 3.3

Q6 Workforce (B)		
Criterion	Q6 - Please provide information that access is available to a range of additional professionals including those in: ○ Clinical Psychology ○ Oral health ○ Orthoptics ○ Orthotics ○ Pharmacy Note: where combined stroke units are used, it is expected that beds are designated as hyper acute and acute, then staffed according to the hyper acute service and acute service standards outlined.	
For internal Use only		
Evaluation score		Comments:

Q6 Workforce (B) – Provider information

Q7 Workforce (B)		
Criterion	Please provide sufficient capacity to provide the service to the performance standards set: • Consultant specialist stroke physician available 5 days a week • Consultant to see all new patients on the next working day following admission and provide 5 day a week consultant review • Provide a means for a consultant review of a deteriorating patient out-of-hours • 24/7 provision of stroke trained nurses • Identified clinical leads (i.e. one A&E Clinical Stroke Lead and one Radiology Stroke Lead) • 7 day provision of stroke trained multidisciplinary therapists Regular stroke physician to input into the review and medical management of patients ⁴	
For internal Use only		
Evaluation score		Comments:

Q7 Workforce (B) – Provider information

⁴ BASP Stroke Service Standards – 4.3

Access:

Q1 Access		
Criterion	Please describe your current arrangements and future plans to ensure the Stroke service delivers optimum patient experience and high quality outcomes. Ensuring that patients and their carers are informed throughout the care pathway on a regular and timely basis.	
For internal	Use only	
Evaluation score		Comments:

Q1 Access – Provider information

Q2 Access		
Criterion	Please describe the process the Trust uses to ensure patients are involved in any service change for stroke pathways	
For internal	Use only	
Evaluation score		Comments:

Q2 Access– Provider information

Q3 Access		
Criterion	Please demonstrate that the stroke service has conducted an assessment of the patient's care pathway to identify any negative differential impacts of the service on people who have a protected characteristic (as listed in the Equality Act 2010) and that it fully complies with the requirements of s149 of the Equality Act 2010 (the 'general' duty) and any specific equality duties published as part of the Public Sector Equality Duty. Any action plan arising from this assessment should be provided with clear timescales for completion	
For internal	Use only	
Evaluation score		Comments:

Q3 Access– Provider information

Q4 Access		
Criterion	Formal links exist with patient and carer organisations e.g. local users' forum, Stroke Association Group, community stroke clubs. Please evidence how you use support from the Voluntary Sector to improve patient experience i.e Organisational/Individual	
For internal Use only		
Evaluation score		Comments:

Q4 Access– Provider information

Q5 Access		
Criterion	Please provide details of how you will ensure education of service users presenting with conditions that can be self-managed and referral to health promotion and lifestyle services.	
For internal Use only		
Evaluation score		Comments:

Q5 Access– Provider information

Ease of deliverability:

Q1 Ease of Deliverability		
Criterion	Please provide a concise summary of appropriate facilities in place to support provision of a: ASU service (summary should include information in the event the Trust is not successful in securing a HASU service) Please provide details of a capacity plan demonstrating how the institution will provide an ASU service to all stroke patients.	
For internal Use only		
Evaluation score		Comments:

Q1 Ease of Deliverability – Provider information

Q2 Ease of Deliverability		
Criterion	Please provide details of the proposed bed capacity of the ASU service. Please note that the beds allocated to an ASU cannot be allocated to HASU unit. To support the configuration please provide detail of the proposed minimum and maximum bed capacity you might wish to offer.	
For internal Use only		
Evaluation score		Comments:

Q2 Ease of Deliverability – Provider information

Q3 Ease of Deliverability		
Criterion	Please provide contingency plans to support evidence of a sustainable Stroke service. For example CT Scanner failure, Urgent care, etc	
For internal Use only		
Evaluation score		Comments:

Q3 Ease of Deliverability – Provider information

Q4 Ease of Deliverability		
Criterion	What are the major strengths of your proposed ASU service?	
For internal Use only		
Evaluation score		Comments:

Q4 Ease of Deliverability – Provider information

Q5 Ease of Deliverability		
Criterion	What are the key challenges and areas in need of development within your proposed ASU service to meet the key performance standards and how do you propose to overcome these?	
For internal Use only		
Evaluation score		Comments:

Q5 Ease of Deliverability – Provider information

Q6 Ease of Deliverability		
Criterion	Are there any areas that you anticipate will not be in place by April 2015 for the current volume of patients?	
For internal Use only		
Evaluation score		Comments:

Q6 Ease of Deliverability – Provider information

Strategic Fit:

Q1 Strategic Fit		
Criterion	Evidence of systems to support cross trust working where applicable Proof of joint agreements/protocols	
For internal Use only		
Evaluation score		Comments:

Q1 Strategic Fit – Provider information

Q2 Strategic Fit		
Criterion	Demonstrate the benefits /adverse impact of inter-dependence with other services in the event that the Trust does not secure a HASU service	
For internal Use only		
Evaluation score		Comments:

Q2 Strategic Fit – Provider information

Q3 Strategic Fit		
Criterion	Please give information of achievement of four hour A&E target for 12/13 and 13/14 up to date and any plans to improve performance.	
For internal Use only		
Evaluation score		Comments:

Q3 Strategic Fit – Provider information

Q4 Strategic Fit		
Criterion	Please give an indication of how effective discharges are, highlighting any concerns i.e. where Trusts are unable to discharge due to social care concerns etc	
For internal Use only		
Evaluation score		Comments:

Q4 Strategic Fit – Provider information

Q5 Strategic Fit		
Criterion	Please provide detail of the arrangements in place between the acute trust and CCG to ensure co working in the Stroke/TIA pathway.	
For internal Use only		
Evaluation score		Comments:

Q5 Strategic Fit – Provider information

Cost and Affordability:

Q1 Cost and Affordability		
Criterion	Please provide a concise business case supported by the agreed financial template to support meeting the set-up and running cost of a stroke service. Please include evidence of a gap assessment between current and planned service, set-up and running cost estimates for planned service and a financial plan for meeting these estimated costs. Further supplementary documentation may be submitted if appropriate	
For internal Use only		
Evaluation score		Comments:

Q1 Cost and Affordability– Provider information

Q2 Cost and Affordability		
Criterion	Evidence of sustainable operational processes to support the most cost-effective service delivery. • Activity vs. workforce • Throughput of bed capacity • Reduction in readmission for stroke • Evidence of pooled resources has been considered	
For internal Use only		
Evaluation score		Comments:

Q2 Cost and Affordability – Provider information

Birmingham, Solihull and Black Country Stoke Review

Evaluation template for the provision of Outpatient Transient Ischaemic Attack (TIA) service:

This template is intended for those providers who currently provide outpatient TIA services. It demonstrates how providers will comply with option appraisal process of an outpatient TIA service. The evaluation template is broken down into the following sections:

- guidance notes
- declaration of organisations commitment to provide outpatient TIA service, including details of provider and partnering provider
- an overview which supports the demonstration of high level detail on capacity, key strengths and challenges in delivering a TIA service and a business plan to support this
- the option appraisal criteria sections allows providers to give evidence of key criteria already met and how they would plan to meet those criteria not met at present and also demonstrates future service sustainability

Guidance notes:

As part of the Midlands and East Stroke review, the Midlands and East External Expert Advisory Group (EEAG) produced an evidence based best practice specification for the stroke pathway. This specification is being used to identify the changes necessary to achieve a step change improvement in stroke care.

Local health systems are invited to identify proposals of how the specification can be delivered across its health economy. Please ensure you have read the service specification thoroughly before completing this template for proposals.

This paper sets out a template for proposal returns and guidance notes to support local health systems. The Stroke Programme Team will be responsible for coordinating the completion of the response template as detailed in this document.

This document outlines the service specification required to be met by providers who currently have to provide a Transient Ischaemic Attack (TIA) service. Outpatient TIA services should provide a rapid diagnostic assessment and access to a specialist with 24 hours (high risk) and 7 day within 7 days (low risk). It is expected that Trusts provide TIA services for their current geographical catchment area. Exceptionally, where local arrangements are in operation or planned, supplementary evidence of the seamless transfer of patients between care settings must be provided. All providers will be asked to complete the template supporting the provision of a transient ischaemic attack (TIA) service.

This document sets out the criteria which will be used to recommend the Birmingham, Solihull and Black Country acute stroke service providers. The evaluation criteria for the provision of a TIA service have been developed in collaboration with local clinical experts, National Stroke Clinical Lead SSNAP, National Stroke Strategy and NICE guidelines, underpinned by established evidence of good clinical practice, and are divided into six sections:

High level criteria against which the Independent Expert Advisory Group will assess local proposals

The criteria set out below will be used by the Independent Clinical Advisory Group to assess emerging proposals.

Benefit realisation criteria:

- quality of service
- workforce including innovation and research & development
- access
- ease of delivery
- improved strategic fit

The cost and affordability criteria will be assessed by a sub-group of the CCG Financial Stroke Programme Sub-Group

- cost and affordability

Format of proposals and timescale for submission

Proposals should cover all the stages in the TIA through to end of life as defined in the stroke services pathway, as defined on page 4 of the stroke services specification. The structure of both the detailed Template and Executive Summary Template follows the stroke pathways structure to ensure comprehensive responses to the service specification. Providers are therefore asked to carry out an assessment of when they expect to meet the criteria for the respective activity levels.

Option appraisal process:

The option appraisal process will be carried out in line with the following methodology, all six headings will have an equal score out of 100 and this will be distributed evenly within the subheadings of each area.

Areas for review of provider submission evaluation	Score
Quality of services	16.7
Workforce including innovation and research & development	16.7
Access	16.7
Ease of delivery	16.7
Improved strategic fit	16.7
Cost and affordability	16.7
Total	100

The questions that are to be answered by provider templates will be scored as follows for the following question:

Score	Definition
5	Meets the standard exactly and demonstrates innovation
4	Meets the standard exactly
3	Meets the standard in most aspects
2	Fails to meet the standard in most aspects
1	Fails to meet the standard
0	No response submitted

The Stroke Review Programme recognises that the proposed acute stroke service providers may not currently have the entire infrastructure in place to meet all of the criteria. An implementation period will be agreed with providers to complete their mobilisation plans to deliver all criteria, thus achieving a gold standard TIA service.

Declaration of organisational commitment:

Declaration of commitment by the proposed TIA clinical lead and management lead, Chief Executive of the Trust and any partnering providers if appropriate will be required to endorse the submission.

Evaluation overview:

Clinical structure and governance framework

Providers will be expected to submit details of clinical structure, governance framework for the organisation and evidence of fully functioning facilities to support the provision of a high quality TIA. A diagrammatic representation of the clinical structure and/or governance framework may be submitted as supplementary documentation.

Capacity Plan:

Providers will be expected to provide details of their Capacity Plan demonstrating how it will provide a TIA service to all stroke patients. Detailing the proposed bed-capacity for the TIA unit, further information on the Capacity Plan may be submitted as supplementary information. Providers will be expected to provide a high-level overview of the key strengths and challenges currently facing the provider.

Business Plan:

Provider will also be expected to provide a business plan for meeting set-up costs of a TIA service.

Further information on the Business Plan may be submitted as supplementary documentation if applicable.

Supplementary information:

Supplementary information must be clearly referenced with the evaluation template i.e TIA, the name of the provider and the criteria number i.e TIA template, Hospital X, Criterion X. Reference should also be made in the evaluation template (under the relevant question), referencing the presence of supplementary documentation to ensure that the option appraisal process reviews all the documentation.

All templates should be submitted as per the instructions in Document B “Option Appraisal Process” by **14 March 2014**

Please note summaries/plans for each criterion should be limited to 300 words.

Declaration of interest:

Section A	
Name of proposed site for stroke service:	
Name of NHS Trust to which the hospital site belongs	
Trust Chief Executive	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Stroke Clinical lead	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Section B: partnering Trust (s) complete if appropriate	
Name of proposed site for stroke service:	
Name of NHS Trust to which the hospital site belongs	
Trust Chief Executive	
Name	
Work Address	
E-mail	
Telephone	
Signature	
Stroke Clinical lead	
Name	
Work Address	
E-mail	
Telephone	
Signature	

TIA evaluation criteria:

Clinical Quality

Section A:

Q1 Clinical (A)		
Criterion	Please provide a concise summary of clinical structure to support delivery of a high quality TIA service to promote continuous measurement and improvement of the service. A diagram outlining the clinical structure of the initiation (and partnering institution) may be submitted if appropriate.	
For internal Use only		
Evaluation score		Comments:

Q1 Clinical (A) – Provider information

Q1 Clinical (A)		
Criterion	Demonstration of a stroke management group to oversee service delivery and improvement, review performance standards, impact of new guidance and methods for improvement of the TIA service	
For internal Use only		
Evaluation score		Comments:

Q2 Clinical (A) – Provider information

Q3 Clinical (A)		
Criterion	Please provide your proposed high level overview of your plans to ensure that patient records and patient information are accessible at Hub & Spoke sites	
For internal Use only		
Evaluation score		Comments:

Q3 Clinical (A) – Provider information

Q4 Clinical Criteria (A)		
Criterion	Evidence of pathways in place to support TIA identification as specified in the Midland and East service specification	
For internal Use only		
Evaluation score		Comments:

Q4 Clinical Criteria (A) – Provider information

Clinical Criteria - Section B

Q5 Clinical (B)		
Criterion	Please provide information to support 7 day outpatient high risk TIA clinics in the event the Trust is not successful in becoming a HASU unit. Information should include any collaborative working assumptions made to ensure TIA services can be maintained clinically.	
For internal Use only		
Evaluation score		Comments:

Q5 Clinical (B) – Provider information

Q6 Clinical (B)		
Criterion	Please provide information on internal audit data collection to support the management of TIA services both high and low risk patients	
For internal Use only		
Evaluation score		Comments:

Q6 Clinical (B) – Provider information

Q7 Clinical (B)		
Criterion	Radiology services responsible for the provision of the following: • MRI, MRA, CTA scanning and/or carotid ultrasound service for suspected TIA service • Timely interpretation and reporting by competent specialist stroke registrar A contingency plan to measure continuity of provision of brain and carotid imaging service in case of the breakdown diagnostic equipment	
For internal Use only		
Evaluation score		Comments:

Q7 Clinical (B) – Provider information

Q8 Clinical (B)		
Criterion	Evidence of TIA patients receiving secondary prevention advice including medication management and lifestyle	
For internal Use only		
Evaluation score		Comments:

Q8 Clinical (B) – Provider information

Q9 Clinical (B)		
Criterion	Evidence of sharing information between TIA service and GP	
For internal	Use only	
Evaluation score		Comments:

Q9 Clinical (B) – Provider information

Q10 Clinical (B)		
Criterion	Evidence of patient satisfaction with TIA service	
For internal	Use only	
Evaluation score		Comments:

Q10 Clinical (B) – Provider information

Q11 Clinical (B)		
Criterion	Please provider data for the following standards, including indication of data completeness and any plans to improve data quality if appropriate. Data should be provided for Q1- 4 2012/13 and Q1-3 for 2013/14	
1	TIA cases with a higher risk of Stroke who are assessed and treated within 24hrs of presenting to a healthcare professional	
2	TIA cases with a lower risk of Stroke who are assessed and treated within 7days of presenting to a healthcare professional	
3	% Carotid Surgery within 7 days (TIA & Stroke)	
For internal	Use only	
Evaluation score		Comments:

Q11 Clinical (B) – Provider information

Workforce :

Workforce Section A

Q1		
Criterion	Q1 - Evidence that the service is led by a specialist stroke consultant and provided by a specialist in stroke services with access to the consultant lead or specialist stroke nurse with appropriate specialist competencies (where appropriate). Access to vascular team for patients who require Carotid Endarterectomy.	
For internal Use only		
Evaluation score		Comments:

Q1 Workforce Section - Provider information

Q2 Workforce (A)		
Criterion	Demonstrate how the proposed TIA services will be clinically sustainable: • Number of out-patient clinics Number of working days per week e.g. 7/7 • Stroke Team training • Clinical lead • Access to scanning facilities (Please provide information to support 7 day outpatient high risk TIA clinics in the event the Trust is not successful in becoming a HASU unit. Information should include any collaborative working assumptions made to ensure TIA services can be maintained clinically.)	
For internal Use only		
Evaluation score		Comments:

Q2 Workforce (A) – Provider information

Q3 Workforce		
Criterion	Evidence of A&E staff and GP education on the TIA pathway including TIA recognition and assessment	
For internal Use only		
Evaluation score		Comments:

Q3 Workforce -Provider information

Access:

Q1 Access		
Criterion	Please describe your current arrangements and future plans to ensure the Stroke service delivers optimum patient experience and high quality outcomes. Ensuring that patients and their carers are informed throughout the care pathway on a regular and timely basis.	
For internal Use only		
Evaluation score		Comments:

Q1 Access – Provider information

Q2 Access		
Criterion	Please describe the process the Trust uses to ensure patients are involved in any service change for TIA pathways	
For internal Use only		
Evaluation score		Comments:

Q2 Access – Provider information

Q3 Access		
Criterion	Please demonstrate that the stroke service has conducted an assessment of the patient's care pathway to identify any negative differential impacts of the service on people who have a protected characteristics (as listed in the Equality Act 2010) and that it fully complies with the requirements of s149 of the Equality Act 2010 (the 'general' duty) and any specific equality duties published as part of the Public Sector Equality Duty. Any action plan arising from this assessment should be provided with clear timescales for completion	
For internal Use only		
Evaluation score		Comments:

Q3 Access – Provider information

Q4 Access		
Criterion	Formal links exist with patient and carer organisations e.g. local users' forum, Stroke Association Group, community stroke clubs. Please evidence how you use support from the Voluntary Sector to improve patient experience i.e Organisational/Individual	
For internal	Use only	
Evaluation score		Comments:

Q4 Access – Provider information

Q5 Access		
Criterion	Please provide details of how you will ensure education of service users presenting with conditions that can be self-managed and referral to health promotion and lifestyle services.	
For internal	Use only	
Evaluation score		Comments:

Q5 Access – Provider information

Ease of Deliverability;

Q1 Ease of Deliverability		
Criterion	Please provide a concise summary of appropriate facilities in place to support provision of TIA services.	
For internal	Use only	
Evaluation score		Comments:

Q1 Ease of Deliverability – Provider information

Q2 Ease of Deliverability		
Criterion	Please provide details of a Capacity Plan demonstrating how the institution will provide a TIA service to all stroke patients. Please highlight any interdependence with HASU unit and plan should the Trust only achieve ASU status	
For internal	Use only	
Evaluation score		Comments:

Q2 Ease of Deliverability – Provider information

Q3 Ease of Deliverability		
Criterion	Please provide details of the proposed clinic capacity of the TIA service.	
For internal Use only		
Evaluation score		Comments:

Q3 Ease of Deliverability – Provider information

Q4 Ease of Deliverability		
Criterion	Please provide contingency plans to support evidence of a sustainable Stroke service. For example CT Scanner failure etc	
For internal Use only		
Evaluation score		Comments:

Q4 Ease of Deliverability – Provider information

Q5 Ease of Deliverability		
Criterion	What are the major strengths of your proposed TIA service?	
For internal Use only		
Evaluation score		Comments:

Q5 Ease of Deliverability – Provider information

Q6 Ease of Deliverability		
Criterion	What are the key challenges and areas in need of development within your proposed TIA service to meet the key performance standards and how do you propose to overcome these?	
For internal Use only		
Evaluation score		Comments:

Q6 Ease of Deliverability – Provider information

Q7 Ease of Deliverability		
Criterion	Timescale for implementation where there are gaps in-service provision and /or achievement of standards for current service provision	
For internal Use only		
Evaluation score		Comments:

Q7 Ease of Deliverability – Provider information

Q8 Ease of Deliverability		
Criterion	Are there any areas that you anticipate will not be in place by April 2015 for current volume of patients?	
For internal Use only		
Evaluation score		Comments:

Q8 Ease of Deliverability – Provider information

Strategic Fit:

Q2 Strategic Fit		
Criterion	Evidence of systems to support cross trust working where applicable Proof of joint agreements /protocols	
For internal Use only		
Evaluation score		Comments:

Q2 Strategic Fit – Provider information

Q2 Strategic Fit		
Criterion	Demonstrate the benefits /adverse impact of inter-dependence with other services in the event that the Trust does not secure HASU service, for TIA clinics especially high risk TIA 7 day a week clinics	
For internal Use only		
Evaluation score		Comments:

Q2 Strategic Fit – Provider information

Q3 Strategic Fit		
Criterion	Please provide detail of the arrangements in place between the acute trust and your CCG to ensure co working in the Stroke/TIA pathway.	
For internal Use only		
Evaluation score		Comments:

Q3 Strategic Fit – Provider information

Cost and Affordability:

Q1 Cost and Affordability		
Criterion	Please provide a concise business case supported by the agreed financial template to support meeting the set-up and running cost of a stroke service. Please include evidence of a gap assessment between current and planned service, set-up and running cost estimates for planned service and a financial plan for meeting these estimated costs. Further supplementary documentation may be submitted if appropriate	
For internal Use only		
Evaluation score		Comments:

Q1 Cost and Affordability – Provider information

Q2 Cost and Affordability		
Criterion	Evidence of sustainable operational processes to support the most cost-effective service delivery. • Activity vs. workforce • Throughput of bed capacity • Reduction in readmission for stroke • Evidence of pooled resources has been considered	
For internal Use only		
Evaluation score		Comments:

Q2 Cost and Affordability – Provider information

Birmingham, Solihull and Black Country Stroke Service Review

Rehabilitations, Long Term Care and End of Life Evaluation Template

The stroke review programme recognises that any changes to the hyper-acute stroke services are heavily interdependent with having high quality seamless rehabilitation and long-term care including end of life pathways.

This document asks providers to provide a concise summary of the current rehabilitation and long term care services to support a better understanding of current pathways and to provide information on areas that require strengthening to ensure our patients can have transfer seamlessly from acute services.

The questions that are to be answered by provider templates will be scored as follows for the following question:

Score	Definition
5	Meets the standard exactly and demonstrates innovation.
4	Meets the standard exactly
3	Meets the standard in most aspects
2	Fails to meet the standard in most aspects
1	Fails to meet the standard
0	No response submitted

This will allow the provider information to be summarised to show areas that have the comprehensive service provision in line with the Midlands and East Service specification. The information and recommendations from the Independent Advisory Group will support the following projects within the programme to drive up quality of non HASU, ASU and TIA stroke services:

- inpatient rehabilitation
- community rehabilitation
- long term care
- end of life pathway

These projects will be overseen by the Local Clinical Advisory Group and ratified by the Stroke Programme Board.

Please note summaries/plans for each criterion should be limited to 300 words.

Inpatient rehabilitation:

Patients should be able to access inpatient rehabilitation for whom such a service is appropriate. This inpatient rehabilitation should start as soon as possible and continue for as long as is required by the needs of individual patients.

Following their stay in a stroke unit, a small proportion of stroke survivors may need continuing specialist inpatient rehabilitation in the medium term. There should be access to non-acute inpatient rehabilitation for those survivors with a high level of dependency, who would not benefit from further acute inpatient input but for whom discharge into the community at that stage is not appropriate.

This care is delivered in dedicated non-acute inpatient facilities that meet the inpatient rehabilitation performance standards. Generic settings such as intermediate care beds are therefore not appropriate for this continuing specialist rehabilitation.

Further specialist inpatient care is given to those for whom it is clinically appropriate. This should not be seen as an alternative to care at home from an effective community rehabilitation team.

Q1		
Criterion	Evidence patients have access to consultant led inpatient rehabilitation	
For internal Use only		
Evaluation score		Comments:

Q1 provider information

Q2		
Criterion	Please provide high level pathway for inpatient rehabilitation, also specify if patients are able to access Trust or off-site rehabilitation.	
For internal Use only		
Evaluation score		Comments:

Q2 provider information

Q3		
Criterion	Evidence of individual care plans and goal setting	
For internal Use only		
Evaluation score		Comments:

Q3 provider information

Q4		
Criterion	Evidence of compliance with workforce numbers as provided in the Midlands & East Acute and rehabilitation services should have a multidisciplinary team comprising of ¹ : ○ Nurses: 1.35 WTE per bed (65:35 trained to untrained skill mix) ○ Physiotherapists: 0.84 WTE per 5 beds ○ Occupational Therapists: 0.81 WTE per 5 beds ○ Speech & Language Therapists: 0.81 WTE per 10 beds ○ Psychologists ○ Dieticians ○ Social workers • Access is available to a range of additional professionals including those in: ○ Clinical Psychology ○ Oral health ○ Orthoptics ○ Orthotic ○ Pharmacy	
For internal Use only		
Evaluation score		Comments:

Q4 provider information

Q5		
Criterion	Sufficient capacity to provide the service to the performance standards set: • Consultant specialist stroke physician available 5 days a week • Provide a means for a consultant review of a deteriorating patient out-of-hours • 24/7 provision of stroke trained nurses • 7 day provision of stroke trained multidisciplinary therapists Regular stroke physician to input into the review and medical management of patients ²	
For internal Use only		
Evaluation score		Comments:

Q5 provider information

¹ RCP 2012 – 3.3

Q6		
Criterion	Please provider data for the following standards, including data completeness and any plans to improve data quality if appropriate. Data should be provided for Q1- 4 2012/13 and Q1-3 for 2013/14	
1	Proportion of applicable patients who have rehabilitation goals agreed within 5 days of clock start	
2	Proportion of applicable patients who have a continence plan drawn up within 3 weeks of clock start.	
3	Proportion of applicable patients who were assessed by an OT within 72h of clock start.	
4	Proportion of applicable patients who were assessed by a Physiotherapist within 72h of clock start.	
5	Proportion of applicable patients who were assessed by an speech and language therapist within 72h of clock start.	
6	Compliance (%) against the therapy target of an average of 25.7 minutes of OT across all patients (Target = 45 Minutes x (5/7) x 0.8 which is 45 minutes of OT x 5 out of 7 days per week x 80% of patients)	
7	Compliance (%) against the therapy target of an average of 25.7 minutes of Physio across all patients (Target = 45 Minutes x (5/7) x 0.8 which is 45 minutes of Physio x 5 out of 7 days per week x 80% of patients)	
8	Compliance (%) against the therapy target of an average of 25.7 minutes of SALT across all patients (Target = 45 Minutes x (5/7) x 0.8 which is 45 minutes of SALT x 5 out of 7 days per week x 80% of patients)	
9	Proportion of applicable patients who have mood and cognition screening by discharge.	
10	Proportion of applicable patients receiving a joint health and social care plan on discharge	
For internal Use only		
Evaluation score		Comments:

Q6 Clinical – Provider information

Early Supported Discharge:

Where effective community rehabilitation teams are in place, early supported discharge (ESD) services should be offered. ESD services should have appropriate staffing levels to provide ESD for suitable patients. Services should meet the performance standards for ESD in community rehabilitation, where this is appropriate to the needs of the stroke survivor.

The transition into ESD services from the acute setting should be seamless. While initial assessment of the stroke survivor is carried out by qualified professionals, some care may be delivered by therapy assistants under the supervision of a qualified professional.

Q1		
Criterion	Evidence of established ESD Team in line with the Midlands and East Service specification	
For internal Use only		
Evaluation score		Comments:

Q1– Provider information

Q2		
Criterion	Number of patients referred to ESD	
For internal	Use only	
Evaluation score		Comments:

Q2– Provider information

Q3		
Criterion	• A stroke ESD multidisciplinary team composition should include as a minimum (WTE per 100 cases per year³): ○ Occupational Therapy (1) ○ Physiotherapy (1) ○ Speech and Language Therapy (0.4) • The stroke ESD team has access to support from: ○ Stroke physician (0.1) ○ Nurse (0- 1.2) ○ Social worker (0- 0.5) ○ Rehabilitation assistants (0.25) ○ Clinical Psychology ○ Dieticians ○ Orthotics ○ Orthoptics • There are coordinated stroke skilled ESD teams working in partnership with local authorities and other health and third sector providers	
For internal Use only		
Evaluation score		Comments:

Q3– Provider information

Q4		
Criterion	ESD team meets weekly as a minimum to plan and manage patient care	
For internal Use only		
Evaluation score		Comments:

Q4– Provider information

Q5		
Criterion	Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework	
For internal Use only		
Evaluation score		Comments:

Q5– Provider information

³ East Midlands ESD Service Specification

Q6		
Criterion	Please provide data for the following standards, including data completeness and any plans to improve data quality if appropriate. Data should be provided for Q1- 4 2012/13 and Q1-3 for 2013/14	
1	% Stroke Survivors supported by ESD team	
2	Total number of discharge to ESD provided by Trust	
3	Total Discharged by ESD provided by other provider	
4	% Stroke Survivors treatment started within 1 days of discharge	
5	Waiting time for 1 st appointment for each therapy	
6	Average length of ESD pathway	
For internal Use only		
Evaluation score		Comments:

Q6– Provider information

Community Stroke Rehabilitation:

The existence of an effective community rehabilitation team with specialist stroke skills should be seen as a priority. The aim should be to access to a community rehabilitation team is available to all those for whom it is clinically appropriate. Services should meet the performance standards for community rehabilitation, where this is appropriate to the needs of the stroke survivor.

Community rehabilitation should be a simple, coherent service that is easy to navigate. This service should have a single point of entry, no waiting lists and be accessible to all stroke survivors. It should be designed around the needs and goals of the individual, so the stroke survivor is assessed by a specialist stroke multi-disciplinary team who will determine the best use of the team's resources.

Q1		
Criterion	Evidence of established Community Stroke Rehabilitation Team in line with the Midlands and East Service specification	
For internal Use only		
Evaluation score		Comments:

Q1– Provider information

Q2		
Criterion	Number of patients referred to Community Rehabilitation Stroke Team - Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework - Staff are aware of the Mental Capacity Act and its implications	

	Carers receive training in care, for example, moving, handling and dressing; receive written information on management plan and point of contact for stroke information
For internal Use only	
Evaluation score	Comments:

Q2– Provider information

Q3	
Criterion	Carers receive training in care, for example, moving, handling and dressing; receive written information on management plan and point of contact for stroke information
For internal Use only	
Evaluation score	Comments:

Q3– Provider information

Q4	
Criterion	Please provider data for the following standards, including data completeness and any plans to improve data quality if appropriate. Data should be provided for Q1- 4 2012/13 and Q1-3 for 2013/14
1	Total number of referrals to service
2	Average length of CRST pathway
3	% Contacted by CSRT within 1 days
4	% Assessed within 72 hours
5	Waiting time for 1st appointment for each therapy
For internal Use only	
Evaluation score	Comments:

Q4– Provider information

Long term Care:

Stroke survivors and their carers should be enabled to live a full life in the community⁴ over the medium and long term. Support is required from local services to ensure appropriate, tailored support is provided to assist re-integration into the community and maximise the quality of life experienced by stroke survivors, their carer/s and families.

⁴ National Stroke Strategy Quality Markers – QM 15: Participation in community life

Q1		
Criterion	Evidence of established Long Term Care review pathway in line with the Midlands and East Service specification	
For internal	Use only	
Evaluation score		Comments:

Q1– Provider information

Q2		
Criterion	Provision of information and support for stroke survivors, carers and families: Carers have the opportunity to access long-term emotional and practical support though peer support groups facilitated by charitable or voluntary groups	
For internal	Use only	
Evaluation score		Comments:

Q2– Provider information

Q3		
Criterion	Staff working in long term care should have access to support and guidance from stroke skilled staff as defined in the Midlands and East Service specification	
For internal	Use only	
Evaluation score		Comments:

Q3– Provider information

Q4		
Criterion	Number of patients referred for review and seen at 6 weeks, 6 months and 12 months	
For internal	Use only	
Evaluation score		Comments:

Q4– Provider information

Q4		
Criterion	Please provider data for the following standards, including data completeness and any plans to improve data quality if appropriate. Data should be provided for Q1- 4 2012/13 and Q1-3 for 2013/14	

1	% of stroke patients that are reviewed six weeks after leaving hospital
2	% reviewed within 6 months (minimum 4 - Maximum 8 months)
3	% Reviewed within 12 months
4	% of stroke patients that are reviewed six weeks after leaving hospital
For internal Use only	
Evaluation score	Comments:

Q4– Provider information

End Of Life

Stroke is the UK's third biggest killer⁵. Patients with stroke may enter the End of Life pathway at many stages of the Stroke Pathway, in different care settings. Clear decisions will indicate when a patient's prognosis means that an end of life pathway is appropriate. It is important that this decision is made by the appropriate skilled and experienced individual, taking account of the needs and choices of the patient, carer and family.

Q1	
Criterion	• Decision to enter a patient into an end of life pathway should be taken by an appropriate and experienced clinical individual, taking account of the needs and wishes of the patient, carer and family⁶ • Patients and carer offered opportunity to be discharged home for end of life care • Palliative and End of Life care will be provided in line with clinical practice guidance and the local service specification for End of Life care. This may include referral to specialist palliative care services. • Evidence of established Long term care pathway in line with the Midlands and East Service specification
For internal Use only	
Evaluation score	Comments:

Q1– Provider information

⁵ Stroke Association Manifesto 2010-2015

⁶ National Stroke Strategy Quality Markers – QM 11: End of Life care

Q2		
Criterion	- Preferred Priorities for Care (PPC) document shared with all health and social care staff involved in their care - Application of the 'Gold standards framework' to enable identification of appropriate patients and their care - Communication training provided to support practitioners in conversations about end of life care	
For internal Use only		
Evaluation score		Comments:

Q1– Provider information

Q3		
Criterion	Patients receiving end of life care do so from a workforce with appropriate skill and experience in all settings	
For internal Use only		
Evaluation score		Comments:

Q3– Provider information

Q4		
Criterion	Please provider data for the following standards, including data completeness and any plans to improve data quality if appropriate. Data should be provided for Q1- 4 2012/13 and Q1-3 for 2013/14	
1	% mortality of stroke patients at 1 month following a stroke	
2	% mortality of stroke patients at 6 months following a stroke	
3	% mortality of stroke patients at 12 months following a stroke	
For internal Use only		
Evaluation score		Comments:

Q4– Provider information

42. Appendix

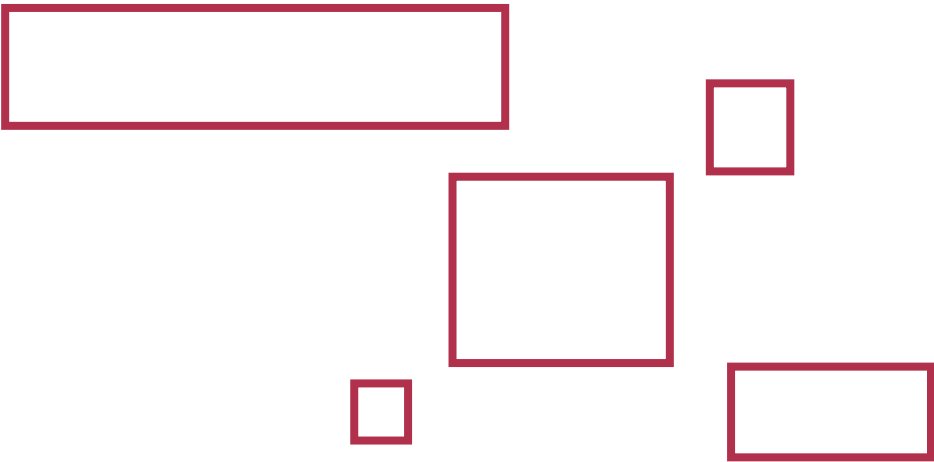
Financial modelling template

Please see attached excel spreadsheet

43. Appendix

Stroke commissioning and tariff guidance

Stroke acute commissioning and tariff guidance



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Executive summary

This document provides guidance on the commissioning and tariff arrangements associated with the new acute stroke system in London.

It summarises the case for change, model of care and the process undertaken to designate units.

It then outlines the framework developed to encourage the correct system behaviours in order to achieve the intended benefits.

The framework includes:

- guidance on the tariff arrangements and how they apply
- contracting guidance for activity in hyper-acute stroke units (HASUs), stroke units and transient ischaemic attack (TIA) services
- the mechanism to incentivise and remunerate provider performance.

Commissioners have agreed to implement this framework from 1 October 2009 and providers of acute stroke services need to be aware of its implications.

What providers and commissioners of acute stroke services need to do:

Providers

1. Understand and implement the financial and contractual arrangements.
2. Ensure information exists to support both standards monitoring and contract monitoring.

Commissioners

1. Understand and implement the financial and contractual arrangements.
2. Ensure robust processes are in place to assess acute stroke services.
3. Ensure processes exist to support contract monitoring.

1 Introduction

In July 2007, *Healthcare for London: A Framework for Action*¹ was published. A key proposal in this framework was centralising acute stroke services and in *Consulting the Capital*² the pan-London consultation on the framework, over two-thirds of respondents were in favour of creating specialist stroke units.

Following a further public consultation, *The shape of things to come*³, which focused on implementing specialist stroke and major trauma services, a joint committee of primary care trusts (JCPCT) representing all London PCTs and NHS South West Essex agreed the future model for the capital's acute stroke care in July 2009.

As well as agreeing the model of care, the JCPCT designated units to provide stroke care in London and supported the additional financial commitment⁴ required by all PCTs – an extra £20.4m for acute stroke care and £0.7m for thrombolytic drugs.

The guidelines outlined in this document have been developed to ensure the additional funds are used as the JCPCT intended, and achieve the desired improvement in quality⁵ and benefit for patients.

1.1 Who is this document for?

This document is intended for use by London's sector acute commissioners, PCTs, providers of acute stroke services, and cardiac and stroke networks. The guidance applies to the commissioning of all acute stroke care from 1 October 2009 from any London provider.

It describes the arrangements required of any PCT commissioning services from a London provider, including those PCTs outside London.

1.2 Healthcare for London stroke project governance

The Healthcare for London stroke project was one of the initial projects chosen to spearhead the implementation of the vision set out in *A Framework for Action*. The project constituted a project board, chaired by Rachel Tyndall, Chief Executive of Islington PCT, which was given delegated authority by London PCTs to design a new system for acute stroke care in London. The JCPCT was constituted to represent PCTs as the ultimate decision-making body for the consultation on stroke and major trauma.

¹ Darzi A, [A Framework for Action](#), Healthcare for London, 2007.

² [Consulting the Capital](#), Healthcare for London, 2007.

³ *The shape of things to come*, Healthcare for London, 2009.

⁴ For further details, see the [Pre-consultation business case](#).

⁵ Even though the payment mechanism is remunerating a higher standard of care and there are explicit quality standards to comply with, it is not expressly specified that this is considered to be a CQUIN scheme. Local commissioners may wish to develop additional CQUIN requirements.

To develop the case for change, model of care and designation of units the stroke project engaged with key stakeholders, including:

- clinicians, via the clinical expert panel
- patients, via the patient panel
- commissioning, management and finance colleagues, via the commissioning and finance panel and the commissioning and finance working group⁶.

The commissioning and tariff guidance was developed from discussions with commissioning and finance panel and the commissioning and finance working group. The proposed commissioning and tariff guidance was presented at six workshops across London, which took place in September and November 2009. This document incorporates additional detail raised at the workshops, which can be found at appendix 12.

1.3 Terminology

In this document, stroke units that have been designated and have passed the go-live assessment are referred to as stroke units. Stroke units that do not fulfill these criteria are referred to as old stroke units.

Units that have been designated and have passed the go-live assessment to provide hyper-acute stroke services are referred to as hyper-acute stroke units (HASUs).

⁶ For membership of the working group, see appendix 11.

2 Establishing the new system

2.1 Case for change summary

Stroke is the second highest cause of death and the most common cause of adult disability in London. More than 11,000 people are admitted to London hospitals each year (around one person every hour), and approximately one in six people dies. At £2.8 billion per year, the direct costs of stroke in England are significant making up four per cent of the NHS budget⁷. The cost of acute care in London is estimated to be £81 million⁸.

The UK has a higher proportion of deaths due to stroke compared with Australia, Germany, Sweden and the US, and almost double the number of deaths that occur in France. Clinical evidence shows that patients are 25% more likely to survive or recover from a stroke if treated in a specialist centre⁹. Specialist centres will also improve the speed of recovery and reduce levels of disability for many people who suffer a stroke.

The need to improve stroke services is supported by the Department of Health's *National Stroke Strategy*¹⁰, the Royal College of Physicians' *Sentinel Audit* and recent guidelines from the National Institute for Health and Clinical Excellence (NICE)¹¹. *Sentinel Audit* figures for 2008 show stroke care in London has improved more slowly than the rest of the country and in some cases performance has worsened.

2.2 Model of care summary

The model of care is set out in Healthcare for London's *Stroke strategy for London*¹². This model involved redesigning the patient pathway as follows.

The hyper-acute phase of care now will take place in a hyper-acute stroke unit (HASU). HASUs are 24 hour centres providing high-quality expertise in diagnosing, treating and managing stroke patients. Patients with a suspected stroke will be taken by the London Ambulance Service to the HASU that involves the shortest journey time and this will be located no more than 30 minutes travel time away. On arrival a patient will be assessed by a specialist, have access to a brain (CT) scan and receive clot-busting drugs (thrombolysis) if appropriate, all within 30 minutes¹³. Patients will then be admitted to a HASU bed where they will receive hyper-acute care for up to the first 72 hours following admission.

Following a patient's hyper-acute stabilisation, patients will be transferred to a stroke unit. Stroke units will provide multi-therapy rehabilitation and ongoing medical supervision. The length of stay will vary and will last until the patient is well enough to be discharged from an acute inpatient setting. The stroke unit a patient should be

⁷ NHS National Expenditure figures 2004/05.

⁸ Based on 07/08 data and 08/09 prices. See the [pre-consultation business case](#).

⁹ *Reducing Brain Damage: Faster access to better stroke care*, National Audit Office, 2005.

¹⁰ *National Stroke Strategy*, Department of Health, 2007, p 34.

¹¹ [Stroke: The diagnosis and acute management of stroke and transient ischaemic attacks](#),

National Institute for Health and Clinical Excellence, 2008.

¹² *Stroke strategy for London*, Healthcare for London, 2008.

¹³ HASUs will be given 12 months from go-live to progress to meeting the 30 minute 'door to needle' time.

taken to is determined by a catchment table (see section 3.3), which assigns all London postcodes to a stroke unit. The intention of the catchment table is to ensure patients are transferred to a stroke unit close to their home; this may be the stroke unit in the same hospital as the HASU. Following their stay in the stroke unit, patients will be discharged home with access to appropriate community rehabilitation services or discharged to a specialist inpatient facility¹⁴.

The model of care will be implemented consistently in all parts of London.

2.3 Performance standards

Four sets of standards were developed and published in the *Stroke strategy for London*:

Standard	Domain
A	Staffing, Infrastructure, Process
B, C, D	Further quality standards

All units submitted bids against these standards and were scored by a panel of experts. Bids were assessed on when they were expected to be able to meet the standards.

The standards themselves, the rules around the attainment of the standards and the impact on tariff have been developed further and this is presented in section 3.4, which deals with partial designation.

2.4 Designation of units

Following a London-wide consultation on the proposed location of HASUs, stroke units and TIA services, the JCPCT agreed to designate eight HASUs, 24 stroke units and 24 TIA services. Appendix 1 gives details of these units.

2.5 Capacity planning

In order for effective planning to take place in units and networks, the required capacity expected for each HASU and stroke unit, expressed as a number of beds¹⁵, was set out by Healthcare for London.

The capacity planning process and the main assumptions used are further explained in appendix 2. The agreed bed complements of HASUs and stroke units are shown in appendix 3.

¹⁴ Further details see [Stroke rehabilitation: supporting London commissioners to commission quality services in 2010/11](#).

¹⁵ The staffing standards require a particular ratio of nurses and therapists per bed.

2.6 Aligning demand to HASU capacity

The London Ambulance Service will transport all FAST¹⁶ positive patients to the nearest appropriate HASU. The appropriate HASU for a particular postcode may change depending on traffic conditions. Pan-London stroke protocols (see section 2.7) have been agreed and state that a HASU may not close to FAST positive patients. London Ambulance Service staff are aware of those areas where patients would not necessarily go to their nearest HASU due to capacity issues. If, however, one or more HASUs are consistently more or less full than others, then a system similar to the emergency bed service would be used to help with load-balancing HASU capacity.

Patients with a suspected stroke may self-present at an A&E of a hospital that does not have a HASU. The pan-London protocols cover the appropriate transfer of these patients.

2.7 Pan-London stroke protocols

Guidance has been developed to assist the operation of the new system¹⁷. The guidance covers the following operational areas:

- protocol for transfer from HASU to stroke unit
- protocols for stroke unit to community transfers
- protocol for transfer of mimics when diagnosis is not stroke
- protocol for managing strokes occurring in inpatients (including pre-operative stroke)
- protocol for managing possible stroke patients presenting at a non-stroke unit A&E/urgent care centre
- protocol for TIA referral pathways
- protocol for neuroradiology access 24 hours a day, seven days a week
- protocol for neurosurgery referrals
- protocol for vascular surgery.

¹⁶ FAST is the face, arms, speech test which is currently used by the London Ambulance Service to identify possible stroke patients. The ambulance services in North East London are trialling an alternative, ROSIER, and if this trial proves more effective in identifying more strokes and fewer 'mimics', then it may be adopted across London.

¹⁷ [Pan-London high level guidance for stroke protocols](#), London Cardiac and Stroke Networks, 2009.

2.8 Assessing designated units for go-live

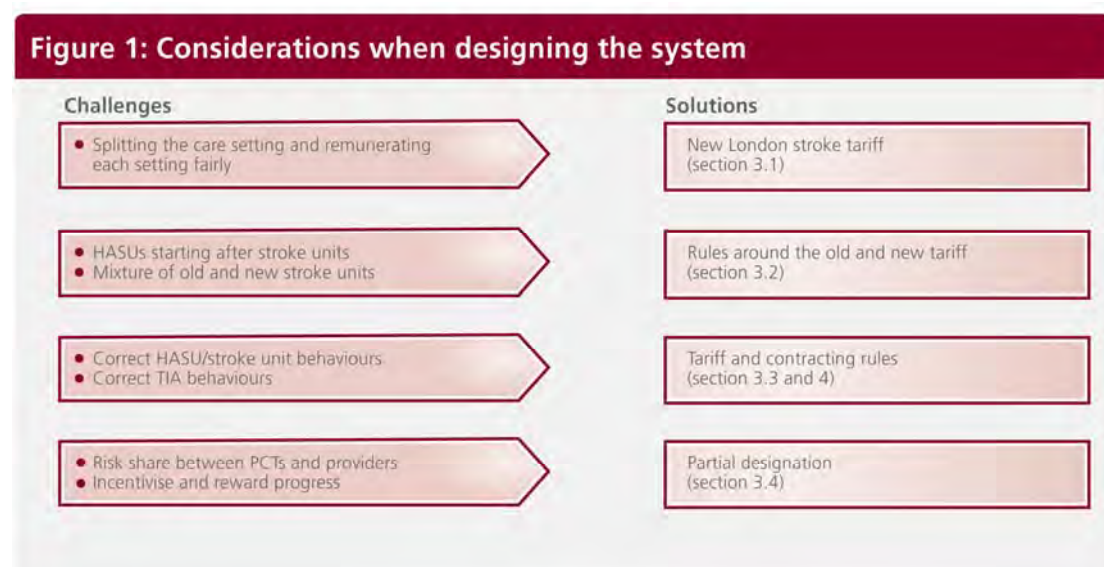
The designated services are working to achieve the performance standards required to go-live. The standards and the process for assessing units are described in section 3.4.

Stroke units can apply to be assessed against the initial standards and can go live from 1 October 2009. It is intended that all stroke units will be live by 31 March 2009.

HASUs can apply to be assessed against the initial standards and can go live from 1 February 2010. It is important to recognise that HASU capacity is planned to open in a staged manner. The first stage is to cover all FAST positive patients from their full catchment, who are within the three-hour timeframe, and all patients in their normal A&E catchment.

3 Commissioning HASU, stroke unit and TIA services

The commissioning and finance framework is designed to ensure the system works effectively and delivers maximum benefit to patients. Beyond simply setting a tariff, a number of challenges were identified and solutions created. These are set out in figure 1.



3.1 Tariff

A summary of London stroke costs and the estimated impact of the changes to acute stroke care are available on Healthcare for London's website www.healthcareforlondon.nhs.uk.

London PCTs have agreed to support these costs and provide the additional funding to allow trusts to meet the new specification for stroke services. This funding does not resolve any legacy funding issues, such as where the Payment by Results (PbR) tariff does not cover the true cost of stroke care or the trust has not been investing sufficient money in stroke care per patient.

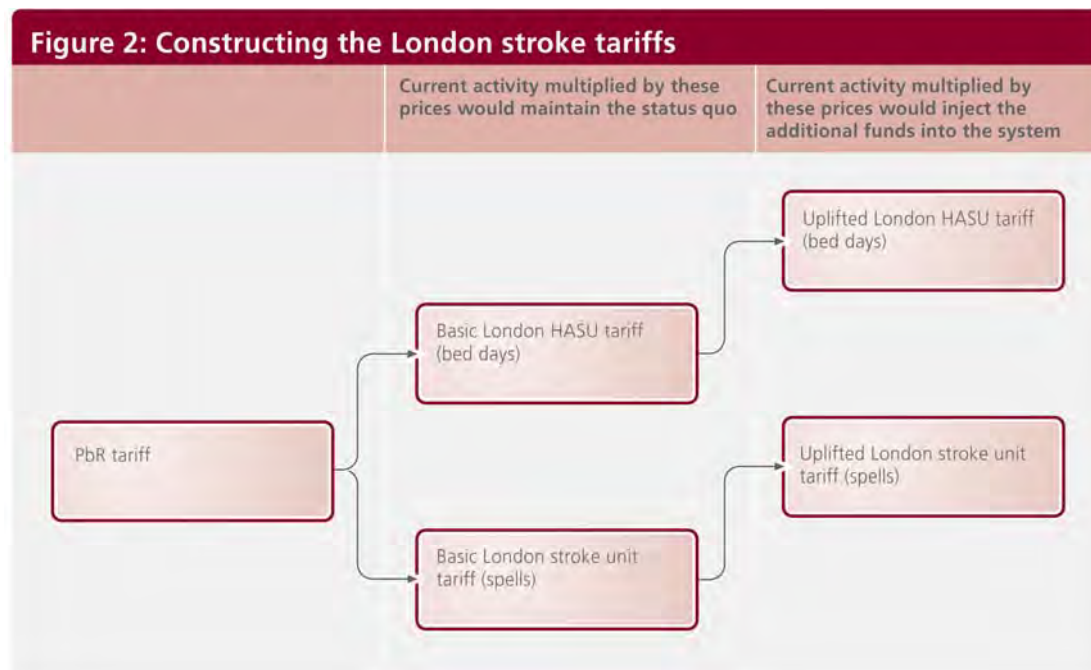
In constructing a mechanism to fairly support the costs of the new system, two issues have been addressed:

- how to accommodate the new model of care (with the possibility that what was one spell can now occur in two different trusts)
- how to incorporate the additional funding.

Remunerating HASUs and stroke units when the system is live

The first issue has been resolved by creating a tariff for the HASU stay, which operates on a bed days basis and a tariff for the stroke unit stay, which operates on a spell basis. The second issue has been addressed by creating two versions of these tariffs – a basic version, which contains no uplift and an uplifted version, which supports the additional cost of the new system. Collectively these tariffs are known as the new London stroke tariffs.

The construction of these tariffs is illustrated in figure 2.



The new London stroke tariffs are shown in appendix 5. Section 3.4 sets out the rules for partial designation and explains how the uplift would be applied in practice.

Remunerating old stroke units and stroke units, where the patient is received via a trust's own A&E, during the transitional period

Old stroke units can only receive the basic PbR tariff.

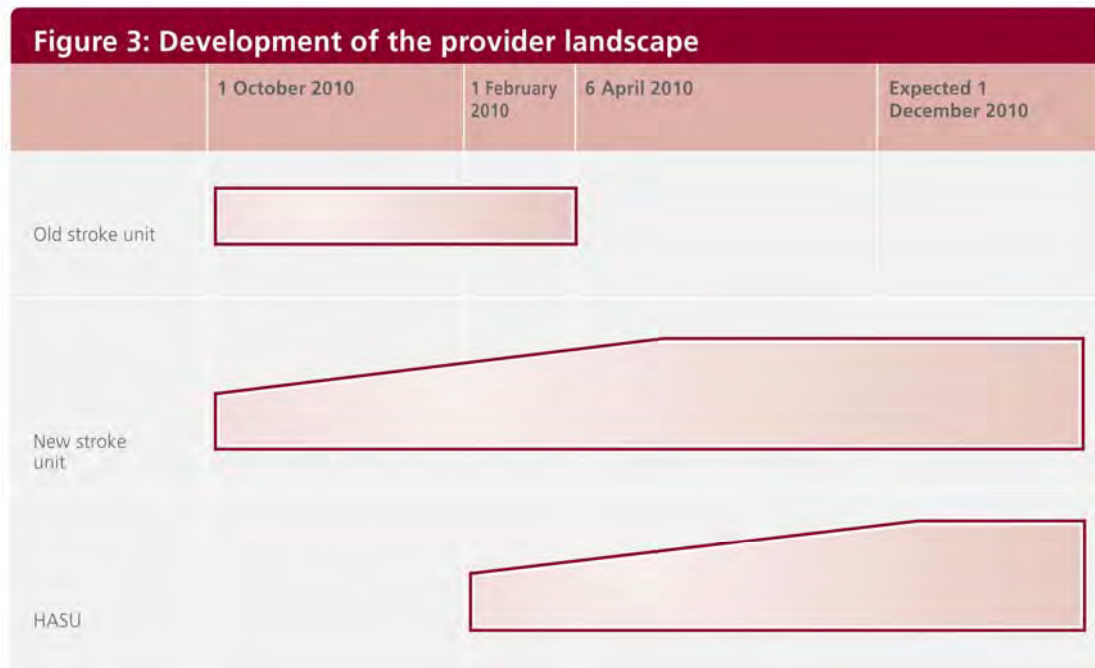
In order for (new) stroke units to be remunerated appropriately when patients are admitted to the unit via a trust's own A&E, an additional set of neutral and uplifted tariffs apply. These are, in turn, the basic national PbR tariff and an uplifted PbR tariff. These tariffs are also shown in appendix 5.

Section 3.4 sets out the rules for partial designation and explains how the uplift would be applied in practice.

3.2 Transitional provider landscape

Full stroke unit capacity will be in place before HASU beds are opened so that patients can be transferred to an appropriate stroke unit. As such, HASUs are opening after stroke units and there will be a mixture of old stroke units and stroke units operating at the same time. It is important that the correct funding is passed to providers to reflect their situation.

Figure 3 shows the progression of the provider landscape.



Two particular issues are addressed in this section:

1. During the transition period, until HASUs are fully up and running, patients with stroke symptoms may be taken directly to the A&E department of a stroke unit or an old stroke unit, and may then be admitted to the unit (so the unit provides both the initial and subsequent care).
2. Old stroke units will not be gearing up their service to achieve the new specification and will not be eligible for additional investment from the new tariff.

It is clear there will be a number of pathways into the system until all old stroke units have closed and all HASUs are fully open. The following rules set out in which circumstances it is appropriate to use either the existing PbR tariffs or the new London stroke tariffs.

Time period	Route into old stroke unit or stroke unit	Tariff
Before HASU opening (pre-February 2010)	A&E – Old stroke unit A&E – Stroke unit	PbR PbR plus London uplift as appropriate (*)
During HASU opening before all old stroke unit capacity closed (February – April 2010 for six of eight HASU providers)	A&E – Old stroke unit A&E – Stroke unit HASU – Stroke unit	PbR PbR plus London uplift as appropriate (*) New tariff plus London uplift as appropriate (*)
During HASU opening once all old stroke unit capacity has closed (April 2010)	A&E – Stroke unit HASU – Stroke unit	PbR plus London uplift as appropriate (*) New tariff plus London uplift as appropriate (*)
Once all HASU capacity has opened (April 2010 for six of eight HASU providers)	HASU – Stroke unit	New tariff plus London uplift as appropriate (*)

(*) Section 3.3 discusses partial designation and defines the 'appropriate' amount of the London uplift a trust should be charging.

3.3 Contracting rules – HASU and stroke unit

The importance of incentivising the appropriate system behaviours was taken into consideration when developing the new tariff and contracting rules. The following table shows the risks that were identified and the mitigations that have been put in place.

Risk	Mitigation
HASU keeping patients for too long	- The standard excess bed day rate applies to stays longer than five days. This does not incentivise stays. - Protocols setting out expected practice have been produced by the Healthcare for London stroke clinical expert panel.
Stroke units not accepting patients appropriately	- To conform to designation rules, stroke units must accept patients who live in that stroke unit's defined catchments (stroke unit contracting rule four below). This is also part of the A2 standard. - Protocols setting out expected practice have been produced by the Healthcare for London stroke clinical expert panel. - Allowance for HASU trusts to access tariff penalty rate to cover the cost of delayed transfers (HASU contracting rule four below). - Networks involved on an exception basis. - The HASU has access to the estimated additional patient transport service funds, which will be put into the tariff (HASU contracting rule 11).
Ensure patients are in the correct setting as quickly as possible	- A1 and A2 standards. - HASU contracting rule one.

General contracting rules for stroke units

1. The London stroke unit tariff is only eligible for patients:
 - a. in a unit that is formally designated as a stroke unit, which has passed the go-live assessment
 - b. who have come from a HASU
 - c. who have had at least part of their stay in a stroke unit bed
 - d. who are ultimately coded as a stroke (AA22Z¹⁸, AA23Z).

¹⁸ HRG AA22Z is broader than the HRG v3.5 codes it replaced and includes '....Nervous system infections or Encephalopathy'. To make it more specific to stroke, one of the following ICD10 codes must also be present: I61, I63, I64.

If eligibility criteria a, c and d are not met, then national PbR tariff rates apply. If only criterion b is not met, patients are charged as per rule three (below).

2. It is not appropriate to have 'new' stroke units and 'old' stroke unit beds operating on the same site in the same trust.
3. The London stroke unit tariff will cover patients transferred from a HASU to a stroke unit, where further stroke unit treatment is required. An uplifted version of the PbR tariff is applicable to patients admitted via a trust's own A&E (i.e. patients have not come via a HASU). This is an interim arrangement until all HASUs are fully operational.
4. A table has been produced that assigns all London postcodes to the 24 stroke units. Stroke units are expected to accept all patients referred from a HASU unit according to this table. (Details of the stroke unit table can be found at the end of section 3.3).
5. This activity will be charged in spells based on HRG4.
6. A less than two day tariff applies for short stays in stroke units.
7. The trim-points will be unchanged and stays that are over the trim-points will be priced at the standard excess bed day rate.
8. There is no price difference between elective and emergency activity.
9. The tariff calculated excludes market forces factor. This is applied at the local rate.
10. Outpatient attendances (i.e. following admission and discharge) are charged as per current arrangements.
11. Any intensive treatment unit costs to be charged as per current arrangements.
12. Any established arrangements that a stroke unit may have with PCTs to undertake non-acute rehabilitation and be paid for separately are not affected.

General contracting rules for HASUs

1. The uplifted London HASU tariff is only eligible for patients:
 - a. in a HASU bed
 - b. in a formally designated HASU that has passed the go-live assessment
 - c. who start their HASU stay within four hours¹⁹ of being brought to the HASU hospital
 - d. who are ultimately coded as a stroke (AA22Z²⁰, AA23Z).

All patients who do not conform to this are charged at the basic London HASU tariff.

2. The price is calculated on a bed day basis. There is a different price for day one compared with day two to four, which have the same price, and post day

¹⁹ After further consideration by the clinical expert panel this has been reduced from the 24 hour limit originally presented at the roadshows, in order to encourage providers to get patients to the HASU as expeditiously as possible.

²⁰ HRG AA22Z is broader than the HRG v3.5 codes it replaced and includes '...Nervous system infections or Encephalopathy'. In order to make it more specific to stroke, one of the following ICD10 codes must also be present: I61, I63, I64.

four, which will be priced at the standard excess day bed rate. The same charges will apply to all types of stroke.

3. FAST positive patients who turn out not to have strokes (mimics) will not be paid at the London HASU tariff. An uplift on the stroke tariff has been included to allow for a proportion of mimics (one-third of the estimated 15% mimic rate) needing the full work-up (based on day one HASU prices). Rather than charge this as an uplift, this has been incorporated into the stroke spell price.
4. Stroke units must accept a patient from a HASU for which they are the defined stroke unit as per the Healthcare for London mapping table. HASUs have the authority to repatriate patients to the relevant stroke unit and are expected to follow the agreed protocol when doing so. If a patient transfer is delayed in excess of 24 hours after the agreed transfer time by a stroke unit, a HASU can:
 - a. keep the patient in the HASU
 - b. transfer the patient to the stroke unit in the same trust as the HASU
 - c. seek an alternative stroke unit for the patient's post hyper-acute stay.

A HASU can claim £350 per day (based on the stroke unit spell divided by the trimmed average length of stay) from the relevant PCT for patients who are not accepted by the relevant stroke unit. The PCT, in turn, can deduct this from its payment to the delaying stroke unit. This should very much be the exception and networks should monitor the situation. This rule may be modified at a later date.

5. HASUs are expected to repatriate patients to the relevant stroke unit (as per the Healthcare for London mapping table) unless there are delays, as noted in rule four.
6. Thrombolysis will be charged additionally at drug cost only rates.
7. The cost of diagnostics has been built into the bed day price.
8. Unlike the national tariff, there is no price difference between elective and emergency activity.
9. The tariff calculated excludes market forces factor. This is applied at the local rate.
10. Any intensive treatment unit costs to be charged as per current arrangements.
11. Patient transport service costs were removed from PbR tariffs in 2009/10. It is assumed that PCTs have 'blocked' this back to trusts for this financial year. The additional PTS costs of moving patients to stroke units have been estimated and this amount has been built into the London HASU tariff.

Stroke unit mapping table

Due to the closure of some existing stroke units and capacity redistribution, most stroke units will need to take patients from outside their traditional catchment. The catchments are illustrated on the map at appendix 3.

In order to match activity against the capacity provided by stroke units, a table has been created that maps London postcodes to the appropriate stroke unit. The contracting rules state that once HASUs are open, SUs will be obliged to take patients in their catchment and HASUs must repatriate patients to the correct stroke unit as determined by the catchment table.

Stroke unit catchments will only be used after HASUs open. HASUs will not repatriate patients to units that have not been designated as stroke units.

The mapping table will be available on Healthcare for London's website and also as a stand-alone program.

Consideration of patient choice

Following the hyper-acute phase, patients will be transferred from a HASU to a stroke unit closer to their home, if the stroke unit linked to the HASU is not their local unit.

The legal definition of patient choice does not apply to the acute part of the new stroke pathway as it is not an elective event. Patients may, however, express a preference for which stroke unit they would like to be transferred to, for example one close to relatives rather than their own home, and this will be considered. If a patient expresses a preference for a stroke unit whose catchment they do not normally fall into, the preferred stroke unit will decide whether to accept the patient.

3.4 Partial designation framework

Requirement for partial designation framework

The partial designation rules were developed to:

- balance the risks involved in investment versus achievement of standards between PCTs and trusts
- incentivise trusts to move beyond entry level performance and continue to develop services to world-class standards.

As a consequence, the progression from basic tariff to uplifted tariff (see section 3.2) for both HASU and stroke unit is linked to the achievement of standards. These standards are based on those set out in the *Stroke strategy for London*, on which providers based their bids.

The rules in this section are the same for HASU and stroke unit.

Development of the standards

A standards

In considering the practicalities of implementation, the original A standard for HASUs and stroke units has been split into two parts: staffing and infrastructure (A1) and process (A2). This recognises that a large element of the additional resource required by the unit is driven by the need to achieve staffing and infrastructure requirements, and that process-type standards are likely to take longer to fully achieve. Consequently, remuneration to the unit has been matched in this stepped manner.

Other standards

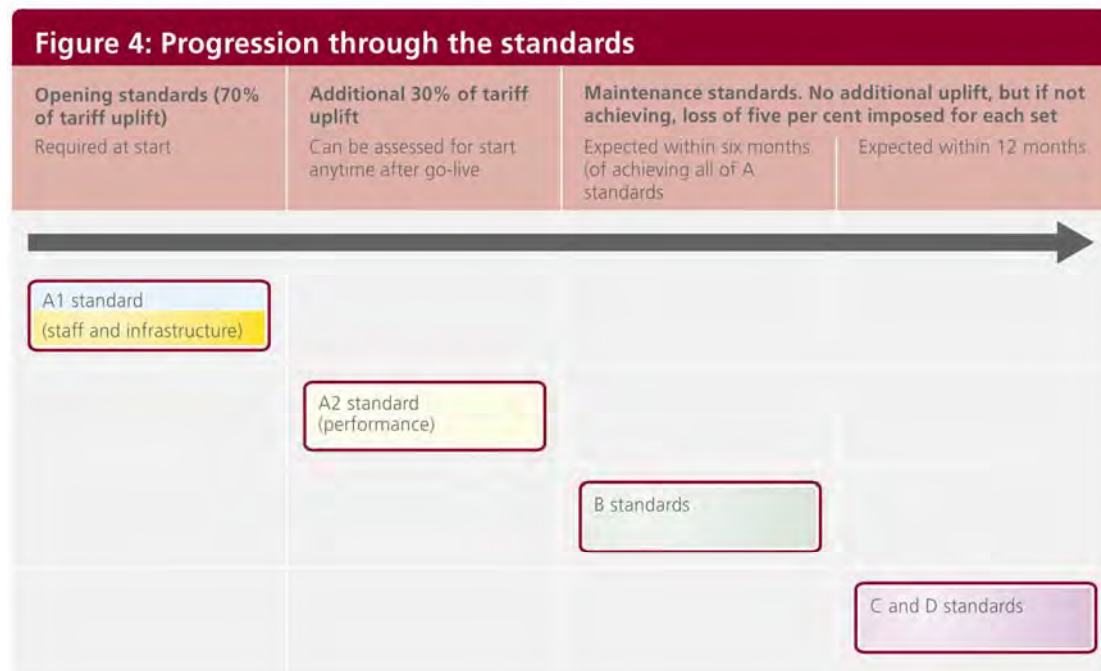
In order to simplify the framework, the C and D standards have been merged.

All standards

Following discussions in the commissioning and finance working group and the clinical expert panel, criteria which were impractical to measure have been excluded from the revised standards and others have been modified. A full set of standards and suggested evidence can be found in appendices 6 and 7.

When standards need to be met and the impact on tariff

Expected progress in meeting the standards and the impact on the tariff is outlined in figure 4 below and is summarised in the following table.



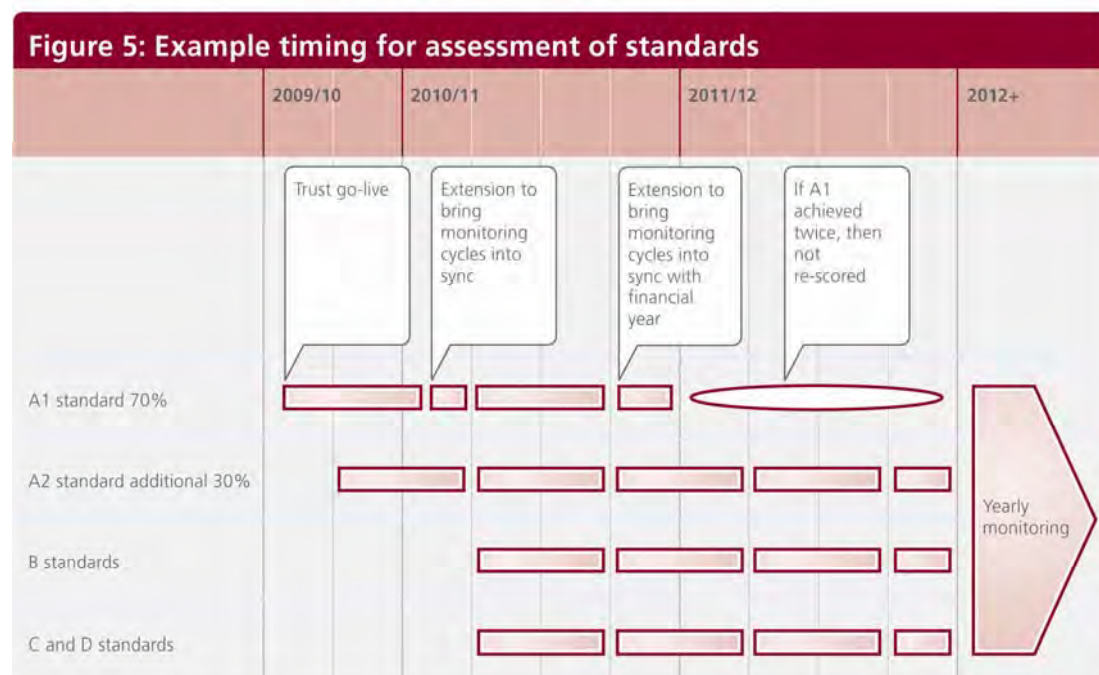
Standards	Application	Impact for stroke unit or HASU
A1	A1 standards must be in place at go-live and are then reviewed in six months allowing for a tolerance²¹. A1 standards are further reviewed at the end of the second (six month) period and if the trust has passed both reviews (i.e. over the 90% tolerance), this standard is no longer reviewed. At this point the 70% uplift is effectively locked in.	Gain 70% of uplift
A2	The unit needs to be able to demonstrate a three month track record. The standards assessment is subject to a tolerance (90%). Performance is then reviewed after six months again allowing for a tolerance (90%).	Gain remaining 30% of uplift
B	These standards are assessed retrospectively using a tolerance approach (90%). The first monitoring period commences six months after a unit first achieves all of the A standards.	Potential to lose five per cent of uplift if standard not met
C/D	These standards are assessed retrospectively using a tolerance approach (90%). The first monitoring period commences 12 months after a unit first achieves all of the A standards.	Potential to lose five per cent of uplift if standard not met

Trusts apply to the stroke networks for their initial assessment against the A1 and A2 standards. The assessment will be carried out on behalf of the sector acute commissioning unit by a team that is likely to consist of a representative from the stroke network, a representative from the sector acute commissioning unit and a clinician.

²¹ The tolerance only applies to the staffing element of A1, the other aspects of this criteria are 'must-do' and must always be in place.

Timings of assessment

Figure 5 shows an example of timing for assessing the standards.



Guidance on measuring the standards

As set out in the preceding table, a number of standards are assessed using a tolerance. This section sets out guidance for monitoring that involves the 90% tolerance.

A maximum score is available for each of the individual criterion as set out in the performance standards in appendix 6 and 7. If evidence suggests a criterion has been achieved for only part of the period, the score is pro-rated. Allowance should be given for overachievement in a given criterion for certain months to be offset against underachievement for that same criterion in other months.

Additional information on the application of the standards can be found in the frequently asked questions section in appendix 12.

Trusts are already collecting information to demonstrate their performance against the VITAL signs standards published by the Department of Health's stroke improvement team. In order to keep the monitoring frameworks as synchronised as possible, the rules relating to the VITAL signs monitoring apply in any areas not covered by this guidance. An overriding principle is that the rules have to be interpreted fairly and reasonably, and in line with the guiding principle that the correct system behaviours are those that deliver the best care to patients.

Implication of not meeting the standards post go-live

Commissioners are supporting the additional costs of the London stroke specification. If the performance of a unit that has passed the go-live assessment subsequently falls short of the required standards, that unit has in effect been

overpaid. As a consequence, a claw-back mechanism has been developed to ensure HASU and stroke unit performance is maintained.

The mechanism will operate as follows:

- Claw-back (or retrospective adjustment of tariff uplift for breaches) for A standards will be based on the 90% target minus the actual percentage achieved, less 10 percentage points. This will be applied to the relevant uplift (70%, 30%) as a percentage reduction (see example in appendix 8).
- If B, C or D standards are not met, the tariff uplift the trust is receiving will be retrospectively adjusted by five percentage points per set of standards not met, i.e. five percentage points for missing B and five percentage points for missing C and D.
- Claw-back for the whole of the measuring period will occur in the financial year that the measuring period ends.

Section 5.3 sets out the three levels of the full performance regime. This shows what measures would apply if a unit were to significantly fall below the standards required.

If a unit consistently fails one of the A1 'must do' criteria, then it moves to level two of the performance regime.

4 TIA services

There are a number of reasons why inpatient admission of TIA patients is higher than expected. In brief, there is often insufficient stimulus to create viable ambulatory TIA services and this can lead to unnecessary admission of patients. To minimise inappropriate inpatient stays, the following is required:

- A package price is paid for activity undertaken for ambulatory TIA services. This is particularly relevant with the re-bundling of diagnostics back into outpatient prices from 2010/11 onwards, and should allow trusts to create viable TIA services.
- An appropriate level of inpatient admission against overall TIA activity, both inpatient and ambulatory²², is specified in the contract. This level will be decided by the stroke network and will vary according to the service profile.

The following contracting rules have been developed:

Inpatient

1. The existing PbR (emergency) tariff and rules apply to HASU or stroke unit admissions that are subsequently coded as TIA (AA29Z).
2. This tariff is not subject to partial designation adjustments or uplifts.
3. For patients transferred to an stroke unit, who are ultimately coded as TIA, the tariff applicable to the stroke unit is the full PbR tariff less the PbR short stay adjustment (i.e. 65%).

Outpatient

1. Adopt a package price of £548 for attendance at an ambulatory TIA service. This price covers first attendance and diagnostics (Doppler, CT, Echo and ECG), with follow-ups to be charged additionally. This price is based on the price already in use in the north east London sector. This takes effect from when the associated stroke unit goes live.
2. Package price only applies on first attendance at a TIA service.

4.1 Development of the TIA service standards

Following discussions with the commissioning and finance working group and the clinical expert panel, it was decided to reduce the number of mandatory standards for assessing TIA services to three, one of which is the existing VITAL sign. These are shown in appendix 9. This does not reduce the importance of meeting the other standards but reduces the burden of reporting against and monitoring them. Sector acute commissioning units and individual PCTs may request reporting against additional TIA standards.

²² Activity in ambulatory settings is not currently systematically recorded across London. Trusts should start to record this activity as soon as possible, certainly from when they go-live. The Department of Health is considering creating a new code for this type of service and until then trusts should use a local approach.

4.2 Assessing TIA services against the standards

Performance against the three TIA standards will be retrospectively measured and assessed. This will result in a grading of a bronze, silver or gold standard service to be published every six months. As data collection for some of the criteria is difficult, the results will not be published until six months after the service goes live. This gives trusts six months to refine their data capture systems. If data quality is not perceived to increase, then a local audit may be requested.

5 Performance monitoring and management

5.1 Roles and responsibilities

PCTs are statutorily accountable for commissioning and performance of all healthcare services. In London, the PCTs have delegated operational responsibility for the commissioning and performance management of acute services to the sector acute commissioning units. The role of the sector acute commissioning unit includes:

- negotiating contracts with providers hosted in that sector, using the Healthcare for London service specification
- finalising contracts as units go-live (HASU/stroke unit/TIA services)
- implementation and assessment of new services through the stroke networks
- performance management of contracts. Sector acute commissioning units must ensure contract monitoring is aligned with Healthcare for London standards and network assessments
- collection and analysis of performance data
- refreshing of needs assessment and capacity plans, in association with constituent PCTs
- reviewing implementation risks with providers, networks and London stroke clinical director's office
- programme managing agreed delivery plans of action to be delivered through the networks on behalf of commissioners.

Prevention, rehabilitation and long-term care will continue to be commissioned on a local level by each PCT²³.

The cardiac and stroke networks are an expert resource available to support sector acute commissioning units. The role for the networks includes:

- supporting the development of, and agreeing, acute provider plans across the sector on behalf of commissioners
- providing assurance of the robustness of provider plans and network transition plans to Healthcare for London on behalf of commissioners
- providing detailed assessment of services against appropriate service specifications and standards, in association with sector acute commissioning units
- monitoring the performance of providers
- supporting the delivery of remedial actions with providers, involving commissioners directly, where necessary
- supporting service improvement.

²³ The levels of service and investment that each PCT needs to make available to community rehabilitation providers to ensure suitable patient flow from the acute setting and to provide appropriate care for stroke survivors, will be variable and needs to be determined by each PCT.

5.2 Contract variation

Sector acute commissioning units have now taken over the operational responsibility for acute commissioning in London, nevertheless the coordinating PCT will still have a role in signing any contract variations required. The following is proposed as best practice to vary contracts mid-year:

1. Sector acute commissioning units coordinate the production of a letter, to each of the providers in their sector. This letter will be co-signed by the sector acute commissioning unit and the coordinating PCT and give notice that the London stroke system is being implemented in accordance with the JCPCT decision and that the rules specified in this document will apply.
2. A formal contract variation is created and co-signed by the sector acute commissioning unit, the coordinating PCT and each of the providers in the sector. An example can be found in appendix 13.

For 2010/11, when all stroke units and most HASUs will be operational, the contracts between commissioners and providers of stroke services need to sufficiently specify the activity volumes, system rules, information required, payment mechanism and engagement with networks. It is left to local custom and practice whether this guidance is embedded or fully included in the contract.

5.3 Performance improvement regime

HASU and stroke unit

The following three levels have been considered:

Description	Level	Approach
Minor infringement of the standards	1	Covered by the preceding rules
Major infringement of the standards	2	If an stroke unit or HASU achieves a score of less than 50% for the A standards that it is being monitoring against, then the unit would be served with an improvement notice. If a unit had dropped A1 monitoring then monitoring of this standard would be re-instated. A unit can reduce the number of beds it is providing in order to maintain its quality/bed ratio. This action can <u>only</u> be taken in a planned manner with the agreement of the network director and sector acute commissioning unit.
	3	If a unit is at level 2 for two successive periods, commissioners can de-designate the unit and seek alternative provision.

Ambulatory TIA service

For TIA services the following three levels apply:

Description	Level	Approach
Minor infringement of the standards	1	This would be reflected in the grading system: not classified, bronze, silver or gold.
Major infringement of the standards	2	If a TIA service achieves a grading of 'not classified' for two consecutive periods, the service would be served with an improvement notice.
	3	If the service has not achieved at least 'bronze' in the next period, commissioners can de-designate the unit and seek alternative provision.

All stroke services

In addition to the above rules, if credible evidence exists of clinical failings then commissioners can ask for a review by an independent panel chaired by the London stroke clinical director. Depending on the severity of the findings and the capacity of the unit to improve, this could lead to de-designation.

5.4 Dispute resolution process

Trusts and PCTs should do everything in their power to avoid intractable dispute. In the event this is not possible, the network director of a neighbouring sector would chair a panel comprising of a sector acute commissioning unit senior commissioner and provider from a neighbouring sector. The submission from each side should be a brief written paper.

For any dispute that cannot be resolved by this approach, schedule nine of the Standard NHS Contract for Acute Services Sectors applies.

5.5 Finance and information recording recommendations for trusts

The following recommendations are made with regard to information systems:

- Trusts should implement a unique location for a HASU on their patient administration systems.
- Trusts should implement a unique location for a stroke unit on their patient administration systems.
- Stroke units need to record the admission method for all stroke patients passing through the unit because until 100% HASU coverage exists, these are charged at different prices:

- o admitted via the trust's A&E
 - o admitted via a HASU.
- HASUs that hold other trust's patients on their stroke unit because of delays will need to record the trust, PCT and number of days delayed.
- Ambulatory TIA services need to record their activity so it can be uniquely identified. This could be achieved by using a specific clinic code.

The following recommendations are made with regard to finance systems:

- Stroke units need to be able to correctly price stroke activity.
- HASUs need to be able to correctly price stroke activity.
- Trusts should implement a unique cost centre or group for a HASU and a stroke unit.
- Stroke services should be an individual service line in the service line reporting framework.

With the move to create a London approach to activity monitoring, it is clearly appropriate to have a standardised way for units to collect and report activity. This will reduce ambiguity between providers and commissioners and also facilitate the direction of travel, which is to rely on the secondary users service for payment.

Appendix 10 shows four examples illustrating data flows:

- where the patient moves from a HASU to an stroke unit in a different trust
- where the patient moves from a HASU to an stroke unit in the same trust
- in stroke units
- in an ambulatory TIA service.

5.6 Future considerations

PCTs will need to review the London arrangements for 2010/11 against the Department of Health's intention to create national best practice tariffs for stroke. In addition, any local London arrangement will need to take account of future efficiency requirements.

For 2010/11 planning purposes, PCTs should use the 2009/10 tariffs and the uplift identified in the London planning guidance. The 2010/11 London stroke tariff will be formally issued once the Department of Health publishes national tariffs.

A review of tariff and commissioning arrangements will be led by managing directors from sector acute commissioning units and network directors, three months after the first stroke unit goes live and three months after the first HASU goes live. This may have an effect on tariff and/or the commissioning rules for the second half of 2010/11.

Appropriate consideration will also need to be given to reviewing HASU and stroke unit capacity, if required, following implementation.

Appendices

Appendix 1: Units designated

Appendix 2: Capacity planning

Appendix 3: Stroke unit and HASU beds

Appendix 4: Stroke unit catchments and London sector boundaries

Appendix 5: HASU and stroke unit tariffs

Appendix 6: Stroke unit standards

Appendix 7: HASU standards

Appendix 8: Worked example of HASU/stroke unit claw-back calculation

Appendix 9: TIA standards

Appendix 10: Proposed activity flows to support payment mechanism

Appendix 11: Commissioning and finance working group members

Appendix 12: Frequently asked questions captured from tariff workshops

Appendix 13: Example contract variation of standard NHS contract for acute services

Appendix 1: Units designated

1.1 Hyper-acute stroke units (HASUs)

The following eight HASUs have been designated:

- Charing Cross Hospital, Hammersmith (see note one)
- King's College Hospital, Denmark Hill
- Northwick Park Hospital, Harrow
- Queen's Hospital, Romford
- St George's Hospital, Tooting
- The Princess Royal University Hospital (PRUH), Orpington/St Thomas' Hospital, Waterloo (see note two)
- The Royal London Hospital, Whitechapel
- University College Hospital, London.

Notes

- 1) When making its decision to designate HASUs, the JCPCT understood that commissioners would develop a plan to realise the benefits of future collocation of the major trauma centre and HASU at St Mary's Hospital. This would be the responsibility of the relevant commissioners and Imperial Healthcare NHS Trust. Clinical standards of these services would need to be at least the same, if not higher, than the current proposed configuration. All planning and associated decision-making processes would be informed by appropriate stakeholder engagement and public consultation.
- 2) Until 1 February 2010: All patients will continue to go to their existing acute stroke provider. Northwick Park's HASU will develop a thrombolysis service for their existing local catchment. Charing Cross, University College, The Royal London, King's and St George's hospitals will continue to provide thrombolysis and hyper-acute care as now.

From 1 February 2010: The rollout of HASU bed capacity will commence with all HASUs (except Queen's Hospital and PRUH) opening enough capacity for all patients potentially eligible for thrombolysis in their new catchment. All patients who are not eligible for thrombolysis will continue to go to their usual acute stroke care provider.

From 6 April 2010: All HASUs (except Queen's Hospital and PRUH) will open full HASU capacity for all patients in their new catchment. Queen's Hospital will begin to provide thrombolysis as appropriate from April 2010 and gradually increase its HASU capacity until full capacity is reached in October 2010.

From October 2010: PRUH will begin to provide thrombolysis as appropriate and gradually increase its HASU capacity until full capacity is reached by summer 2011 at the latest, at which time transitional capacity at St Thomas' Hospital will no longer be required.

1.2 Stroke units

Twenty-four stroke units are to be commissioned at:

- Barnet Hospital, Barnet
- Charing Cross Hospital, Hammersmith
- Chelsea and Westminster Hospital, Fulham
- Homerton University Hospital, Hackney
- King's College Hospital, Denmark Hill
- Kingston Hospital, Kingston upon Thames
- Mayday University Hospital, Croydon
- Newham General Hospital, Newham
- National Hospital for Neurology & Neurosurgery (part of UCH), Bloomsbury
- North Middlesex Hospital, Edmonton
- Northwick Park Hospital, Harrow
- Queen Elizabeth Hospital, Woolwich
- Queen's Hospital, Romford
- St George's Hospital, Tooting
- St Helier Hospital, Carshalton
- St Mary's Hospital, Paddington
- St Thomas' Hospital, Waterloo
- The Hillingdon Hospital, Uxbridge
- The Princess Royal University Hospital, Orpington
- The Royal Free Hospital, Hampstead
- The Royal London Hospital, Whitechapel
- University Hospital Lewisham, Lewisham
- West Middlesex Hospital, Isleworth
- Whipps Cross University Hospital, Leytonstone.

1.3 TIA services

Twenty-four TIA services are to be commissioned at:

- Barnet Hospital, Barnet
- Chelsea and Westminster Hospital, Fulham
- Homerton University Hospital, Hackney
- King's College Hospital, Denmark Hill
- Kingston Hospital, Kingston upon Thames
- Mayday University Hospital, Croydon
- University College Hospital, Euston
- Newham General Hospital, Newham
- North Middlesex Hospital, Edmonton
- Northwick Park Hospital, Harrow
- Queen Elizabeth Hospital, Woolwich
- Queen's Hospital, Romford
- St George's Hospital, Tooting
- St Helier Hospital, Carshalton
- St Mary's Hospital, Paddington
- St Thomas' Hospital, Waterloo
- The Hillingdon Hospital, Uxbridge
- The Princess Royal University Hospital, Orpington
- The Royal Free Hospital, Hampstead
- The Royal London Hospital, Whitechapel
- University Hospital Lewisham, Lewisham
- West Middlesex Hospital, Isleworth
- Whipps Cross University Hospital, Leytonstone.

Appendix 2: Capacity planning

The key assumptions taken into consideration when constructing the London-wide bed numbers were:

- population and demographic change
- further consideration of the likely length of stay in a HASU
- consideration of the mimic rate and the length of stay of mimics
- re-working the overall length of stay saving in the stroke unit so it is based on above average length of stays moving down to the average
- consideration of an increase in hospitalisation rates for those boroughs with below London average rates
- consideration of the impact of the FAST campaign
- inclusion of beds for stroke related procedures
- modification of the bed requirement for the new TIA pathway
- allowance for the impact of prevention strategies
- estimate of the impact of early supported discharge.

2.1 Apportionment of beds to units

HASU

The initial HASU bed requirements were derived based on all patients going to the HASU closest to the incident (using historic London Ambulance Service records). The only exception to this in the modelling was to disallow the Thames to be crossed east of Tower Bridge. This base position was modified following discussions with providers. An allowance has been made for flows relating to non-London residents.

Stroke unit

Stroke unit bed requirements were based on a combination of three factors:

- patients going to the stroke unit closest to their residence, as this was the basis on which Healthcare for London consulted
- an allowance for provider preference as to the maximum size for stroke unit as expressed in the bid documents
- an allowance for flows relating to non-London residents.

2.2 Assumptions and impacts (core)

Category	Assumption for capacity planning	Assumption for financial modelling
Length of stay	Actual stays in hospital per HES 07/08. Subsequently modified by length of stay saving in stroke unit noted in the forecasting table.	Actual stays in hospital per HES 07/08. Subsequently modified by length of stay saving in stroke unit noted in the forecasting table.
HASU length of stay	Maximum stay of five days, modified to allow for a proportion of patients to transfer to HASU pre day five. This gives a revised average of 3.2 days.	Maximum stay of five days, modified to allow for a proportion of patients to transfer to HASU pre day five. This gives a revised average of 3.2 days.
Occupancy	Stroke unit stated at 95%. HASU stated at 90%.	Stroke unit stated at 95%. HASU stated at 90%.
Patients discharged from HASU without need to go to stroke unit	Based on actual stay data, about 30-40% would be discharged without need for stroke unit.	Based on actual stay data, about 30-40% would be discharged without need for stroke unit.
Patients undergoing 'intermediate care' in acute hospital beds	All stroke patients in acute hospitals form part of the London average length of stay used.	All stroke patients in acute hospitals form part of the London average length of stay used.
PCT beds used for stroke	Excluded.	Excluded.
Early supported discharge	Currently reflects average practice across London.	Currently reflects average practice across London.
Cross boundary flow – from non London residents	As depicted in 2007/08 data.	As depicted in 2007/08 data.

2.3 Assumptions and impacts (forecasting)

Category	Assumption for capacity planning	Assumption for financial modelling
Length of stay reduction	This relates to improved medical management and efficiency. The stroke unit length of stay adjustment now reflects all stroke unit stays above the average moving to the average. This moves the average stroke unit stay from 23.7 to 21.4 days.	This has been removed from the stroke unit tariff.
Mimics (false positives)	15% and 1.5 days length of stay included in HASU.	One-third of the estimated 15% mimic rate was assumed to need to have the full work-up (based on day one HASU prices). This has been incorporated into the stroke spell price.
FAST – additional true positives	Not added in as possible double count with hospitalisation.	Ignored.
TIA admissions to hospital leading to an admission	Changed to reflect 25% of TIA activity staying for two day stay in HASU and a similar figure in stroke units.	TIA i/p price left at PbR levels.
Improving primary prevention	Asset study indicates a 14% saving is possible across London PCTs. This has been halved and applied from 2013/14.	This is a volume effect and does not impact on prices.
Improved use of early supported discharge	This potentially effects up to one-third of those in a stroke unit. This was phased as follows: • year 0 = 0 • year 1 = 5% • year 2 = 10% • year 3 = 15% • year 4 = 20%.	Ignored. The impact of early supported discharge is for individual commissioners to work through with providers and work up a local disaggregation.

Category	Assumption for capacity planning	Assumption for financial modelling
Impact of patient choice	Not explicitly allowed for.	Not explicitly allowed for.
Hospitalisation rates	Levelling up the apparent inconsistency requires six HASU beds and 121 stroke unit beds (assuming a six day stay in HASU and 21 day in a stroke unit) (*).	This is a volume effect and does not impact on prices.
Stroke and intracranial procedures	Two HASU beds and seven stroke unit beds allowed for.	These spells would be covered by normal PbR rules.

(*) In the five year forecasting horizon used, the reductions to beds from improving primary prevention, the use of early supported discharged and length of stay reductions approximately offsets the increase required by increased hospitalisation.

Appendix 3: Stroke unit and HASU beds

3.1 Stroke units

Network	Hospital	Beds
North central	Barnet Hospital	24
North central	National Hospital For Neurology & Neurosurgery (part	17
North central	North Middlesex Hospital	24
North central	The Royal Free Hospital	28
Total		93
North east	Queen's Hospital	44
North east	The Royal London Hospital	8
North east	Whipps Cross University Hospital	20
North east	Homerton University Hospital	20
North east	Newham General Hospital	22
Total		114
North west	Charing Cross Hospital	20
North west	Chelsea & Westminster Hospital	20
North west	Northwick Park Hospital	34
North west	St Mary's Hospital	14
North west	The Hillingdon Hospital	24
North west	West Middlesex Hospital	28
Total		140
South east	King's College Hospital	20
South east	Queen Elizabeth Hospital	28
South east	St Thomas' Hospital	17
South east	The Princess Royal University Hospital	26
South east	University Hospital Lewisham	28
Total		119
South west	Kingston Hospital	20
South west	Mayday Hospital	28
South west	St George's Hospital	20
South west	St Helier Hospital	24
Total		92
Grand total		558

The total above differs slightly from the figure presented in the JCPCT papers. This is as a result of further discussion between networks and providers and ratified by the project board.

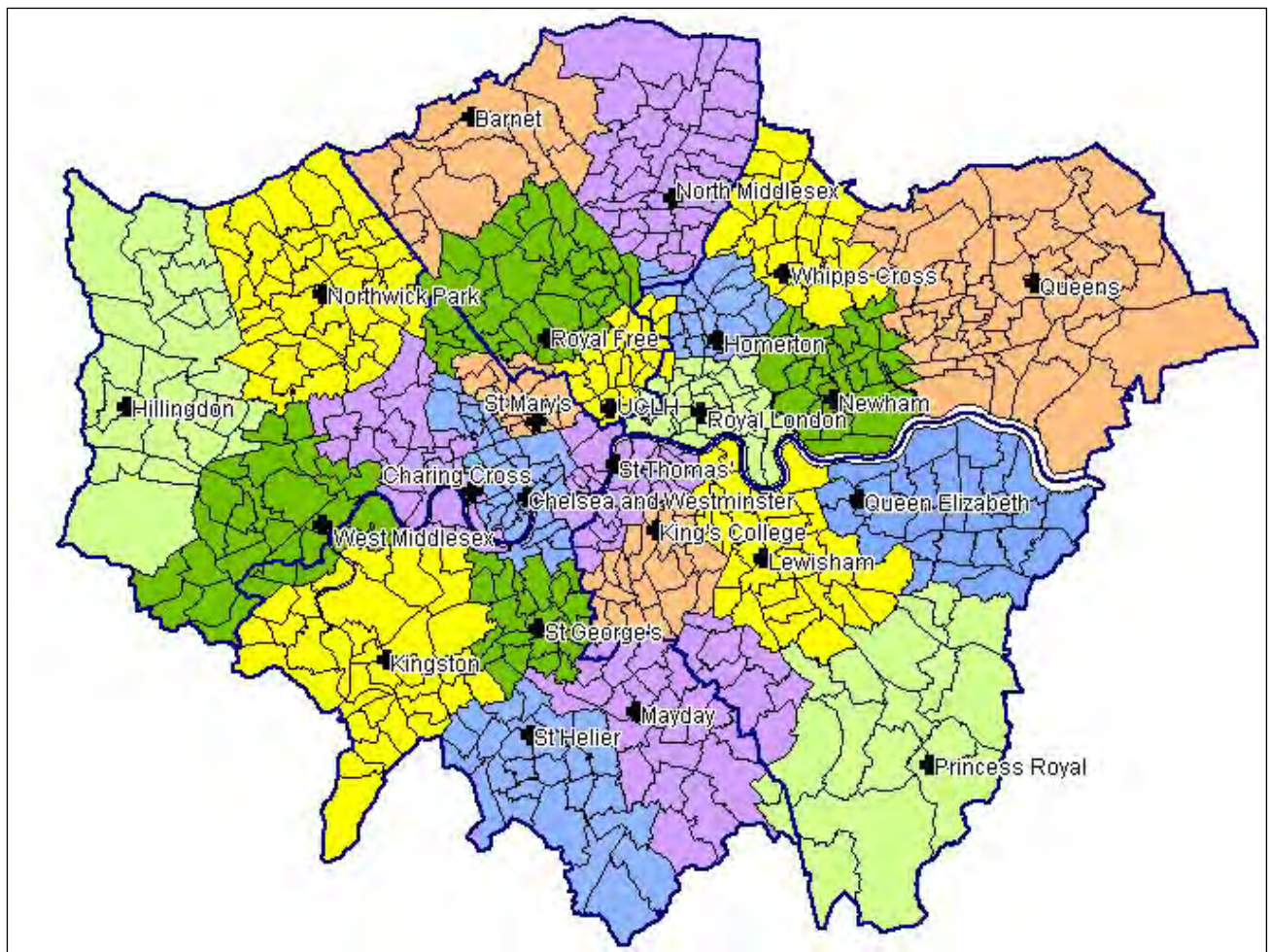
3.2 HASUs

Network	Hospital	Beds
North central	University College Hospital	18
North east	Queen's Hospital	12
North east	The Royal London Hospital	12
North west	Charing Cross Hospital	20
North west	Northwick Park	16
South east	King's College Hospital	19
South east	Princess Royal University Hospital/St Thomas' Hospital (see note in appendix 1)	14
South west	St George's Hospital	20
Grand total		131

3.3 Evolution of the system

The HASU and stroke unit bed numbers may be subject to change based on additional learning from the initial operation of the system. Any changes to bed numbers cannot be undertaken unilaterally and would need the involvement of the hosting sector acute commissioning unit and network (and any neighbouring sector acute commissioning units and networks).

Appendix 4: Stroke unit catchments and London sector boundaries



The look-up table that relates postcodes to stroke unit catchment will be available on the Healthcare for London website www.healthcareforlondon.nhs.uk.

Appendix 5: HASU and stroke unit tariffs

Guidance on how to use these tariffs can be found in section three of the *Stroke acute commissioning and tariff guidance*.

Basic Tariff	AA22Z Non-Transient Stroke or Cerebrovascular Accident, Nervous system infections or Encephalopathy	AA23Z Haemorrhagic Cerebrovascular Disorders
<u>HASU component</u>		
day 1	363	363
day 2 to day 5	218	218
post day 5	183	183
<u>SU component if patient from a HASU</u>		
price per spell	4,765	4,709
price per <2 day stay	446	468
excess bed day cost	165	177
<u>SU component if patient from own A/E</u>		
price per spell	4039	3635
price per <2 day stay	1414	1272
excess bed day cost	165	177

Uplifted Tariff	AA22Z Non-Transient Stroke or Cerebrovascular Accident, Nervous system infections or Encephalopathy	AA23Z Haemorrhagic Cerebrovascular Disorders
<u>HASU component</u>		
day 1	633	633
day 2 to day 5	380	380
post day 5	183	183
<u>SU component if patient from a HASU</u>		
price per spell	5,850	5,908
price per <2 day stay	548	587
excess bed day cost	165	177
<u>SU component if patient from own A/E</u>		
price per spell	5,125	4,835
price per <2 day stay	1,794	1,692
excess bed day cost	165	177

Note

- 1) HRG AA22Z is broader than the HRG v3.5 codes it replaced and includes '....Nervous system infections or Encephalopathy'. For the above uplifted tariffs to be used, one of the following ICD10 codes must also be present: I61, I63, I64.
- 2) The HASU tariffs include the patient transfer service uplift

Appendix 6: Stroke unit standards

SU performance regime - 'A1' standards, 1st set (70% of uplift)

SU

Assessing an SU for designation and initial tariff uplift

Criteria	A STANDARDS	Measurement	Performance review period	Max score (*)	Actual score	Additional notes
	STAFF					
11	Provision of 0.84 WTE physiotherapist/5 beds	Calculation provided by Trust. Should include appropriate evidence (budget statements, staff lists, staff roster etc) to demonstrate that the staff genuinely work on the SU. When retrospectively assessing, the scoring is as follows: hitting or exceeding the ratio - 5 points; within 5% of the ratio - 4 points; 6 -10 % - 3 points; outside 11% - 0 points.	substantive evidence exists over the whole measuring period	5		WTEs can be made up using no more than 15% agency. Bank is an acceptable substitution for substantive staff. Performance in a subsequent period should show agency as a % as no more than 10%. The agency % is calculated with reference to all of the 4 staff groups.
12	Provision of .81 WTE Occupational Therapist/5 beds		substantive evidence exists over the whole measuring period	5		
13	Provision of 0.81 SALT/10 beds		substantive evidence exists over the whole measuring period	5		
23	Provision of 24/7 nursing workforce to provide: 1.35 WTE nurses/bed, 65:35 trained to untrained skill mix	Calculation provided by Trust. Should include appropriate evidence (budget statements, staff lists, staff roster etc) to demonstrate that the staff genuinely work on the SU. When retrospectively assessing, the scoring is as follows: hitting or exceeding the ratio - 10 points; within 5% of the ratio - 8 points; 6 -10 % - 6 points; 11 -15 % - 4 points; 16 -20 % - 2 points; outside 20% - 0 points.	substantive evidence exists over the whole measuring period	10		

Total

25 0

Score

0%

Criteria	A STANDARDS	Measurement	Demonstration period	Max score (*)	Additional notes
	INFRASTRUCTURE			Must-Do	
8	Evidence of a protocol to initiate suitable secondary prevention measures in all appropriate patients	Does suitable protocol exist? Submission of protocol	discussion and spot check	Must-Do	
9	A radiology service responsible for provision of the following: CT scanning and reporting, MRI scanning, ultrasonic angiography	Do these exist?	substantive evidence exists over the whole measuring period - <i>confirmed by visit</i>	Must-Do	one point for each of the sub-criteria
16	Availability of rehabilitation facilities e.g. access to physio gym, OT kitchen, SALT equipment	Do these exist?	substantive evidence exists over the whole measuring period - <i>confirmed by visit</i>	Must-Do	one point for each of the sub-criteria
17	Demonstration of maintenance of all '5 characteristics of a good stroke unit': Multi-disciplinary meetings at least weekly to plan care; provision of information to patients about stroke; continuing education programmes for staff; consultant physician with responsibility for stroke; formal links with patient and carer organisations	Provide evidence that they exist. Evidence could consist of i) schedule of MDT meetings and minutes, ii) up to date patient information easily available, iii) evidence of staff attendance at CEP events, iv) name of lead consultant, v) evidence of regular attendance at Stoke Association etc events	substantive evidence exists over the whole measuring period - <i>confirmed by visit</i>	Must-Do	one point for each of the sub-criteria
18	Demonstration of agreed referral pathways from SU to community rehabilitation providers	Provide evidence that an agreed pathway exists	substantive evidence exists over the whole measuring period	Must-Do	An example would be one standard referral form between the SU and community services. Sectors should work towards one common one per sector.
21	Sharing of information between SU and GP and rehabilitation provider (if applicable)	Provide evidence that meaningful sharing of information takes place	substantive evidence exists over the whole measuring period	Must-Do	For initial assessment purposes assume this is met. Further work is required to define this standard
22	Consultant led SU team; <i>minimum</i> of 5 consultant or equivalent ward rounds per week; dedicated junior medical team trained in stroke management	Do these three features exist? i) Name of lead consultant for SU, ii) Job plans showing <i>sufficient</i> time for consultant ward rounds - (Examples of equivalent wards rounds are those performed by a nurse consultant, therapy consultant, but not an SpR or a staff grade), iii) junior doctors timetables showing dedicated junior medical team	substantive evidence exists over the whole measuring period	Must-Do	two points for each of the sub-criteria
	PERFORMANCE STANDARDS				
	70% of stroke patients spend 90% of their time on SU	Demonstrate that this is the case with reference to PAS data. This standard is likely to be replaced by the stroke standard in the 'vital signs' dashboard. To measure, multiply the two %ages together; the target is therefore 63%; above = pass, below = fail	substantive evidence exists over the whole measuring period	Must-Do	SU needs to be uniquely identifiable on PAS. It is acceptable to include time in ITU as appropriate stroke time. For the initial assessment, demonstration of this performance for the existing stroke service (for the 'core stroke beds') over a 3 month period is required. This standard is superseded by Standard 3 in A2, but for the purpose of A1 monitoring is still include here.

SU performance regime - 'A2' standards, 2nd set (balance to 100% of uplift)

SU

Assessing an SU for subsequent tariff uplift

Criteria	A STANDARDS	Measurement	Demonstration period	Max score (*)	Actual score	Must-do	Additional notes
	PERFORMANCE STANDARDS						
1	Timely admission of patients from HASU	N/A for initial wave of SUs as HASUs starting later. In future, evidence would be garnered from network reports on system behaviour. Timely is defined as within 24hrs of confirmation that a patient has a discharge date and time, patient should be admitted to an SU (within 24hrs of confirmed discharge date and time)	substantive evidence exists over the whole measuring period	5			Assume this is met until HASUs are open
2	95 % of all stroke patients to be admitted directly to SU on HASU transfer (performance standard)	Demonstrate that this is the case with reference to PAS data. Below 65% scores 0, 65-74% scores 2, 75-84% scores 3, 85-94% scores 4, >=95% scores 5.	substantive evidence exists over the whole measuring period	5			For initial assessment purposes assume this is met
3	95 % of stroke patients to spend all of their in-hospital time in SU (performance standard)	Demonstrate that this is the case with reference to PAS data. This standard is likely to be replaced by the stroke standard in the 'vital signs' dashboard. Below 65% scores 0, 65-74% scores 2, 75-84% scores 3, 85-94% scores 4, >=95% scores 5.	substantive evidence exists over the whole measuring period	5			SU needs to be uniquely identifiable on PAS
4	75 % of all patients to receive a physiotherapist assessment within 72 h of admission to SU (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen, 10% of all stroke patients with a minimum of 10 sets of notes. Below 50% scores 0, 50-74% scores 1, >=75% scores 2	discussion and spot check	2			The criterion has been changed from the original requirement for x% of appropriate patients.
5	60 % of all patients to receive an occupational therapy assessment within 7 days of admission to SU (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen, 10% of all stroke patients with a minimum of 10 sets of notes. Below 50% scores 0, 50-59% scores 1, >=60% scores 2.	discussion and spot check	2			The criterion has been changed from the original requirement for x% of appropriate patients.
6	75 % all patients to be weighed within 72 h of admission to SU (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen, 10% of all stroke patients with a minimum of 10 sets of notes. Below 50% scores 0, 50-74% scores 1, >=75% scores 2	discussion and spot check	2			The criterion has been changed from the original requirement for x% of appropriate patients.
10	70 % all of patients to have their mood assessed by time of discharge (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen, 10% of all stroke patients with a minimum of 10 sets of notes. Below 50% scores 0, 50-69% scores 1, >=70% scores 2	discussion and spot check	2			The criterion has been changed from the original requirement for x% of appropriate patients.
14	Patient access to a social worker (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen, 10% of all stroke patients with a minimum of 10 sets of notes	discussion and spot check - submission of referral process, link to delayed transfer of care records	2			
35	Provision of, and attendance at, MDT stroke training programmes	Provide evidence that they are taking place and numbers of attendees. Reflected and monitored within PDPs	discussion and spot check	4			

Total

29 0

Score

0%

SU performance regime - 'B', 'C', 'D' standards

SU

Assessing an SU for B,C and D criteria

Criteria	STANDARDS	Measurement	Demonstration period	Max score (*)	Actual score	Must-do	Additional notes
B STANDARDS							
7	100 % of appropriate patients to receive weekly nutritional screening	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes	discussion and spot check	2			
15	Availability of supporting services e.g. orthotics, podiatry, orthoptics, dietetics	Demonstrate that these exist	substantive evidence exists over the whole measuring period - verified by visit	2			0.5 point per service
19	Arrangements for timely discharge of patient from SU with appropriate support	Set out protocol and demonstrate that it is happening. Provision of discharge plan for 100% of patients eg patient note's audit of randomly chosen, 10% of all stroke patients with a minimum of 10 sets of notes	discussion and spot check	4			
20	Plan for management of average length of stay (LOS)	Provide evidence of active monitoring of LoS, investigation into long LoSs, active reduction of LoS plans, evidence that discharge plans are created early on in a patients stay - link to discharge plan?	substantive evidence exists over the whole measuring period	2			
24	Recruitment plan for vacant positions plan and success in filling vacant positions	Evidence of a stroke recruitment strategy. Vacancy rate less than x%	substantive evidence exists over the whole measuring period	2			
26	100 % appropriate patients and carers to receive contemporary patient information and care plans provided in a variety of formats (performance standard)	Provide evidence that this is happening. Up to date leaflets and patient information not (photocopies), evidence that different font size, languages and different colours are available	discussion and spot check	2			
27	Provision of a named contact within the care setting for each patient	Provide evidence that this is happening - named contact in patient notes - audit of randomly chosen 10 sets of notes	discussion and spot check	2			
30	Demonstration of a stroke management group to oversee service delivery and improvement e.g. review of performance standards, impact of new guidance and methods for improvement of service	Provide evidence that this is happening - Agenda / minutes, resonable frequency	substantive evidence exists over the whole measuring period	2			
34	Provision of structured training plan for new and rotational staff to ensure a competent understanding of the stroke pathway and compliance to Performance Standards	Provide evidence that this is happening - evidence of stroke specific induction programme	discussion and spot check	2			
37	Active involvement in local stroke networks	Provide evidence that this is happening, eg Regular attendance at network meetings, rapid and reliable provision of data	substantive evidence exists over the whole measuring period	4			

Total

24 0

Score

0%

Criteria	STANDARDS	Measurement	Desubstantive evidence exists over the whole monstration period	Max score	Actual score	Must-do	Additional notes
C STANDARDS							
28	Process for obtaining and incorporating patient feedback into SU service development	Provide evidence that this is happening, eg focus groups, patient satisfaction surveys, discovery interviews	substantive evidence exists over the whole measuring period	2			
29	Patient and carer involvement in development of stroke services	Provide evidence that this is happening, eg stroke forum regularly attended by clinical management	substantive evidence exists over the whole measuring period	2			
31	Evidence of timely implementation of service delivery improvements e.g. new guidance, performance standard compliance improvements	Provide evidence that this is happening	substantive evidence exists over the whole measuring period	2			
33	Demonstration of participation in stroke related research, as a key part of SU services	Provide evidence that this is happening eg, lists of trials / research projects	substantive evidence exists over the whole measuring period	2			
D STANDARDS							
25	Plan for rotation of posts across the professional groups along the patient pathway	Provide evidence that this is happening. This should cover Junior Doctors, Therapists and Nurses	substantive evidence exists over the whole measuring period	2			
32	Completion of leadership training by key members of the stroke team to support stroke service improvement	Provide evidence that this is happening	substantive evidence exists over the whole measuring period	2			

Total

12 0

Score

0%

Appendix 7: HASU standards

HASU performance regime - 'A1' standards, 1st set (70% of uplift)

HASU

Assessing a HASU for designation and initial tariff uplift

Criteria	A STANDARDS	Measurement	Demonstration period	Max score (*)	Actual score	Additional notes
	STAFF					
16	Provision of 0.73 WTE Physiotherapist/5 beds	Calculation provided by Trust. Should include appropriate evidence (budget statements, staff lists, staff roster etc) to demonstrate that the staff genuinely work on the SU. When retrospectively assessing, the scoring is as follows: hitting or exceeding the ratio - 5 points; within 5% of the ratio - 4 points; 6 -10 % - 3 points; outside 11% - 0 points.	substantive evidence exists over the whole measuring period	5		WTEs can be made up using no more than 15% agency. Bank is an acceptable substitution for substantive staff. Performance in a subsequent period should show Agency as a % as no more than 10%.
17	Provision of 0.68 WTE Occupational Therapist/5 beds		substantive evidence exists over the whole measuring period	5		
18	Provision of 0.68 WTE SALT/10 beds		substantive evidence exists over the whole measuring period	5		
24	Provision of 24/7 nursing workforce to provide: 2.9 WTE nurses / bed 80:20 trained to untrained skill mix	Calculation provided by Trust. Should include appropriate evidence (budget statements, staff lists, staff roster etc) to demonstrate that the staff genuinely work on the SU. When retrospectively assessing, the scoring is as follows: hitting or exceeding the ratio - 10 points; within 5% of the ratio - 9 points; 6 -10 % - 8 points; 11 -15 % - 7 points; 16 -20 % - 5 points; outside 20% - 0 points.	substantive evidence exists over the whole measuring period	10		

Total

25 0

Score

0%

Criteria	A STANDARDS	Measurement	Demonstration period	Max score (*)	Actual score	Additional notes
	INFRASTRUCTURE					
1	A robust operational pathway for receiving suspected stroke patients, alerting HASU team of suspected stroke patient admission and transferring stroke patients to HASU if presentation to A&E	Review the arrangements		Must-Do		one point for each of the sub-criteria
2	A radiology service responsible for provision of the following: § CT scanning for suspected stroke patients (24/7) § CT reporting by radiology or stroke consultant (24/7) § A contingency plan to ensure continuity of provision of CT scanning	Do these exist?	substantive evidence exists over the whole measuring period	Must-Do		2 points for each service
3	Established high-level thrombolysis treatment pathway	Provide evidence of pathway	substantive evidence exists over the whole measuring period	Must-Do		
4	24/7 availability of appropriately trained staff in eligibility assessment and administering thrombolysis treatment	Provide evidence, eg staff rotas	substantive evidence exists over the whole measuring period	Must-Do		
9	24/7 availability of appropriately trained staff in assessment of suspected stroke patients who are ineligible for thrombolysis treatment	Provide evidence, eg staff rotas	substantive evidence exists over the whole measuring period	Must-Do		
20	Arrangements for timely repatriation to appropriate local or co-located SU	Review the arrangements	substantive evidence exists over the whole measuring period	Must-Do		
22	Consultant led HASU team	Provide management structure and name of lead consultant	substantive evidence exists over the whole measuring period	Must-Do		
23	Provision of 24/7 consultant cover provided by at least 6 BASP thrombolysis trained consultants on a rota able to make thrombolysis and hyper acute treatment decisions	Provide evidence, eg Job plans	substantive evidence exists over the whole measuring period	Must-Do		
28	Evidence of management plan for access to neurosurgery, interventional neuroradiology and vascular surgery for appropriate patients	Review the arrangements	substantive evidence exists over the whole measuring period	Must-Do		

HASU performance regime - 'A2' standards, 2nd set (balance to 100% of uplift)

HASU

Assessing a HASU for subsequent tariff uplift

Criteria	A STANDARDS	Measurement	Demonstration period	Max score (*)	Actual score	Must-do	Additional notes
	PERFORMANCE STANDARDS						
5	100 % of appropriate stroke patients, identified as potentially eligible for thrombolysis treatment, to be scanned within next available CT slot (this must support a door to needle time of 60 mins)	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes (Ischaemic patients only). Below 60% scores 0, 60-69% scores 2, 70-79% scores 3, 80-89% scores 4, >=90% scores 5.	discussion and spot check	5			
7	100 % of appropriate stroke patients to receive thrombolysis within 3 h or as soon as possible of symptom onset	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes. Below 65% scores 0, 65-74% scores 2, 75-84% scores 3, 85-94% scores 4, >=95% scores 5.	discussion and spot check	5			
8	100% of appropriate patients scanned within 24 hrs of admission to A&E	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes. Below 65% scores 0, 65-74% scores 2, 75-84% scores 3, 85-94% scores 4, >=95% scores 5.	discussion and spot check	5			
10	95 % of all appropriate stroke patients to be admitted to HASU directly from A+E	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes. Demonstrate using PAS data. Below 65% scores 0, 65-74% scores 2, 75-84% scores 3, 85-94% scores 4, >=95% scores 5.	discussion and spot check	5			
11	70 % of all stroke patients to receive a swallow test within 24 h of admission	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes. Below 50% scores 0, 50-59% scores 1, 60-69% scores 2, >=70% scores 3	discussion and spot check	3			The criterion has been changed from the original requirement for x% of appropriate patients.
13	75 % of all patients to receive physiotherapist assessment within 72 h of admission (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes. Below 50% scores 0, 50-74% scores 1, >=75% scores 2	discussion and spot check	2			The criterion has been changed from the original requirement for x% of appropriate patients.
14	100% of appropriate patients to receive continuous physiological monitoring (ECG, oximetry, blood pressure) by appropriately trained staff	Provide evidence that this exists, eg patient note's audit of randomly chosen 10 sets of notes. Below 80% scores 0, 81-94% scores 1, >=95% scores 2.	discussion and spot check	2			
6	90 % of stroke patients eligible for thrombolysis (within license), to receive thrombolysis treatment within 60 mins of entry to A&E (door to needle time)	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes (Ischaemic patients only). Below 60% scores 0, 60-69% scores 2, 70-79% scores 3, 80-89% scores 4, >=90% scores 5.	discussion and spot check	5			

Total

32 0

Score

0%

HASU performance regime - 'B', 'C', 'D' standards

Assessing a HASU for B,C and D criteria

HASU

Criteria	STANDARDS	Measurement	Demonstration period	Max score (*)	Actual score	Must-do	Additional notes
	B STANDARDS						
6	90 % of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 45 mins of entry to A&E (door to needle time) (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes	discussion and spot check	5			
12	100 % of appropriate stroke patients to be weighed during admission (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes	discussion and spot check	2			0.5 point per service
15	Daily consultant level ward rounds (performance standard)		discussion and spot check	5			
27	100 % appropriate patients and carers to receive contemporary patient information provided in a variety of formats (performance standard)	Provide evidence that this is happening. Up to date leaflets and patient information not (photocopies), evidence that different font size, languages and different colours are available	substantive evidence exists over the whole measuring period	2			

14 0

0%

Criteria	STANDARDS	Measurement	Demonstration period	Max score (*)	Actual score	Must-do	Additional notes
	C STANDARDS						
6	90 % of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 30 mins of entry to A&E (door to needle time) (performance standard)	Provide evidence that this is happening, eg patient note's audit of randomly chosen 10 sets of notes	discussion and spot check	5			
31	Patient and carer involvement in development of stroke services	Provide evidence that this is happening, eg focus groups, patient satisfaction surveys, discovery interviews	substantive evidence exists over the whole measuring period	2			
33	Evidence of timely implementation of service delivery improvements e.g. new guidance, performance standard compliance improvements	Provide evidence that this is happening	substantive evidence exists over the whole measuring period	2			
35	Demonstration of participation in stroke related research, as a key part of HASU services	Provide evidence that this is happening eg, lists of trials / research projects	substantive evidence exists over the whole measuring period	2			
25	Recruitment plan for vacant positions and success in filling vacant positions	Evidence of a recruitment strategy. Vacancy rate less than x%	substantive evidence exists over the whole measuring period	2			
	D STANDARDS						
26	Plan for rotation of posts across the professional groups along the patient pathway	Provide evidence that this is happening. This should cover Junior Doctors, Therapists and Nurses	substantive evidence exists over the whole measuring period	2			
34	Completion of leadership training by key members of the stroke team to support stroke service improvement	Provide evidence that this is happening	substantive evidence exists over the whole measuring period	2			

Total

17 0

Score

0%

Appendix 8: Worked example of HASU/stroke unit claw-back calculation

Trust achieves 80% score overall for 'A1' standard, trust achieves 75% score overall for 'A2' standard. What is the claw-back?

	<u>'A1' standard</u>	<u>'A2' standard</u>	
Target	90%	90%	
Trust score	80%	75%	
additional penalty for missing the 90%	<u>-10%</u>	<u>-10%</u>	
	70%	65%	
Claw-back	<u><u>-20%</u></u>	<u><u>-25%</u></u>	
reduction to Trust's 70% uplift	<u><u>-14%</u></u>		
reduction to Trust's additional 30% uplift		<u><u>-8%</u></u>	
So, if a Trust's 100% uplift for 6 months was:			
70% of uplift	£175k		
additional 30% uplift	<u>£75k</u>		
	<u><u>£250k</u></u>		total
Clawback	<u><u>-£35k</u></u>	<u><u>-£19k</u></u>	<u><u>-£54k</u></u>

Appendix 9: TIA standards

TIA performance regime - 'A1' standards, 1st set

TIA

Assessing a TIA for designation

Criteria	A STANDARDS	Measurement	Demonstration period	Max score	Actual score	Must-do	Additional notes
	Quality of Service						
5	90% of high risk TIA patients to receive a specialist assessment and treatment within 24 h of first presentation to a healthcare professional	TIA pathway to cover both high and low risk treatment arms Evidence of compliance against performance standard e.g. local audit		10			Divide % by 10 to give score
7	90% of low risk TIA patients to receive a specialist assessment and treatment within 7 days of first presentation to a healthcare professional	TIA pathway to cover both high and low risk treatment arms Evidence of compliance against performance standard e.g. local audit		10			Divide % by 10 to give score
11	90 % of appropriate TIA patients with symptomatic carotid stenosis to undergo CEA within 14 days of first presentation to a healthcare professional	Evidence of compliance e.g. local audit		10			Divide % by 10 to give score

30



How the above figure translates to the TIA service score

Unclassified	<21		
Bronze	21	-	23
Silver	24	-	26
Gold	27	-	30 (additionally, all 3 standards must be above 90% to score gold)

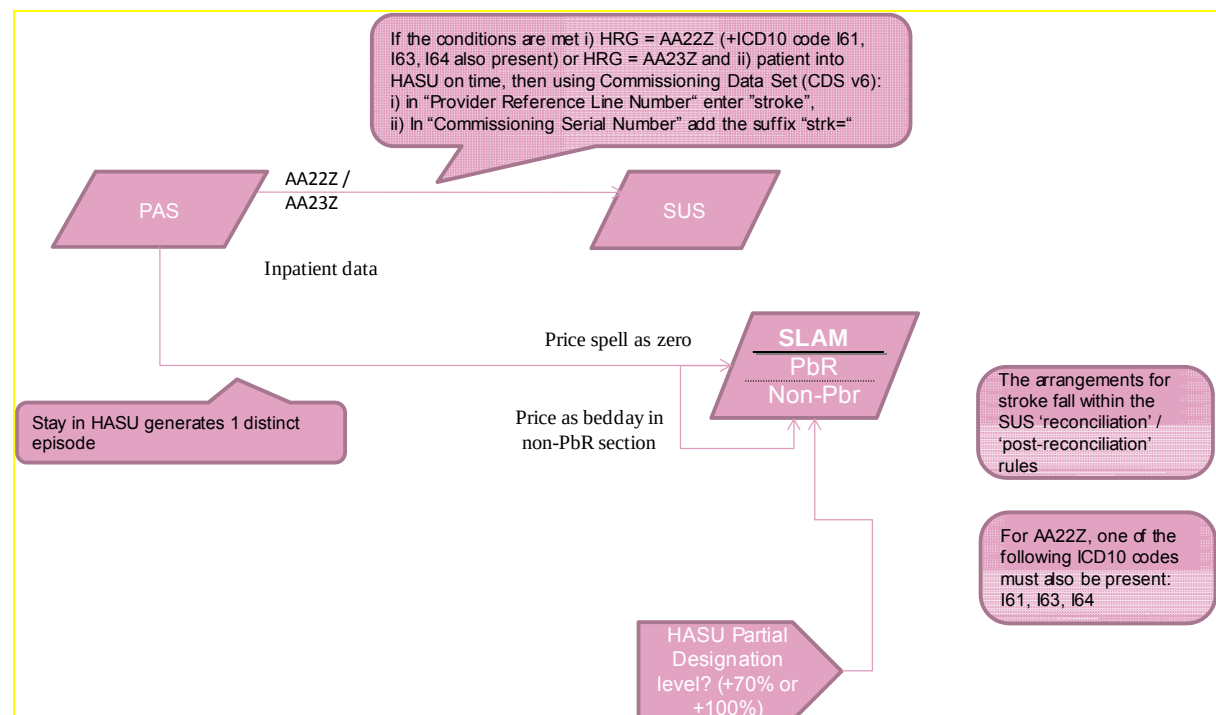
Appendix 10: Proposed activity flows to support payment mechanism

Developing a new tariff for stroke has meant activity passing through a HASU or stroke unit will be charged as non-PbR. It is proposed that:

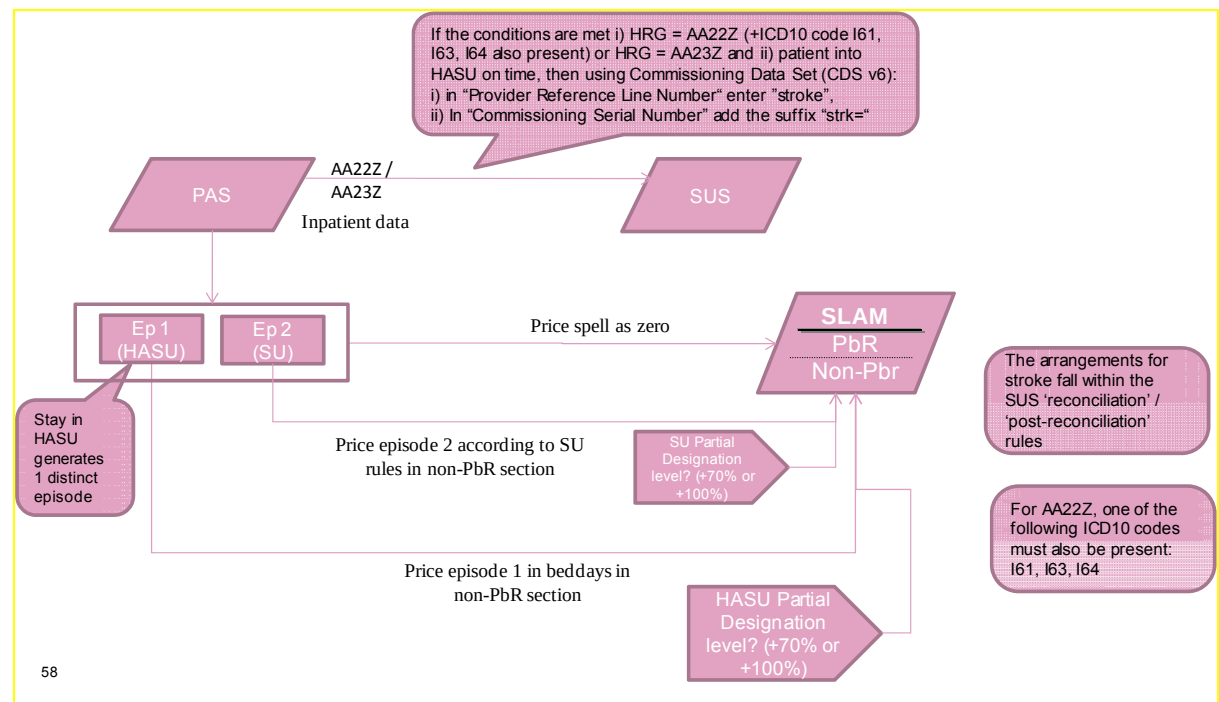
- activity to the secondary user service (SUS) is flagged as non-PbR
- activity is correctly priced in each trust's own service level activity monitoring systems (SLAM). It is acknowledged that this will create an additional reconciling issue between secondary user service and trust contract monitoring information.

These diagrams describe examples of activity flows in providers needed to ensure a consistent approach is adopted across London to present information to the Commissioning Support for London provider performance analytics team.

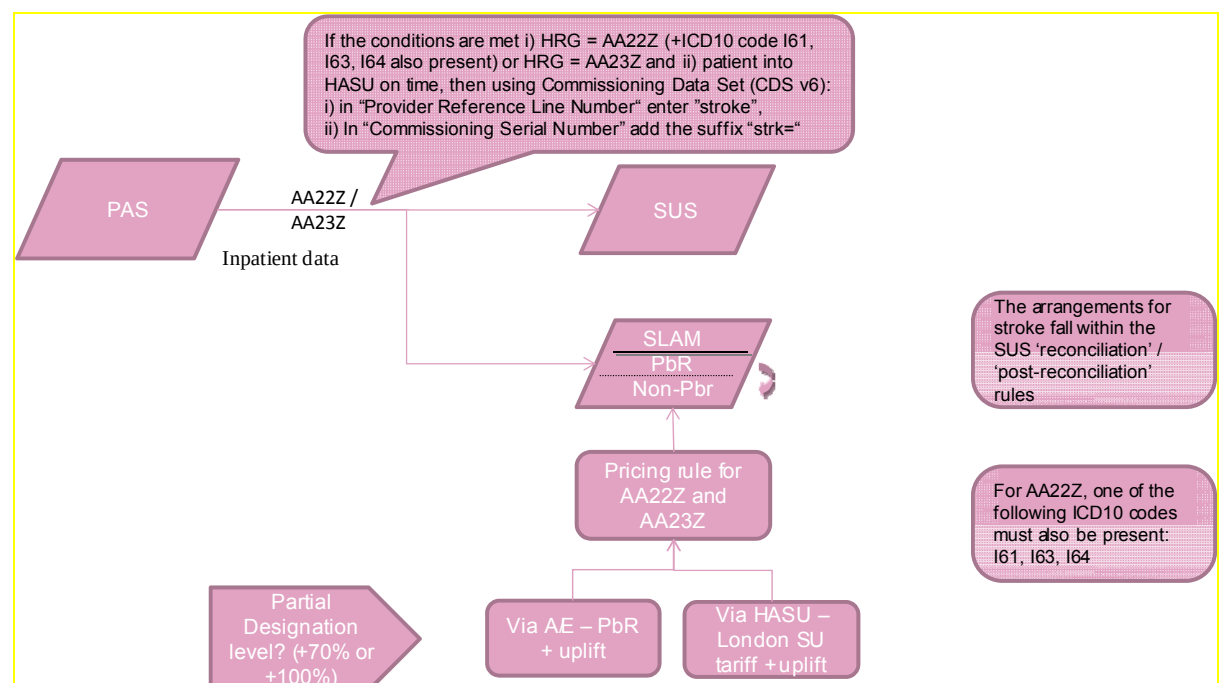
Contracting activity flows for stroke (non-TIA) activity in post go-live HASUs (where the patient moves to a stroke unit in a different trust)



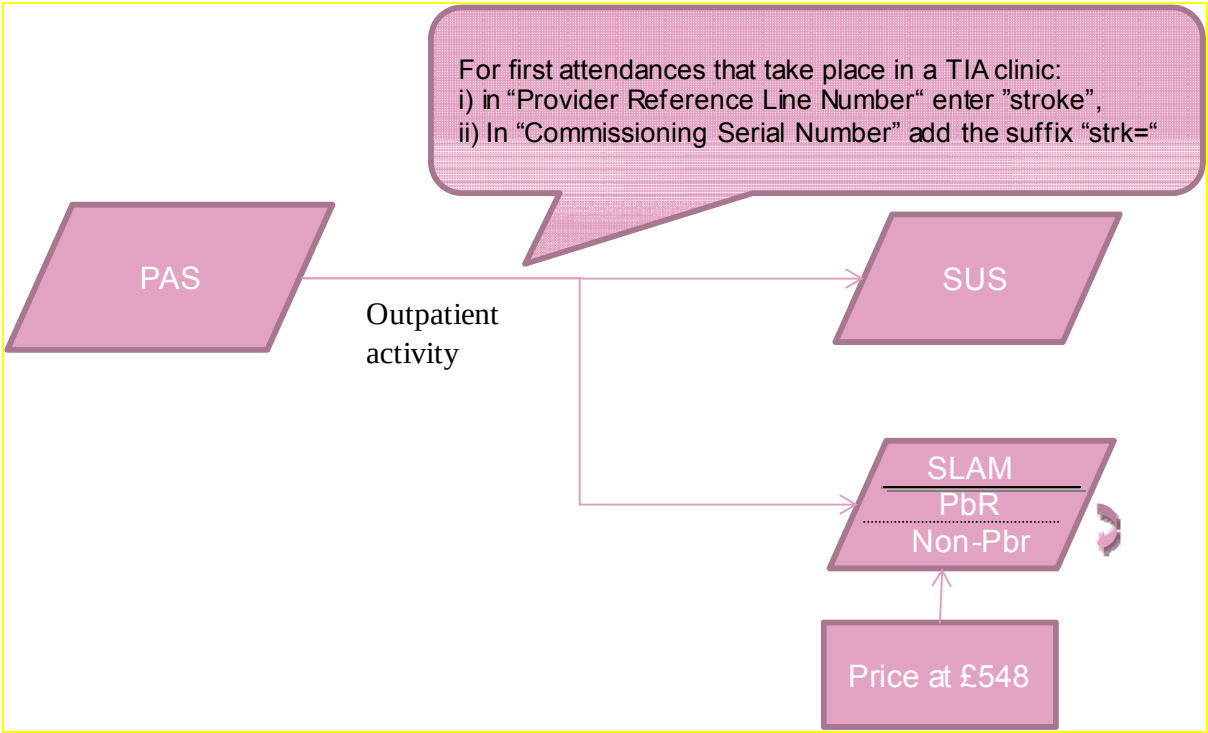
Contracting activity flows for stroke (non-TIA) activity in post go-live HASUs (where the patient moves to the stroke unit in the same trust)



Contracting activity flows for stroke (non-TIA) activity in post go-live stroke units



Contracting activity flows for TIA care provided in an ambulatory setting in designated TIA providers



Appendix 11: Commissioning and finance working group members

The work of the members of the commissioning and finance working group was invaluable in developing this guidance. The membership of this group was as follows:

Name	Role	Organisation
Carmel Harrington	Associate Director of Commissioning	South West London Acute Commissioning Unit
Clare Parker	Director Of Finance	NHS Barnet
Dominic Conlin	Managing Director	South West London Acute Commissioning Unit
Will Huxter	Managing Director	East London & The City Sector Acute Commissioning Unit
Hilary Walker	Director	North West And North Central Stroke Network
Lucy Grothier	Director	South East And South West Network
Janet Lailey	Director	North East Stroke Network
Janelle Devereux	Senior Project Manager	South East London Cardiac And Stroke Network
Lorna Donegan	Stroke Project Lead	North East London Cardiovascular And Stroke Network
Mark Scott	Assistant Director - Stroke Services	North West London Cardiac And Stroke Network
Rahima Miah	Project Manager	South West Stroke Network St. George's Healthcare NHS Trust
Hannah Coffey	Director Of Operations	Chelsea And Westminster Hospital
Kish Sidhu	Director Of Finance	North West London Hospitals

Name	Role	Organisation
Kelda Alleyn	Deputy Director Of Finance	Chelsea And Westminster Hospital
Jennifer Owen	General Manager, Neurosciences	St. George's Healthcare NHS Trust
Sue Bowler	Divisional Manager, General And Emergency Medicine	King's College Hospital
Laura Willoughby	Stroke Project Manager	Imperial College Healthcare NHS Trust
Nick Losseff	Interim London Stroke Clinical Director	Healthcare For London
Diane Ames	Lead Stroke Clinician	Imperial College Healthcare NHS Trust
Patrick Gompertz	Stroke Physician/ Consultant care of the elderly and stroke	Royal London/ Barts and The London NHS Trust
Simon Milligan	Senior Finance Lead, Local Hospitals, Stroke, Major Trauma	Healthcare For London
Julie Harper	Senior Project Officer	Healthcare For London

Appendix 12: Frequently asked questions captured from tariff workshops

Issue	Response
General	
Patients in HASU beds on 1 February – how should they be charged?	Existing patients can be charged at the uplifted PbR rate (assuming that the co-located stroke unit has passed the go-live assessment). The uplifted London HASU tariff only applies to new activity post HASU go-live.
What about patients repatriated from neurosciences?	The guidance from the Stroke Improvement Programme and Vital Signs team, published in November 2009, gives detailed guidance on how to define a stroke unit stay.
What about in-hospital stroke – which price?	Normally under PbR. This would be likely to create two episodes (for example, a cardiac episode and a stroke episode if the patient had a stroke during a cardiac procedure and was subsequently transferred from the cardiac surgeon to the care of a stroke physician). Ultimately this would be charged as one spell (the HRG being based on that assigned by the HRG grouper). Under the new arrangements, the HASU trust would be able to charge for either the spell that would relate to the original condition OR a HASU stay, not both. It should be noted that the numbers involved are small.
Operational	
If a patient presenting at a HASU turns out to be a mimic but needs a further stay, which trusts' medical ward do they go to? Does the penalty apply if the trust that runs the theoretical stroke unit does not accept? Which stroke unit?	The HASU trust can repatriate the patient to a local hospital or hold the patient on the trust's own wards. It is not necessary to link this to a stroke unit trust. No penalty should apply (as the penalties only apply to stroke diagnosed patients).
When are stroke units 'open' to receive transfers?	There are already rules covering this. It should be 8am-8pm (or similar), seven days a week as per normal transfer arrangements.

Secondary user service	
What are the practicalities for trust data collection and commissioner validation?	A schematic of HASU and stroke unit information flows has been created.
Should stroke be marked 'non-tariff' on secondary user service?	See additional information and contracting information flow diagrams now in the commissioning and finance guidance.
Need a consistent message about how this will happen throughout London.	Agreed, see above.
Will stroke tariff be outside flex and freeze?	The arrangements for stroke fall within the secondary user service reconciliation/post-reconciliation rules.
Will the claw-back be a year-end adjustment?	The claw-back can either be year-end or in-year. The claw-back should be accounted for in the year that it relates to.
What are the rules around non-resident (and homeless) activity – who is the responsible commissioner?	The normal arrangements apply – non-resident (and homeless) activity is the responsibility of the host commissioner.
What about CQUIN and how this links with stroke tariff?	Even though the payment mechanism is remunerating a higher standard of care and there are explicit quality standards to comply with, we have not expressly specified that this is considered to be a CQUIN scheme. Local commissioners may wish to develop additional CQUIN requirements.
TIA services	
Are we just recommending the TIA package price, or mandating it?	We are mandating it.

If mandating, when is this from?	The price is applicable from the when the trust's stroke unit passes its go-live assessment.
What happens about the outpatient caps applicable this year?	i) Remove an estimate of the TIA activity from the 2008/09 outturn and recalculate the outpatient cap. ii) Price the 2009/10 TIA service activity using the package price.
Can details be provided of tariff make-up?	The package price is based on the price in use in the north east London sector (but without the follow-up, follow-ups to be charged for separately). In essence, the price assumes that 90% of the people attending the TIA service require Doppler/CT (and a lesser percentage require Echo and ECG).
Presentation to health professional – should the presentation be made to trust health professional?	The Keep in line with Vital Sign presentation should be presented to any health professional.
TIA ambulatory versus inpatient ratios likely to be different for different organisations.	Agreed. We would imagine there would be different ratios as the profile of patients is likely to be different between a HASU offering a service 24 hours a day, seven days a week and an stroke unit operating a TIA service that has transfer protocols for managing high risk TIAs at weekends.
Do the TIA standards relate to time of admission or time of diagnosis?	The standard relates to assessment and treatment.
Monitoring and standards	
'Time on stroke unit' monitoring to allow for in-hospital stroke or a person awaiting discharge who may be better accommodated not in the stroke unit.	The guidance from the Stroke Improvement Programme and Vital Signs team, published in November 2009, gives detailed guidance on how to define a stroke unit stay.

If A2 is monitored retrospectively, when can they get paid? Will this happen retrospectively like claw-back?	Trusts can be eligible to receive the A2 uplift from when they can consistently demonstrate that they are meeting the A2 standards. Recognising that data flows may lag performance, this can be backdated to the later of: i) when the unit has formerly passed the initial go-live assessment ii) when the unit consistently demonstrates that it is meeting the A2 standards.
What if a HASU/stroke unit fails >50%, but is able to correct it quickly.	It is in no ones interest for a unit to 'fail' and so penalties have to be applied. It is anticipated that the close involvement of the networks will enable potential difficulties to be highlighted and problems averted and the rules need to be applied in this spirit. However, if little action is apparent by the unit to remedy any failing, then sanctions need to be enforced.
How do you allow for 'appropriate' stays in neurological high-dependency unit?	The guidance from the Stroke Improvement Programme and Vital Signs team, published in November 2009, gives detailed guidance on how to define a stroke unit stay.
Change the HASU 'door to needle' standard (standard 6) to be progressively one hour, 45 minutes and 30 minutes.	Agreed. This has now been incorporated.
Who is doing the monitoring, PCTs or sector acute commissioning units?	Sector acute commissioning units are responsible for monitoring units against the performance standards and are likely to involve representatives from the stroke and cardiac networks in the monitoring. For contract monitoring, the standard rules for all acute contracts apply.
What will happen about the development of HASU beds? Are HASUs allowed to reach stroke unit standards and then change to HASU on 1 Feburary?	Yes.

Appendix 13: Example contract variation of standard NHS contract for acute services

Contract variation of standard NHS contract for acute services

This agreement is made on the (Date)

Between

- 1) **abc SACU** whose principal office is at
- 2) **abc PCT** (the “Coordinating Commissioner”) whose principal office is at, for itself and as agents for and on behalf of the Associates.
- 3) **abc Trust** whose principal or registered office is at.....

Purpose of the agreement

The purpose of the agreement is to vary the existing Standard Acute NHS Contract between **abc PCT** and **abc Trust** which commenced on 1 April 2009 and expires on 31 March 2010.

Background

A joint committee of PCTs (consisting of all London PCTs and South West Essex PCT) was constituted to consider the proposals put forward by Healthcare for London. They agreed to endorse the proposals at a meeting 20 July 2009. This contract variation is to vary the acute contract between the above mentioned parties to implement the decision.

The commissioning and finance framework published by Commissioning Support for London on behalf of London PCTs, provides the structure for how this will be implemented.

This variation operates under Section 38 and Schedule 6 Part 1 of the Standard NHS Contract for Acute Services which sets out the provisions under which parties to the agreement, i.e. the Coordinating Commissioner (abc PCT) and the Provider (abc Trust), may make arrangements to vary the terms of the agreement to provide acute services for the Coordinating Commissioner and Associates.

Details of activity changes anticipated

December 2009

www.healthcareforlondon.nhs.uk

Healthcare for London

Portland House
Stag Place
London SW1E 5RS

Tel: 020 8433 6800
Email: hfl@csf.nhs.uk

Healthcare for London is part of **Commissioning Support for London** – an organisation providing clinical and business support to London's NHS.

44. Appendix

Economic case for change in Greater Manchester

**Economic case for change in
the system of stroke care in Greater Manchester**

**PRODUCED BY SEÁN BOYLE OF THE LONDON SCHOOL OF
ECONOMICS ON BEHALF OF:**

**Greater Manchester & Cheshire Cardiac and Stroke Network, and
the Association of Greater Manchester PCTs**

February 2009

Document Control

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Approval Sign-off (required before release beyond the review panel)				
Owner	Role	Signature	Date	Version
Janet Ratcliffe	Director Cardiac Stroke Network			
Approver	Role	Signature	Date	Version
Claire Yarwood	Director of Finance Stroke Lead			

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Summary

1. This report provides an overview of the economic cost of stroke and stroke care in Greater Manchester. The main focus of the analysis is on the cost implications for the acute sector in Greater Manchester of a change in the system of stroke care. However the report also indicates the magnitude of costs that are borne by other sectors of the Greater Manchester health system including individuals themselves.
2. It is a national priority to improve the provision of stroke care in England. Treatment in a stroke unit is generally regarded as the clinically optimal model of stroke care. Patients should be taken to hospital as quickly as possible as early diagnosis and management are important. There is good evidence to suggest that effective acute care reduces the burden of disability and the pressure on rehabilitation services.
3. In Greater Manchester the intention is to achieve better stroke care by concentrating the early acute stage of care on three hospital sites with the later rehabilitation stage taking place in hospital settings close to the patient's home. The primary aim is to achieve much improved levels of thrombolysis and thus to achieve improved patient outcomes.
4. For any geographic area, to understand the nature of costs across the whole system of stroke care requires three key pieces of information:
 - accurate estimates of the incidence and prevalence of stroke;
 - accurate estimates of costs and levels of activity in all sectors of stroke care; and,
 - where changes are proposed in the system of care, an assessment of the likely changes in outcome in terms of changes in the distribution of dependency levels and their impact on costs under different systems of care to use in an assessment of the differences in whole-system costs that will occur.
5. Under current tariff and cost assumptions the change to a new system of acute care will increase the cost of stroke care in hospitals in Greater Manchester from £20.2 million to £22.6 million, and the cost of ambulance services from £0.9 million to £2.1 million.
6. Under current tariff and cost assumptions the change to a new system of acute care will result in a difference between the tariff payments to Greater Manchester acute providers and their costs of approximately £1.2 million.
7. The capital investment required to enable the switch to a new system of acute stroke care is just over £2.79 million.
8. These findings are based on conservative estimates of the improvements in outcome that will result from the change in the system of care.

9. The cost of primary and community stroke care in Greater Manchester is estimated at £29 million.
10. The cost of social care associated with stroke in Greater Manchester is estimated at £100 million, the cost of informal care at £140 million, and the costs in lost production and benefit payments at almost £100 million.
11. The cost of stroke in England as a whole is almost £8 billion per annum at current prices. It is estimated on an equivalent basis that the cost of stroke in Greater Manchester is almost £400 million. Acute care represents a small proportion of this total cost – some 5.6%.
12. If the new system of acute stroke care results in a small improvement in the levels of dependency among stroke patients in the community in future years, this could result in substantial cost savings to the system as a whole which would outweigh any immediate increase in costs for the acute sector.
13. However the results of this analysis should be treated with caution. There is insufficient detailed information available in the system about costs and levels of activity – even in the acute sector – for a definitive judgement to be made.
14. A recommendation of this report is that further detailed local analysis is taken forward so as to understand better the nature and extent of activity and costs that relate to stroke care in Greater Manchester.
15. In particular the following analyses should be considered:
 - further analysis of the incidence and prevalence of stroke and TIA among the Greater Manchester community and their impact on service use and hence costs, and how these relate to national estimates;
 - a detailed costing exercise with the acute providers of stroke care which should feed into the Capgemini model;
 - an assessment of the distribution of disability resulting from stroke under the current system and as a result of a switch to a different system of care; and,
 - estimation of the different levels of cost associated with different levels of disability in all parts of the system: acute and rehabilitation, primary and continuing care, social care and informal care.

1 Introduction

This report presents the economic case for change in the way in which stroke services are provided in Greater Manchester. It builds on the work already carried out in Greater Manchester including *GMISS Provision of a Strategic Outline Case for Acute Stroke Services* (Capgemini 2007) and several business plans and other documents that are referenced in the report. The economic case is set within the broader context of the national stroke strategy (Department of Health 2007) that has been developed since the publication of the National Audit Office's report on stroke services, *Reducing Brain Damage: Faster access to better stroke care* (NAO 2005).

The purpose of the economic case is to support the business case for change in the system and to enable stakeholders to be clear on the economic consequences before investments supporting change take place. These consequences relate particularly to the realisations of predicted benefits both tangible and intangible. The report addresses the whole system of stroke care; in a sense the system may be considered as if it were a single business entity delivering all aspects of care. The report also provides an assessment of the societal costs of stroke, although estimates of indirect costs borne by individuals such as productivity loss are necessarily rather tentative.

This detailed work on the economic case arose from the need for a clearer understanding of the relationship between current predicted activity and costs and long-term outcomes for patients and carers. It fits within the broader framework of benefits realisation, which is part of the Office of Government Commerce process for managing successful programmes

The author Seán Boyle is a health economist, based at the London School of Economics, having previously held senior roles at the King's Fund. He specialises in whole-system planning and is an expert on the funding of NHS services.

1.1 Structure of the report

The report begins by considering national policy and evidence and how the current strategy for Greater Manchester fits within this national picture. Section 3 considers approaches to calculating the measurement of benefits resulting from improved outcomes that arise from changes in the system of stroke care. Section 4 provides a profile of current needs and services within Greater Manchester, and includes some projections of the future need for stroke care. We also outline the current system and the chosen option for change.

Section 5 describes a generic model of stroke care. This is followed by four sections which consider the economic cost of change in the system of stroke care in terms of the impact on key stakeholders. Thus Section 6 describes the impact on the NHS acute sector. Section 7 looks at the impact on NHS primary and community care providers. In Section 8 we consider the impact on the need for social care and how this will affect local authorities, and in Section 9 the impact on individuals and their informal carers is considered. Finally we conclude with an overview of our findings regarding the economic case for change.

2 The national policy context

Improving stroke care has been described as *the next major challenge for the NHS* (Department of Health 2007). According to a National Audit Office report (NAO 2005), in England there are around 110,000 strokes per year, and 20,000 transient ischaemic attacks (TIAs). However a more recent source, the Department of Health's National Stroke Strategy (Department of Health 2007), suggests there may be as many as 150,000 suspected TIAs in England with only 35% (52,500) of these presenting at a neurovascular unit within seven days. This compares with a figure of around 9,000 strokes or suspected strokes and TIAs in Greater Manchester (based on an analysis of provider data for the calendar year 2006¹).

Table 2.1 shows an outcome profile for people who suffer a stroke. It is based on national data provided in the National Audit Office report referred to above (NAO 2005). Some two-thirds survive, but of these, some 40% are disabled and dependent.

Table 2.1: Some statistics on stroke in England

England population 2006	50,762,900
Stroke per annum	2.17per 1,000
Stock of stroke victims (prevalence)	300,000
Annual number of strokes (incidence)	110,000
Proportion of stroke victims that die	33%
Proportion of stroke victims that survive	67%
Proportion of survivors who are disabled and dependent	40%

Source: NAO 2005

Many strokes are preventable with the right early intervention; moreover fast effective acute treatment can reduce the mortality rate and disability in those that survive. In 2006 just 15% of patients were admitted to a stroke unit on the day of their stroke and only 12% were admitted directly to a unit ie within four hours of arrival at a hospital. As the National Sentinel Report (Clinical Effectiveness and Evaluation Unit Royal College of Physicians of London 2007) states, *the opportunities to optimise acute care at the time when ischaemic brain remains potentially salvageable is not being maximised*. Most patients with stroke are admitted to hospital between 8am and midnight; provision of effective thrombolysis services during that period would cover just over 85% of patients.

In England 28,000 strokes (25% of the total) occur in people aged less than 65 years. The number of people disabled or dependent as a result of stroke is 300,000. Annual direct healthcare costs are estimated at £2.8 billion; stroke accounts for 2.6 million bed days with an average length of stay of 28 days (NAO 2005).

Strokes are mainly either ischaemic (clotting that prevents blood flow in the brain) or haemorrhagic (blood vessel bursts resulting in bleeding in the brain). Ischaemic – around 80% of strokes – may be sub-divided into atherosclerotic stroke (cerebral

¹ This is the analysis of provider data which supports the Capgemini model of stroke care for Greater Manchester.

thrombosis) and embolic stroke (cerebral embolism) while haemorrhagic – around 17% of strokes – may be sub-divided into intracerebral and subarachnoid (Leatherhead *et al.* 2008). People with both ischaemic and haemorrhagic strokes will benefit from early diagnosis and treatment; it is important to differentiate between the two at an early stage. There is a 20-30 per cent death rate within the first 30 days of stroke, a 50% chance of significant disability at six months for those who survive, and 13% of people require ‘new’ institutionalisation (Capgemini 2007).

Treatment in a stroke unit is the clinically optimal model of stroke care (NAO 2005). This applies to both the acute and rehabilitation stages of care. The Stroke Unit Trialists’ Collaboration has shown that patients of all ages, stroke severity and type appear to benefit from specialist care. A stroke unit has been defined as a multi-disciplinary team including specialist nursing staff based in a discrete ward designated for stroke patients (Clinical Effectiveness and Evaluation Unit Royal College of Physicians of London 2007). Based on the work of the Collaboration, five key characteristics have been established to define a stroke unit:

- presence of a consultant physician with responsibility for stroke;
- formal links with patient and carer organisations;
- multi-disciplinary meetings at least weekly to plan patient care;
- provision of information to patients about stroke; and,
- continuing education programmes for staff.

The quality of acute stroke units is based on the following criteria (Clinical Effectiveness and Evaluation Unit Royal College of Physicians of London 2007):

- continuous physiological monitoring;
- access to scanning within three hours of admission;
- if not three hours, then access to brain imaging within 24 hours;
- existence of a policy for direct admission from A&E;
- specialist ward rounds at least five times a week; and,
- acute stroke protocols and guidelines.

Thrombolysis is a clot-busting treatment that can clear the blockage causing damage to the brain if it is administered to eligible stroke patients ie those with ischaemic stroke in the first three hours from onset². The result for some patients is complete recovery. Hence this part of the pathway is of great importance. Even if thrombolysis is not possible within three hours it is still important to get patients to hospital as quickly as possible as early diagnosis and management on an acute stroke unit are important. There is good evidence to suggest that effective acute care reduces the burden of disability and the pressure on rehabilitation services (Clinical Effectiveness and Evaluation Unit Royal College of Physicians of London 2007). According to the National Sentinel report in 2007, approximately 39% of patients were admitted within two hours of having their stroke. In a number of places early supported discharge teams and community stroke teams provide specialist services outside of the hospital thereby enabling length of stay to be reduced.

² However we note that it can be difficult to determine precisely when onset occurred, and so the use of a three-hour cut-off implies a degree of accuracy which may not be deliverable in practice. Some of the early outcome evidence that is often quoted uses cut-offs longer than three hours.

It is also particularly important that haemorrhagic strokes are picked up quickly through early scanning with neurovascular surgery readily available as required. Patients who suffer TIAs should be seen quickly in an acute setting, and national clinical guidelines suggest that a management plan for patients with a TIA should be provided within a week of onset.

There are a number of measures that can be taken following a stroke to prevent further stroke or deterioration in the condition of the patient. Patients should be given lifestyle advice: for example, to stop smoking, take more exercise; or dietary advice about salt intake, cholesterol and calories. For many patients it is advisable that they are placed on anti-hypertensive medication; patients should also be advised to take aspirin on a daily basis or preferably a combination of aspirin and dipyridamole. For some patients it is advisable that on discharge they take anti-coagulant medication.

Recent policy development in England reflects evidence on best practice that has emerged in the literature in recent years as well as taking account of the learning from experience in other countries.

3 Calculating the benefits of improved outcomes for stroke patients

The switch from one form of delivery of stroke care to another may have clear implications in terms of the cost of delivering care even if there is no expectation of a change in patient outcomes as a result. For example centralising acute services in one or two hospitals can potentially result in cost savings although this should be considered in the context of a careful examination of other costs in the system. However often – and this is the case with respect to stroke care in Greater Manchester – part of the rationale for change is to improve the quality of care for patients and hence outcomes. This may result in measurable benefits in terms of reduced costs of care at different stages in the stroke care pathway (including in the hospital setting), as well as benefits to the patients themselves through reduced mortality or disability and dependency leading to the individual being able to lead a fuller, more productive life. However all of these latter benefits are often difficult to quantify and hence are often expressed as a desirable but unmeasured outcome of the change.

There is some evidence available of the potential benefits of different systems of stroke care, and of the various elements of those systems. A recent study for the Health Foundation has summarised much of this (Leatherman *et al.* 2008), and the National Audit Office study referred to earlier (NAO 2005) included some calculations of the benefits of better stroke care. However the evidence is at best tentative; its application to particular local circumstances requires care, especially when changes are envisaged across a system of interventions with little opportunity to consider within a controlled environment the impact of any one change.

There is a strong indication that certain preventative measures are likely to have a considerable impact in terms of improved patient outcomes. Based on ASSET, the Department of Health tool for stroke services (Department of Health 2006), we have calculated the potential for improved outcomes in Greater Manchester (as shown in Table 3.1) through the application of four preventative measures:

1. managing all individuals currently treated for hypertension to below 140mmHg systolic BP;
2. providing warfarin where indicated for patients with atrial fibrillation;
3. providing statins for all people with >20% risk CVD in 10 years; and,
4. smoking cessation for all patients who have suffered a stroke or TIA.

There is evidence to suggest that the impact of these measures may be additive³. Hence Table 3.1 suggests that their application may result in a reduction in the number of strokes in Greater Manchester by over 1,000, which would indicate a potential for substantial cost savings. However these findings are based on a range of national parameters applied to local data; detailed studies carried out at the local level are likely to provide a more accurate indication of the possible benefits.

Table 3.1: Strokes avoided through implementation of four preventative measures, Greater Manchester

PCT	1	2	3	4	Total
Ashton, Leigh & Wigan	56	36	26	11	129
Bolton	50	32	23	9	114
Bury	34	22	16	6	78
Heywood, Middleton & Rochdale	37	24	18	8	87
Manchester	67	42	31	17	157
Oldham	40	25	19	8	92
Salford	42	27	20	9	98
Stockport	59	38	28	10	136
Thameside & Glossop	47	30	22	9	108
Trafford	43	27	20	7	97
Greater Manchester	474	303	223	94	1,095

Source: our analysis based on ASSET (February 2007)

- 1 Managing all individuals currently treated for hypertension to below 140mmHg systolic BP;
- 2 Providing warfarin where indicated for patients with atrial fibrillation;
- 3 Providing statins for all people with >20% risk CVD in 10 years; and,
- 4 Smoking cessation for all patients who have suffered a stroke or TIA.

We have also analysed possible improvements in outcome performance for providers in Greater Manchester using the same Department of Health tool for stroke services (ASSET). This considers the improved outcomes that can be attained by the adoption of four interventions: stroke units, immediate scanning and thrombolysis, rapid referral to carotid surgery through a one-stop TIA clinic, and early supported discharge teams. The Department of Health's analysis suggests that if every acute hospital in England provided these interventions for every stroke patient, the result would be a reduction by 840 in the number of strokes, 3,900 more stroke patients per annum would return to independence rather than die or have long-term dependency, and there would be a potential bed saving of 440,000 days through shorter lengths of stay.

Using the same methods, our analysis of Greater Manchester providers suggests the following: the TIA intervention could prevent 84 strokes; if thrombolysis were attained for 4% of those patients for which it is appropriate, the result would be a

³ Some experts suggest that the evidence for additivity is not clear cut.

reduction in long-term dependency of 26 people and 728 bed days would be saved, and if 9% were attained, the result would be a reduction in long-term dependency of 58 people and 1,624 bed days saved; if all patients were treated on a stroke unit this could reduce death or dependency by 155 people and the number of bed days required by 16,830; and, the use of early discharge support teams has the potential to reduce death and dependency by 195 people and the number of bed days by 25,984. Once again these findings are based on a range of national parameters applied to local data, and local studies are likely to provide a more accurate indication of the possible benefits. Nevertheless this does provide an indication of the nature of the benefits that might be attained through improvements in the system of stroke care.

Saka *et al.* (2005), in work that informed the National Audit Office report on stroke care, also examined the potential impact of improvements in acute care on outcomes and costs, considering in particular the proportion of people with stroke treated on a stroke unit, the proportion of eligible patients thrombolised, and the proportion of eligible patients taking aspirin. In addition they looked at secondary preventative measures – those targeted at people who have had a stroke or a TIA – including the proportion of eligible patients taking aspirin or other anti-platelets, the proportion of eligible patients taking hypertensive drugs, the proportion of eligible patients undergoing carotid endarterectomy, and the proportion using cholesterol-lowering drugs.

Considering all interventions, and assuming almost optimal levels of take-up, Saka and colleagues (Saka *et al.* 2005) determined there would be a reduction in deaths in England from stroke of 1,369, a reduction in stroke recurrences of 254, the number of people who would live independent lives after a stroke would increase by 506, but the number of people surviving with very severe disabilities after a stroke would also increase by 164 due to the reduction in the number of deaths. It was estimated that this would result in an increase in total cost of health services of some £69 million.

So there may be potential reductions in costs at several stages of the stroke care pathway due to improvements in the level of dependence of stroke patients. Moreover where mortality or dependence is improved this may also lead to reductions in the indirect costs of stroke such as lost productivity. To assess the likely impact of any change we require some measures of the distribution of disability under different systems of care, and how these may impact on costs. As we have seen, there is some but limited evidence nationally on these issues, but none that we are aware of locally that can be brought to bear on this issue.

People living after stroke can typically be categorised as having very severe disability and therefore very high dependence, severe disability and fairly high dependence, having moderate disability and some dependence, having low disability and little dependence, and no disability and therefore independence. In addition a considerable proportion of people will die within 30 days. Disability has been commonly assessed using Barthel scores at point of discharge of patient – an index of activities of daily living – where patients are allocated to a range from independent to mild to moderate to severe to very severe disability, corresponding to scores of 20, 15-19, 10-14, 5-9 and 0-4 respectively. This distinction between levels of disability is important if we are to be able to assign different costs to different systems of care where we expect those systems to result in changes in the levels of mortality and morbidity in a

population. The application of an average unit cost per patient across the system is unlikely to produce a robust estimate of changes in cost.

4 Current profile of needs and services in Greater Manchester

In this section we examine the current profile of needs and services in Greater Manchester and any issues that have been identified. Various sources are used for this section: these include the Strategic Outline Case presented by Capgemini (Capgemini 2007), business cases produced by acute trusts presenting bids to become centres in the new system (Salford Royal NHS Foundation Trust 2008, Stockport NHS Foundation Trust 2008, The Pennine Acute Hospitals NHS Trust 2008), the Greater Manchester Acute Stroke Activity and Financial Model (referred to in this report as the Capgemini model⁴), the National Audit Office report on stroke care (NAO 2005) and the recent Department of Health strategy (Department of Health 2007).

4.1 Population and estimates of need

The population of Greater Manchester in 2007 is estimated to be 2.56 million people (ONS 2008), and, as Table 4.1 shows, is projected to increase by over 4% by 2019, and by another 1.7% by 2024, to 2.67 million and 2.72 million respectively (analysis based on projected populations from ONS 2008)⁵.

Table 4.1 Projected male and female population of Greater Manchester, 2007 - 2024

Age	2007	2009	2014	2019	2024	% change between 2007 and 2019	% change between 2007 and 2024
Male							
0-14	239.1	236.8	236.9	242.5	244.0	1.4%	2.0%
15-44	557.0	556.2	549.4	545.5	556.0	-2.1%	-0.2%
45-64	304.5	311.9	322.6	332.1	329.2	9.1%	8.1%
65-74	95.5	98.9	111.8	116.8	113.8	22.3%	19.2%
75-84	52.6	53.4	59.7	66.2	77.7	25.9%	47.7%
85+	14.0	15.2	17.9	21.3	26.3	52.1%	87.9%
All males	1262.7	1272.4	1298.3	1324.4	1347.0	4.9%	6.7%
Female							
0-14	227.6	225.3	225.9	231.5	232.7	1.7%	2.2%
15-44	551.7	550.5	541.3	535.6	543.9	-2.9%	-1.4%
45-64	309	315.7	325.6	335.5	332.1	8.6%	7.5%
65-74	105.4	108.7	122.5	127	124.2	20.5%	17.8%
75-84	76.4	74.9	77.2	82.6	95.5	8.1%	25.0%
85+	33.3	33.6	34.1	36	40.8	8.1%	22.5%
All females	1,303.4	1,308.7	1,326.6	1,348.2	1,369.2	3.4%	5.0%
TOTAL	2566.0	2581.3	2624.6	2672.4	2715.8	4.1%	5.8%

Although overall population growth is relatively small, there will be a considerable increase in the male population aged 65 years and over (by 26% between 2007 and

⁴ Version 'Base v4-02 Tariff Amendments' of the model received on 24 February 2009.

⁵ The ten Greater Manchester PCTs cover a greater population as Tameside & Glossop includes 34,000 people who live outside the Greater Manchester metropolitan boundary.

2019), and in the female population aged 65 years and over (by 14% between 2007 and 2019), both of which groups may be considered as at increased risk of stroke. Thus, other things being unchanged, the number of strokes among the Greater Manchester population is likely to increase significantly over the next ten years.

There will also be significant variation in the rate of change in population by area of Greater Manchester, both overall and for significant age-groups (Capgemini 2007).

Incidence of stroke and related conditions

For England as a whole, a range of related estimates are available for the number of people experiencing a stroke. Most – although we cannot assume all – individuals who experience a stroke come into contact with the NHS, and are referred to an acute hospital for diagnosis and treatment. Some people who are referred to hospital with a potential stroke will not actually have experienced one but may have some other, often related, condition eg a TIA. Nevertheless such patients will still be users of resources allocated for the delivery of stroke services.

We present the evidence available from the Greater Manchester system regarding the incidence of stroke among the population, and admission⁶ to hospitals in the area due to this cause. Where there are different figures from different sources we attempt to reconcile them so as to ensure a consistent basis for analysis. If this is not possible we make clear the choice made in this report, the source of the data, and the reasons for that choice.

Table 4.2: ICD10 classification of strokes, TIAs and vascular syndromes of the brain

I 60	Sub-arachnoid haemorrhage
I 61	Intracerebral haemorrhage
I 62	Other non-traumatic intracranial haemorrhage
I 63	Cerebral infarction
I 64	Stroke, not specified as haemorrhage or infarction
I 65	Occlusion and stenosis of pre-cerebral arteries, not resulting in cerebral infarction
I 66	Occlusion and stenosis of cerebral arteries, not resulting in cerebral infarction
I 67	Other cerebrovascular diseases
I 68	Cerebrovascular disorders in diseases classified elsewhere
I 69	Sequelae of cerebrovascular disease
G 45	Transient cerebral ischaemic attacks and related syndromes
G 46	Vascular syndromes of brain in cerebrovascular diseases

We first consider the way that stroke is classified under the International Classification of Diseases (ICD10). Table 4.2 provides a list of stroke-related codes (I60 – I69); these are in fact classified as cerebrovascular diseases. In addition we are interested in TIAs (coded as G45) and vascular syndromes of the brain (coded as

⁶ We use admissions rather than finished consultant episodes; admissions tend to be the currency for hospital-based tariffs.

G46⁷) (see <http://www.who.int/classifications/apps/icd/icd10online/>). These codes were suggested in an early health care needs assessment of stroke (Mant *et al. Health care needs and assessment*, 1998). However alternatives are in use. Thus the National Audit Office based its costs of stroke and TIA on codes I60 – I66 and G45 only. In fact codes I67 –I69 accounted for just 7.2% of total admissions (under codes I60 –I69) in England as a whole in 2006/07, and almost all of those were classified as I67.

An alternative categorisation of stroke-related admissions to hospital is based on Healthcare Resource Group categories (HRGs). These are important as NHS tariffs are based on HRGs. Table 4.3 provides a list of HRGs associated with stroke: this is based on the work of Mant and colleagues (Mant *et al.* 1998).

Table 4.3: HRG codes associated with stroke		
HRG code	HRG label	Procedures/conditions included
A01	Intracranial procedures except trauma – 1	Drainage of extra-dural space
A02	Intracranial procedures except trauma – 2	Drainage of sub-dural space
A03	Intracranial procedures except trauma – 3	Operations on aneurysm of cerebral artery (excision or ligation); ligation of carotid artery; drainage of sub-arachnoid space; evacuation of haematoma (intracerebral; cerebellar)
A04	Intracranial procedures except trauma – 4	Operations on aneurysm of cerebral artery (clipping; obliteration)
A19	Haemorrhagic cerebrovascular disorders	Sub-arachnoid haemorrhage; intracerebral haemorrhage
A20	Transient ischaemic attack, aged >69 or with complications	TIA
A21	Transient ischaemic attack, aged <70 with no complications	TIA
A22	Non-transient stroke or cerebrovascular accident, aged >69 or with complications	Cerebral infarction; stroke not specified as haemorrhage or infarct
A23	Non-transient stroke or cerebrovascular accident, aged <70 with no complications	Cerebral infarction; stroke not specified as haemorrhage or infarct
Q05	Extracranial or upper limb arterial surgery	Carotid artery surgery, including endarterectomy

⁷ There were only 5 admissions under G46 in England as a whole in 2006/07 compared with almost 19,000 under G45 (from our analysis of HES Online data).

Considering England as a whole in 2006/07, codes A01 – A04 accounted for almost 18% of total admissions, code A19 (haemorrhagic stroke) accounted for 15.4%, codes A20 – A21 (TIAs) for 16.2% and codes A22 – A23 (ischaemic stroke) for 46.2%.

We observe that not all of these categories are included in the figures quoted for Greater Manchester. Moreover there are some differences in the numbers quoted from different sources for Greater Manchester.

Reconciling the activity data

An analysis (Capgemini 2007) of patients admitted to Greater Manchester hospitals with a stroke or possible stroke indicates that in 2006/07 there were 17,868 episodes of care for people admitted with a potential stroke ie finished consultant episodes (FCEs). Of these, 8,995 were admitted with a stroke diagnosis and of these 5,405 were episodes with a dominant stroke HRG. The broadest definition is based on people with an ICD10 diagnosis code between I60 and I67 or G45 and G46; the middle definition relates to codes I61, I63 and I64 only – so excluding in particular TIAs; finally the most restricted definition relates to HRG A22 and A23 which are non-transient stroke or cerebrovascular accident by age-group with or without complications (Capgemini 2007), thus excluding both haemorrhagic strokes and TIAs. These episodes were mainly distributed between the nine acute trusts in Greater Manchester with a few appearing in specialist or mental health trusts⁸.

These figures include some people who are not residents of the Greater Manchester area. Although non-residents may still make use of the service in the future, the financial implications in terms of responsibility for flows of revenue to providers are different.

There are also residents of Greater Manchester who are treated for possible stroke in acute hospitals outside the Greater Manchester area. These are not taken into account in these figures but represent a cost to the Greater Manchester system, and some of these costs may be repatriated.

According to *Number of Primary Stroke Centres* (Popplewell 2008) it is estimated that 9,000 people each year in the Greater Manchester area who suffer a stroke will be treated in either a Comprehensive Stroke Centre (CSC) or a Primary Stroke Centre (PSC⁹). Of these it is estimated that 6,000 will be ischaemic strokes. Initially it is assumed that just 10% of these will be thrombolysed ie 600 people, based on the proportion that is achieved in other services that are operating effectively, although the number could potentially be as high as 50% or 3,000 people. The expectation is that the thrombolysis workload will be shared between the CSC and PSCs (Popplewell 2008).

The Capgemini model provides a set of figures that estimate the annual number of strokes in the Greater Manchester area that will be dealt with by one of the acute

⁸ These could be a coding error but they are so few as to be insignificant. We also note that the figures provided in the Capgemini report for Pennine Acute Hospitals Trust in 2006/07 are different from those in the Pennine Acute Hospitals Trust business case.

⁹ The definitions of a CSC and a PSC are presented in some detail in Section 4.3.

providers in the sector¹⁰. Thus it is estimated that in a year 8,893 people will be admitted to one of the acute providers. According to the Capgemini model¹¹, these patients consist of five typical stroke-related HRGs: A19 (haemorrhagic strokes), A20 and A21 (TIAs), A22 and A23 (ischaemic stroke), plus an additional two, A34 (miscellaneous disorders of the nervous system) and A99 (complex elderly with a nervous system primary diagnosis). These last two HRGs are not usually included as a stroke diagnosis (and were not used in the national analysis carried out by the National Audit Office); for England in 2006/07, if A34 and A99 were included this would add 42% to the number of admissions for stroke in 2006/07. The Capgemini model only includes 50% of the A99 category in the analysis of stroke patients¹².

This figure used in the model is close to that quoted above of 9,000 patients treated in a CSC or a PSC although on closer examination we find that only 7,994 or 90% of these are treated in a CSC or PSC. The remainder are treated in DSCs.

The model differentiates patients by the following five categories:

• Intra-cerebral haemorrhage	728	8.2%
• Ischaemic stroke – I.V. t-PA eligible	547	6.2%
• Ischaemic stroke – Not I.V. t-PA eligible	4,782	53.8%
• TIA	1,526	17.2%
• No stroke or TIA	1,310	14.7%

In other words 14.7% of people admitted to hospital with a potential stroke or TIA, have not had one.¹³ Some 17% will have had a TIA, 8.2% will have a haemorrhagic stroke, and the remainder will have ischaemic strokes; however it is estimated that of these just over 6% will be eligible for thrombolysis (547 cases).

These figures compare with the following for admissions in England as a whole in 2006/07:

	England		Greater Manchester	
• Intra-cerebral haemorrhage	17,124	19.8%	728	9.6%
• Ischaemic stroke – A22 and A23	51,433	59.4%	5,329	70.3%
• TIA	18,073	20.9%	1,526	20.1%

It is not clear why the proportion of haemorrhagic strokes is so low and of ischaemic strokes so high in Greater Manchester compared with England. This probably warrants further investigation. The proportion of TIAs is similar in Greater Manchester and England.

For the purpose of this report we use the activity data provided in the Capgemini model although some inconsistencies with other local data sources and with the national presentation of data on strokes have been noted above. We do this to ensure a consistency between our findings and those emerging from the Capgemini model.

¹⁰ This is based on patients discharged in the calendar year 2006.

¹¹ See worksheet '3. Stroke Symptom Variables'.

¹² This has been agreed within the Greater Manchester system although we are not aware of the basis for this assumption.

¹³ It is not clear if this group of patients have other conditions; the Capgemini model shows them as using resources.

Projecting stroke in the future

Since stroke is an age-related disease, the incidence of stroke is likely to increase as the population ages. We have shown that the age-distribution of the population in Greater Manchester is expected to get older over the next 10 to 15 years, and so the incidence of stroke is likely to increase.

In the section on costs we take these changes in population into account by applying estimates of stroke incidence using the Greater Manchester local data from the Capgemini model to estimate changes in number of strokes if the age-incidence rates remained the same. We find that there will be an increase in the number of cases (where these are on the same basis as produced in the model) from 9,988 (this is a figure calculated using the model data and hence refers to calendar year 2006) to 10,881 in 2014 (an increase of 9%), to 11,605 in 2019 (an increase of 16%), and to 12,628 in 2024 (an increase of 26%). These are the proportionate increases that we will apply in the sections on costs. For the sake of simplicity we have not attempted to take account of any differences that there may be by geographic area or by type of stroke.

However it is possible to change the incidence of stroke in a population through preventative interventions that make people more aware of the relationship between their behaviours and the probability of future illness. As far as we are aware no account has so far been taken of the impact of any such policies on the stroke care system in Greater Manchester. We have shown earlier – using national data sources – the potential impact of prevention on the incidence of stroke. This is a matter that may require further detailed study if robust estimates are to be delivered.

4.2 The Greater Manchester health care system

The Greater Manchester health care system comprises:

- 10 Primary Care Trusts largely coterminous with the Metropolitan Boroughs of Greater Manchester, and which commission services on behalf of their populations;
- 9 NHS and Foundation Trusts that provide acute services from 13 hospital sites¹⁴;
- 3 NHS mental health trusts;
- Christie Hospital NHS Foundation Trust (specialist cancer care); and,
- North West Ambulance Services (NWAS) which provides ambulance services to the population of Greater Manchester.

In Greater Manchester, the ten PCTs comprise:

- Ashton, Leigh & Wigan PCT;
- Bolton PCT;
- Bury PCT;

¹⁴ This is based on the Capgemini report (2007), and it includes Leigh Infirmary as well as Wigan Infirmary.

- Heywood, Middleton & Rochdale PCT;
- Manchester PCT;
- Oldham PCT;
- Salford PCT;
- Stockport PCT;
- Tameside & Glossop PCT; and,
- Trafford PCT.

The NHS and Foundation Trusts comprise:

The Pennine Acute Hospitals NHS Trust

based on 4 sites: Fairfield General in Bury, Rochdale Infirmary in Rochdale, North Manchester Hospital and Royal Oldham Hospital in Oldham

Trafford Healthcare NHS Trust

based on 3 sites: Trafford General Hospital, Altrincham General Hospital and Stretford Memorial Hospital

Central Manchester & Manchester Children's University Hospital

based mainly in Manchester Royal Infirmary and St Mary's Hospital (for women and children)

Wrightington, Wigan & Leigh NHS Foundation Trust

based on 3 main sites: Wigan (Royal Albert Edward) Infirmary in Wigan, Leigh Infirmary in Leigh, Wrightington Hospital in Wigan

Salford Royal NHS Foundation Trust

based at Salford Royal Hospital in Salford

University Hospital of South Manchester NHS Foundation Trust

based at Wythenshawe Hospital in south Manchester

Stockport NHS Foundation Trust

based in Stepping Hill Hospital

Tameside NHS Foundation Trust

based in Tameside General Hospital in Ashton-under-Lyne

Royal Bolton NHS Foundation Trust

based in Royal Bolton Hospital in Farnworth

Figure 3.1 is a map of the Greater Manchester health care system.

Figure 3.1 Map of the Greater Manchester health care system, 2008



Source: Capgemini 2007

4.3 The current system for stroke care and the chosen option

The current system for stroke care consists of patients with suspected strokes going to or being taken by ambulance to their nearest acute hospital. All hospitals in Greater Manchester act as a centre for stroke patients agreeing to provide both acute and rehabilitation care. However, according to National Sentinel Audit data, the quality of care varies tremendously between sites.

To improve the system of stroke care for patients in Greater Manchester it was decided to implement a system of networked care where on the whole the acute diagnostic and treatment stage of care takes place in a limited number of acute settings with rehabilitation care taking place in the local acute hospital corresponding to the patient's area of residence. Thus the ambulance system will operate to a protocol that recognises this networked system of care. Care will be offered within stroke units but these will now be differentiated as between acute or rehabilitation units: acute units will be able to provide rehabilitation as well but generally only to local patients.

The new system implies a choice to be made on which hospitals should act as acute centres of care. In Greater Manchester this choice has been interpreted as one of determining how many locations should act as 'Comprehensive Stroke Centres' (CSCs), how many as 'Primary Stroke Centres' (PSCs) and how many as 'District Stroke Centres' (DSCs).

Both CSCs and PSCs will operate as acute stroke centres, the key distinction being that CSCs are open 24/7 whereas PSCs are open from 7am to 7pm (according to the Capgemini model, worksheet 'Variables')¹⁵.

CSCs are defined as having the following characteristics:

- open 24/7/365;
- neurosurgical facilities available for the treatment of intracranial haemorrhage and facilities for hemi-craniectomy for malignant middle cranial artery infarction;
- coordinates the neuro-radiological input for the CSC and the two PSCs;
- provides facilities for intra-arterial thrombolysis;
- coordinates issues of clinical cover for the CSC and the two PSCs;
- as the site delivering the more complex service it will by necessity provide the greatest level of assurance for the safe delivery of care for patients presenting with stroke in Greater Manchester. Within that context, it will need to coordinate the development of agreed protocols for management and for transfer of patients between centres; and,
- with the formalisation of competences in the safe delivery of care it will play a significant coordinating role in stroke education and training with the primary and local stroke centres.

The key feature of PSCs is that they will function as acute stroke care units but not on a 24-hour basis. In other respects they are similar to CSCs although they do not have the coordinating roles that a CSC has.

DSCs are defined as having the following characteristics:

- able to receive patients treated by a CSC or PSC in a timely and efficient manner;
- trained lead stroke clinician(s);
- trained stroke unit nurses;
- access to CT scan, doppler ultrasound, cardiac echo;
- protocols for the avoidance and management of complications, secondary prevention;
- stroke-trained therapists working on a dedicated stroke unit;
- protocols for the immediate management of TIAs;
- rapid access TIA clinic;
- commitment to ensure that all appropriate stroke unit patients are admitted to stroke unit beds; and,
- commitment to ensure that all patients receive appropriate multidisciplinary rehabilitation and secondary prevention.

The option that has been chosen is to locate the CSC in Salford, with two PSCs in Bury and Stockport and the remaining sites to act as DSCs primarily for rehabilitation services – although we observe from the Capgemini model that in some circumstances patients will be treated at these sites as well¹⁶.

¹⁵ We have seen other times quoted: 7:15am to 10:30pm (according to the Capgemini report 2007); 7am – 8pm (Stroke Report for PIR Steering group 2008).

¹⁶ We are not clear on what basis this happens.

5 A model of stroke care

An economic model of the costs of stroke should take account of the direct costs of the provision of care – the costs of the stroke care pathway – as well as the indirect costs associated with loss of life or output, including societal benefit payments such as disability benefits, which might be avoidable given different systems of care.

In this report the direct costs include the provision of care in the community for stroke patients whether provided or paid for through the NHS, local authorities or privately. We also provide an estimate of the costs of informal care provided by family or friends.

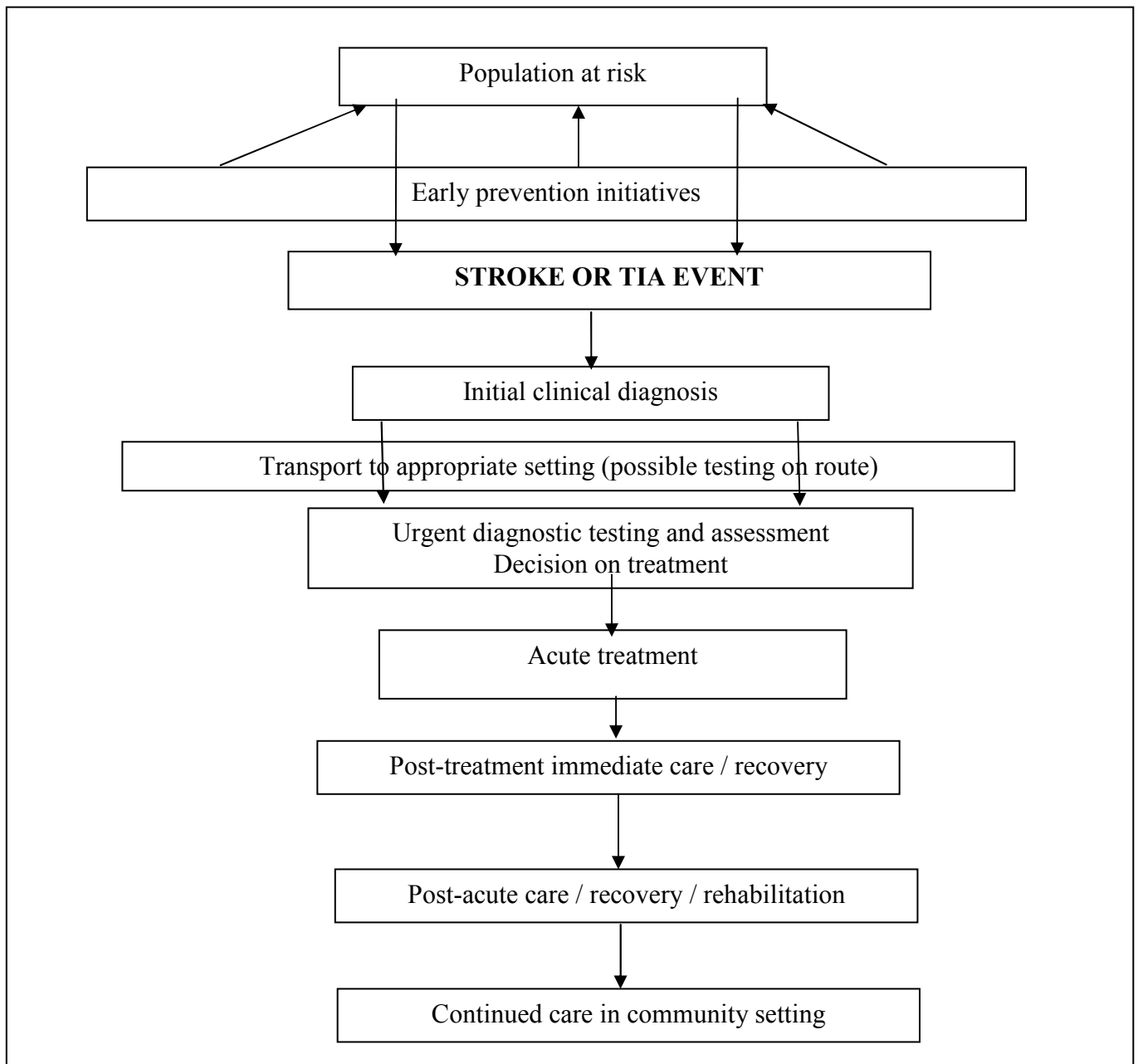
The total costs are presented in terms of how they affect the different stakeholders in the Greater Manchester health care system.

The pathway for stroke care may be divided into a number of key stages at each of which costs will arise:

1. initial clinical diagnosis of the patient and determination that further diagnostic tests, assessment and treatment is required;
2. transport to an appropriate setting for (further) diagnosis and potential treatment;
3. urgent assessment through series of diagnostic tools, and decision on treatment;
4. acute treatment;
5. immediate recovery following acute treatment and assessment of condition;
6. rehabilitation which may involve discharge to a non-acute setting such as a rehabilitation unit or directly back to previous home environment;
7. continued care in a community setting as a result of disabilities associated with stroke episodes; and,
8. further stroke episode – this may not always occur.

These stages are portrayed in Figure 5.1 below. There is a stage before the initial diagnosis which we describe as delivery of preventative measures that result in a reduction in the incidence of stroke in the population. In other words any actions taken that will cause a reduction in the number of people presenting with stroke in a particular year.

Figure 5.1: A simple diagrammatic representation of the stroke care system



Each of the above stages can be and is in practice delivered in many different ways. The outcome of each stage will depend on the resources available at that point of delivery and is likely to impact on the outcomes and costs at subsequent stages in the pathway. It has been estimated for the National Audit Office (NAO 2005) that for England as a whole the costs of the stroke care pathway are £5.24 billion (at 2003/04 prices), or £2.83 billion if the costs of informal care are excluded. Taking the latter figure, according to the National Audit Office report, these costs roughly divide between the different stages in the following proportions:

- diagnostic costs – 0.5%;
- inpatient care costs – 19%;
- community medical care costs – 20%;
- community non-medical care costs – 60.5%.

This national analysis does not allow the type of sub-division that is suggested by our model of the stroke care pathway; however it does provide a starting point for our considerations. No costs for transport were used in the above study, nor for early prevention work. It also appears that the cost of attendance at A&E was not included. The cost of further strokes was treated as a separate item. The costs calculated by the National Audit Office suggest that an inordinate amount of the costs associated with the care of people with stroke are borne in the community. However the underlying analysis is based on costs set at such a high level of generality that there may well be substantial differences when we consider the actual costs of services in place in a 'real' health system such as that of Greater Manchester.

Before considering the actual costs associated with stroke in Greater Manchester under two different regimes of care (the current system and the new system), we outline some salient aspects of each of these stages in turn.

5.1 Population at risk

We are primarily concerned with the population of Greater Manchester. In assessing the costs of stroke and likely outcomes it is useful to differentiate population by age. For males aged <65 years and women aged < 60 years there will be different implications for lost productivity compared to the older population. There may also be different implications for continued care in the community.

Some of the activity coming through providers in Greater Manchester will derive from locations outside of the area. Similarly there may be some residents of Greater Manchester who are treated in other locations. Treatment of non-residents will have implications for the resources required by Greater Manchester providers and hence should be taken into account. Treatment of Greater Manchester residents outside of area should also be considered as the costs will be borne by local PCTs; we can also assume that costs for these patients outside of the acute hospital setting will also be borne directly within the Greater Manchester area.

5.2 Early prevention initiatives

These consist of interventions for the population identified as being at risk such as controlling blood pressure, prescribing statins and hypertensive drugs, or lipid-modifying agents, as well as lifestyle programmes designed to reduce the risk of having a stroke such as smoking cessation clinics. If a programme of prevention is undertaken then it is possible to provide estimates of the impact on incidence of stroke. The expectation is that investment in these services would result in a reduction in costs down the line, as the number of strokes fell. Currently this does not appear to be a part of the changes envisaged in the development of a new stroke care system in Greater Manchester.

In addition there may be education programmes such as FAST (Department of Health 2008a) designed to enable people to understand if they may have suffered a stroke and hence seek immediate medical assistance. Time from onset of stroke is a key factor in determining the success of an intervention such as thrombolysis. But it should also be

recognised that education programmes may result in more pressure on services if the reaction of the public becomes one of over-caution.

5.3 *Initial clinical diagnosis*

When a stroke or TIA occurs there are a number of options open to the individual. If the person decides to seek help they may go directly to an A&E department, call a 999 ambulance, or go to their GP or an out-of-hours service depending on the time of occurrence. Each of these may have different costs and the quality of response may also differ: quality in this case probably means certainty of initial diagnosis coupled with advice on subsequent action. Initial clinical diagnosis whether by GP, paramedic or A&E nurse or doctor will usually be based on consultation with the patient and examination which will often give a good indication of what the possible problem is.

To model this stage of the pathway, costs for different providers are required together with some information on the proportion of people accessing each type of service, and the subsequent routing from initial consultation. Some changes in the system of stroke care may result in cost changes at this stage which then need to be modelled. In addition assumptions may be made about changes in subsequent routing and possible changes in outcome as a result of any improvements in initial diagnosis and consequential routing.

5.4 *Transport*

A key aspect of the stroke care pathway is to ensure a transport system is in place that results in the delivery of possible stroke patients to the right location to deal with their issues. There are several ways in which this can be achieved. Ambulances have usually operated on the basis of delivering a patient to the nearest A&E; however an alternative such as delivering to a facility with resources to carry out diagnostic tests and treat immediately may result both in better outcomes for the patient and a reduction in overall system costs. Moreover if 999 calls can be effectively triaged then it may be possible to include some early diagnosis or assessment by the ambulance crew while delivering the patient to the hospital. This is one of the key ways in which the new option for Greater Manchester differs from the current system.

5.5 *Urgent diagnostic testing and assessment, and decision on treatment*

The ability of a hospital to provide an immediate assessment of a patient with suspected stroke is crucial to both potential outcome for the patient and subsequent costs. Again there are several ways of organising services to provide this initial assessment and decision on treatment. It is important that diagnostic tests such as CT scans, MRI scans, radiology and bloods are immediately available as required with staff available to read and interpret the results. This is a key issue for the Greater Manchester system when considering the proposed change from a multi-unit immediate response to stroke to a networked approach as implied in the new system.

5.6 *Acute treatment*

Once a patient has been diagnosed as having had a stroke (with a TIA a different set of protocols are used), then a range of treatments may be available depending on the

type of stroke, condition of the patient, and availability of resources within the unit at which the patient is currently located, or at a second unit to which the patient could potentially be delivered.

A range of treatments should be available; these include thrombolysis, specialist neuro-intensive care to include neurosurgical or neuroradiological intervention, and high-dependency care to assess any issues which may arise within the first 24 hours.

There are implications for both outcomes and costs associated with the way these services are provided. Again this is a key issue which has been considered for the Greater Manchester stroke care system.

5.7 Post-treatment immediate care and recovery

Following diagnosis and treatment the patient will usually remain on the acute unit for between 24 and 48 hours before being transferred to a post-acute rehabilitation environment. During this period the patient will be assessed as to when their condition suggests that it is safe for transfer to a rehabilitation environment.

5.8 Post-acute care / recovery / rehabilitation

People who have suffered a stroke will often require rehabilitation services eg rehabilitation medicine and nursing, physiotherapy, speech therapy and occupational therapy, to be brought back to as full and independent life as possible. Often this will be provided in a hospital rehabilitation setting. It may also be provided in a person's own home or within some community residential setting or ambulatory setting depending on the level of disability of the individual patient, and the availability of resources in the community eg early supported discharge teams. The important thing is that rehabilitation should begin as soon as possible.

Although there are several ways in which rehabilitation can be provided, it is generally agreed that dedicated services on a rehabilitation stroke unit to deal with the rehabilitation of stroke patients will improve outcomes. But the period of improvement can last several months and so it is important that within the patient's own community setting, rehabilitation can continue until the patient has reached an optimal level of physical, cognitive and social functionality. There is no definitive point at which the process of rehabilitation ends and the next stage of living comfortably with whatever level of disability results from the stroke begins. Recovery of function can continue over a year. Nevertheless, from the view of a service provider, there will be a decision to cease rehabilitation at some point.

There are implications for both outcomes and costs associated with the way these services are provided, and once again this is a key issue to be considered for the Greater Manchester stroke care system.

5.9 Continued care in community setting

Some patients will not make a full recovery from stroke and hence will require a measure of support in order to live as full a life as possible. Difficulties may be compounded by multiple conditions particularly when dealing with older people. At

different ends of the spectrum: in some cases a person's condition after stroke will require full-time residential or nursing care; in others they will be able to live an independent life; and there are many levels between these extremes.

The level of such care required depends to a large extent on the level of disability resulting from the stroke as well as the initial condition of the person experiencing the stroke. Hence actions at earlier stages in the process that result in less disability will reduce costs for some people at this stage. On the other hand where a person might otherwise have died and instead is left with a level of disability, this could represent an increase in costs to the system, as was noted by Saka and colleagues (Saka *et al.* 2005).

This type of care is provided in several ways, and the costs may be borne by different public-sector organisations as well as by individuals themselves. We now go on to consider the economic costs of change in the Greater Manchester stroke care system.

6 Assessment of the economic cost of change in the NHS acute sector

The focus of this section is care and services provided by the Greater Manchester acute trusts and the North West Ambulance Services Trust. Potentially this covers the following stages of the stroke care pathway: initial clinical diagnosis; transport; urgent assessment and decision on treatment; acute treatment; immediate post-treatment care and assessment; and, post-acute care and rehabilitation. These may be provided in a range of settings; the settings vary depending on whether we are considering the current position (status quo) or the new networked system of care (the chosen option).

We assess the financial costs and revenues for each NHS provider and PCT under the status quo and the new system of stroke care, and comment on the results.

6.1 Estimating the costs of NHS acute providers

We provide an estimate of the differences in costs that will occur for each NHS organisation if there is a shift from the existing way of delivering stroke services (the status quo) to a network of stroke care (the chosen option). This is considered for the current year (2009/10), for the following five years (for NHS planning purposes) and at five-year intervals ie 2014/15, 2019/20 and 2024/25. We provide estimates for later years based on the projected number of strokes and TIAs that were calculated earlier in Section 4.1 using the current Greater Manchester incidence rates applied to projected population growth by sex and age-group.

While we are concerned with the presentation of changes in costs within the whole system, for individual organisations these changes will also be represented in terms of the resulting changes in income flows where these are determined by the system of NHS tariffs (under the system of Payment by Results), or any changes to these that are agreed locally. Although we would expect, in some cases, these cost estimates to be affected by expected changes in mortality and morbidity as a result of the changes to the system, it is not possible to provide definitive figures on this aspect of the change. For example there may be a reduction in the amount of rehabilitation required if patients are less profoundly disabled as a result of effective early intervention.

Some indication may be given of the possible magnitude of such changes although this is clearly an area that requires further local assessment of the likely benefits in terms of improved mortality and morbidity.

The underlying model of stroke care was described in Section 5. Costs arising within NHS acute providers occur at several stages of the process. We assume continued care in a community setting is not provided by acute providers. Some elements of rehabilitation are also delivered outside of the hospital setting under separate arrangements between PCTs and other providers. The costs of these are not considered within this section.

Mostly costs are expressed in terms of the total costs within each NHS organisation. Ideally this would be broken down by stage of the stroke care pathway as discussed above, and we suggest that some future work is undertaken to accomplish this. We also compare our results with figures for England produced by the National Audit Office in their recent report (NAO 2005) to give some idea of the broad consistency of our analysis with results based on national data.

Comparing tariffs and costs under the current and new system

Table 6.1 provides estimates of the costs incurred by the Greater Manchester acute sector as well as expected tariff revenue on the basis of the retention of the current system of care (status quo), and where there is a switch to a network of stroke care (the chosen option). These are cash sums based on 2008/09 prices.

These tariffs and costs are based on the assumptions and figures presented in the Capgemini model¹⁷. These are high-level in the sense that they record the total cost for each trust of dealing with their stroke workload (or estimated workload) under the current system of care and under the new networked system. We have also referred to the ‘business cases’ produced by Salford Royal NHS Foundation Trust, Stockport NHS Foundation Trust and The Pennine Acute Hospitals NHS Trust (Salford Royal NHS Foundation Trust 2008; Stockport NHS Foundation Trust 2008; The Pennine Acute Hospitals NHS Trust 2008). These were also used within the Capgemini model.

Costs under the current system are not generally available. Instead we assume that the current tariff payments for stroke services – this includes the set of acute interventions and the rehabilitation interventions in a hospital setting – equal the cost to each provider except for Salford for which an actual cost estimate is used¹⁸. However these tariffs do not include the payment to providers on the basis of the Market Forces Factor. If this were included we would expect to see a change in the levels of tariff payments to individual trusts, and if these figures were reflected in our estimates, then the costs would change accordingly. It is not clear to what extent this would have a differential effect across the Greater Manchester system; this is an issue that will require further investigation. However in the context of this report, and the level of assumptions already underlying our estimates of costs, we use the non-MFF figures for clarity as they correspond with the findings that are emerging from the Capgemini

¹⁷ The tariff figures for columns 1 and 2 are based on the ‘4. Tariff Payments’ worksheet.

¹⁸ This assumption is commonly made. Tariffs should reflect national average costs and there is here an implicit assumption that Greater Manchester costs are close to these. However this assumption needs to be tested with the providers through a more detailed costing exercise.

model. We note also that, following a review of the evidence on differences in costs throughout England, the Department of Health has issued new MFF figures that may affect providers in Greater Manchester.

It may be possible to test the sensitivity of these results to the assumption that costs equal tariffs by considering the NHS reference costs for Greater Manchester providers. We understand that access to these is currently being investigated.

So these are the costs for all acute treatment and rehabilitation within the hospital. More detailed costs under the new system have been provided by Salford and by Stockport but are not yet available for the other providers. A new set of local tariffs has been agreed (although these may be subject to change as discussion continues and the new system beds in), and these are used to indicate revenues for all acute providers, and as a proxy for costs under the new system. Some other cost figures are provided in the Capgemini model but the validity of these is questionable.¹⁹ They seem to be based on allocating as the current cost for each provider, 40% of the figure estimated by Stockport acute trust as the increase in cost arising from the change to the new system, and as the change in cost for each provider, 25% of the figure estimated by Stockport acute trust as the increase in cost arising from the change to the new system. While there may well be changes in costs, the logic behind these formulae is not apparent.

Table 6.1: Comparison of total cost of stroke care to NHS acute sector under current system and the new system (2008/09 prices)

	Tariff basis			Cost basis			New tariff minus new cost
	Current	New	Difference	Current	New	Difference	
Pennine Acute							
Fairfield General	£1,328,531	£2,235,369	£906,838	£1,328,531	£1,738,531	£410,000	£496,838
Rochdale Infirmary	£1,124,644	£901,706	-£222,938	£1,124,644	£901,706	-£222,938	£0
North Manchester	£1,344,351	£1,087,052	-£257,299	£1,344,351	£1,087,052	-£257,299	£0
Royal Oldham	£1,702,852	£1,295,765	-£407,087	£1,702,852	£1,295,765	-£407,087	£0
Trafford General	£1,026,435	£752,673	-£273,762	£1,026,435	£752,673	-£273,762	£0
Manchester Royal Infirmary	£1,437,905	£1,220,026	-£217,879	£1,437,905	£1,220,026	-£217,879	£0
South Manchester General	£1,851,765	£1,456,998	-£394,767	£1,851,765	£1,456,998	-£394,767	£0
Wigan Infirmary	£2,607,575	£2,122,259	-£485,316	£2,607,575	£2,122,259	-£485,316	£0
Salford Royal	£1,003,519	£3,689,566	£2,686,047	£1,153,672	£5,468,341	£4,314,669	-£1,778,775
Stockport	£2,610,374	£3,386,519	£776,145	£2,610,374	£3,333,954	£723,580	£52,565
Tameside General	£1,575,960	£1,261,726	-£314,234	£1,575,960	£1,261,726	-£314,234	£0
Royal Bolton	£2,471,203	£2,003,267	-£467,936	£2,471,203	£2,003,267	-£467,936	£0
Total GM acute sites	£20,085,114	£21,412,926	£1,327,812	£20,235,267	£22,642,298	£2,407,031	-£1,229,372
Other provider sites	£471,046	£173,311	-£297,735	£471,046	£173,311	-£297,735	£0
NW Ambulance Service	£901,073	£2,068,517	£1,167,444	£901,073	£2,068,517	£1,167,444	£0
TOTAL	£21,457,233	£23,654,754	£2,197,521	£21,607,386	£24,884,126	£3,276,740	-£1,229,372

Thus we have a set of historic revenue figures available from the model (assuming the levels of activity represented in the model). These are shown in column 1 of Table 6.1. The model also provides estimates of revenue under the new system; these are

¹⁹ These cost figures are in the '4. Acute Trust Cost Summary' worksheet.

shown in Column 2. These reflect the estimated tariff revenues calculated by the Capgemini model plus, for Fairfield, Salford and Stockport, extra income for 24/7, bank holiday and weekend opening which amounts to £132,500, £576,250 and £132,500 respectively²⁰.

Column 3 shows differences between tariff income under the current and new system. Costs for each provider under the current system are shown in column 4 and are set equal to their level of tariffs as no data are currently available on actual costs. The exception is Salford Royal where actual costs as calculated from the Salford Royal business case are used in this column. Similarly costs under the new system, shown in column 5, are set at a level equal to estimated tariffs for all providers except Pennine, Salford and Stockport. Salford provided an estimate of actual costs under the new system; figures for Stockport and Pennine were provided by Les Allen of the Commissioning Business Service of Greater Manchester PCTs – these amount to an addition of £410,000 and £723,580 respectively to current costs.

Changes in the cost of ambulance services are also shown in Table 6.1. These costs are expected to increase by £1,167,444 reflecting the increase in journeys required under the new system as patients are transferred between the CSC or PSCs and their home DSC. The figures in the table are based on data provided in the Capgemini model²¹.

Table 6.1 shows a shortfall between tariff revenue and cost under the current system and the new system. For the acute hospitals, there is a shortfall of £150,153 between revenue and costs under the current system which is extended to £1,229,372 under the new system (as shown in Column 7). The difference under the current system is entirely due to the use of ‘actual’ cost figures for Salford Royal. The difference under the new system is due to the difference between Salford’s estimated costs and its implied tariff revenue. We have also included a figure for treatment of Greater Manchester residents outside of Greater Manchester which was £471,046 under the current system, and is estimated to be £173,311 under the new system²². This indicates a potential saving of £297,735 for Greater Manchester PCTs assuming that this care is now provided by Greater Manchester trusts.

We have also calculated the tariff payments by Greater Manchester PCTs comparing the new system with the current system. Table 6.2 shows the change in payments to Greater Manchester acute providers for each PCT. We have applied the additional payments for 24/7, bank holiday and weekend opening as a separate line item added to the total payments by Greater Manchester PCTs. Overall there is an increase of just over £1.31 million (6.9%). A figure for PCTs outside Greater Manchester is included to show the consistency between Tables 6.1 and 6.2. There are differences in the

²⁰ These figures were provided by Les Allen of Commissioning Business Service of Greater Manchester PCTs.

²¹ The current figure comes from worksheet ‘4. NWAS Tariff-Revenue Funding’; the figure for the new system comes from worksheet ‘4. NWAS Volumes and costs’.

²² Both figures come from the Capgemini model: the current figure is provided in worksheet ‘PT10’ and the new figure in worksheets ‘PT11’, ‘PT12’ and ‘PT21’. This assumes some negotiation will take place with providers outside of Greater Manchester to adopt the new system and tariffs for Greater Manchester residents treated for stroke.

increases in payment by PCTs reflecting their different patterns of usage of the Greater Manchester providers.

Table 6.2: Tariff payments to Greater Manchester acute providers for stroke care by Greater Manchester PCTs under the current system and the new system (2008/09 prices)

	Total tariff payment to GM providers		Difference under new and current systems	
	Current	New	Cash value	%
Ashton, Leigh & Wigan	£2,826,802	£2,875,246	£48,444	1.7%
Bolton	£1,929,542	£1,976,604	£47,062	2.4%
Bury	£1,216,825	£1,299,516	£82,691	6.8%
Heywood, Middleton & Rochdale	£1,567,834	£1,535,395	-£32,439	-2.1%
Manchester	£2,991,288	£3,115,673	£124,385	4.2%
Oldham	£1,606,493	£1,608,945	£2,452	0.2%
Salford	£1,018,551	£1,115,054	£96,503	9.5%
Stockport	£2,521,594	£2,614,299	£92,705	3.7%
Tameside & Glossop	£1,504,371	£1,559,997	£55,626	3.7%
Trafford	£1,790,508	£1,744,113	-£46,395	-2.6%
Total GM PCTs	£18,973,808	£19,444,842	£471,034	2.5%
Additional tariff payments		£841,250	£841,250	
Total GM PCTs including additional	£18,973,808	£20,286,092	£1,312,284	6.9%
Non-GM PCTs	£1,111,306	£1,126,834	£15,528	1.4%
TOTAL	£20,085,114	£21,412,926	£1,327,812	6.65%

Table 6.3 differs from Table 6.2 only in that tariff payments by Greater Manchester PCTs to providers outside of Greater Manchester are included. We have applied the additional payments for 24/7, bank holiday and weekend opening as a separate line item added to the total payments by Greater Manchester PCTs. Overall the increase is reduced to just over £1.01 million (5.2%) reflecting the reduction in flows of patients out of Greater Manchester for stroke care. A figure for PCTs outside Greater Manchester is included to show the consistency between Tables 6.1 and 6.3. Again there are differences in the increases in payment by PCTs reflecting different patterns of usage of the Greater Manchester providers as well as different levels of repatriation of care from outside of Greater Manchester.

Table 6.3: Tariff payments to all acute providers for stroke care by Greater Manchester PCTs under the current system and the new system (2008/09 prices)

	Total tariff payment to all providers		Difference under new and current systems	
	Current	New	Cash value	%
Ashton, Leigh & Wigan	£2,938,865	£3,004,949	£66,084	2.2%
Bolton	£1,970,244	£2,012,520	£42,276	2.1%
Bury	£1,216,825	£1,299,516	£82,691	6.8%
Heywood, Middleton & Rochdale	£1,567,834	£1,535,395	-£32,439	-2.1%
Manchester	£2,991,288	£3,115,673	£124,385	4.2%
Oldham	£1,606,493	£1,608,945	£2,452	0.2%
Salford	£1,028,024	£1,117,466	£89,442	8.7%
Stockport	£2,528,355	£2,614,299	£85,944	3.4%
Tameside & Glossop	£1,514,739	£1,564,457	£49,718	3.3%
Trafford	£2,082,187	£1,744,933	-£337,254	-16.2%
Total GM PCTs	£19,444,854	£19,618,153	£173,299	0.9%
Additional tariff payments		£841,250	£841,250	
Total GM PCTs including additional	£19,444,854	£20,459,403	£1,014,549	5.2%
Non-GM PCTs	£1,153,187	£1,155,985	£2,798	0.2%
TOTAL	£20,598,041	£21,615,388	£1,017,347	4.9%

The calculation of tariffs under the current system is based on the existing tariff rates for 2008/09 as published by the Department of Health, where the acute hospital attended by the patient receives this payment. Thus for the HRG codes used in the Capgemini model the tariffs are those shown in Table 6.4. These tariff calculations are based on HRG 3.5 codes; adjustments will eventually be required to take account of the new HRG 4 codes.

Table 6.4: Tariffs under the current system, 2008/09

HRG	Price	Trim-point (days)	Daily rate
A19	£3,648	46	£182
A20	£1,628	13	£178
A21	£946	7	£195
A22	£4,102	62	£171
A23	£2,680	30	£182
A34	£1,901	23	£208
A99	£5,566	89	£165

Under the current system the amount paid will vary according to the length of stay of the patient. The amount paid will be the tariff with any patient stays going beyond the respective nationally-agreed trim-points attracting an additional daily rate as shown above. If the length of stay were less than the national average then a reduced rate may apply. These figures are taken directly from the Capgemini model (worksheet '3. Future Tariff logic').

The method for calculating the tariff under the new system has been determined through local agreement. The new tariff unbundles the care into various diagnostic tests and procedures, care within the acute setting, and rehabilitation care. Previously

we would expect this all to have been included under the one fixed tariff. Table 6.5 shows the new tariff that applies to the same HRG codes.

Table 6.5: Tariffs under the new system, 2008/09

HRG	CT scan	MRI	Thrombolysis	CSC/PSC stay		DSC stay		
				≤ 1 day	> 1day and ≤ 3days	Price	Trim- point (days)	Daily rate
A19	£131	£169	£814	£536	£820	£3,284	46	£182
A20	£131	£169	£814	£250	£473	0	0	0
A21	£131	£169	£814	£250	£473	0	0	0
A22	£131	£169	£814	£536	£820	£3,640	55	£171
A23	£131	£169	£814	£536	£820	£2,412	27	£182
A34	£131	£169	£814	£190	£473	£1,901	23	£208
A99	£131	£169	£814	£556	£1,113	£5,010	89	£165

Once again these figures are taken directly from the Capgemini model (worksheet ‘3. Future Tariff logic’). These are also the figures that appear at p6 of the *Stroke Report for the PIR Steering Group* (Greater Manchester & Cheshire Cardiac and Stroke Network 2008 which we believe was issued in September 2008), and were confirmed by Les Allen of the Commissioning Business Service of Greater Manchester PCTs on 22 December 2008. We note that the prices for CT scan and MRI are the figures suggested by the Department of Health in the latest guidance on tariffs (Department of Health 2008b).

In calculating the total tariff costs under the two systems of stroke care, the Capgemini model allows for some changes in the length of stay (LOS) for patients in the new system compared with the current system. However for certain HRGs, with notably long lengths of stay, there does not appear to be any significant reduction in length of stay. While there may be no compelling local evidence that LOS will fall under the new system, it is reasonable to assume that eventually there will be a reduction in LOS, and hence it may be possible to find reductions in costs in the near future.

The result is that there are some high tariff payments to DSCs where the length of stay is unusually high. We would expect that the new system would begin to reduce some of these lengths of stay, and hence that this assumption is in fact over-estimating the total revenue cost under the new system. However this is something that needs to be tested with clinical colleagues in the system to get a better understanding of the extent to which switching to the new system of stroke care will result in some cost savings in this area.

Capital Implications

To meet the requirements for the new system of stroke care, the centres designated for CSC and PSC status will require a small amount of capital investment to upgrade wards and provide additional equipment. In addition the ambulance service will

require some investment for extra vehicles. It has been estimated that the total amount of investment required is £2.79 million consisting of the following:²³

- Salford CSC requires £2.25 million capital to purchase diagnostic equipment (£1.6 million) and establish an acute stroke unit ward (£650,000);
- Stockport PSC requires £86,000 capital for equipment and ward refurbishment;
- Pennine Acute PSC requires £58,000 capital for alterations to the designated ward area; and
- North West Ambulance Services requires £399,000 for three extra vehicles.

Comparing tariffs and costs over the five-year planning cycle

In the following tables we present a view of the change in total tariff revenues and costs that will arise under the two systems over the five-year planning cycle. We use our Greater Manchester population projections for this period, and assume the current distribution of stroke among the population by age-group and sex. No account is taken of any changes in prevalence that may occur as a result of the implementation of health preventative measures – either current or in the future. Tariffs and costs are calculated on the same basis as for Table 6.1. Tariffs are assumed to increase by 1.5% per annum.

Table 6.6: Tariff revenues to NHS acute sector in Greater Manchester under the current system, over the five-year planning cycle (2008/09 prices)

	2009/10	2010/11	2011/12	2012/13	2013/14
Pennine Acute					
Fairfield General	£1,328,531	£1,371,901	£1,416,688	£1,462,936	£1,510,694
Rochdale Infirmary	£1,124,644	£1,161,358	£1,199,271	£1,238,422	£1,278,851
North Manchester	£1,344,351	£1,388,238	£1,433,557	£1,480,356	£1,528,683
Royal Oldham	£1,702,852	£1,758,442	£1,815,847	£1,875,126	£1,936,340
Trafford General	£1,026,435	£1,059,943	£1,094,546	£1,130,277	£1,167,176
Manchester Royal Infirmary	£1,437,905	£1,484,846	£1,533,319	£1,583,375	£1,635,065
South Manchester General	£1,851,765	£1,912,217	£1,974,642	£2,039,104	£2,105,672
Wigan Infirmary	£2,607,575	£2,692,700	£2,780,604	£2,871,378	£2,965,115
Salford Royal	£1,003,519	£1,036,279	£1,070,109	£1,105,043	£1,141,118
Stockport	£2,610,374	£2,695,591	£2,783,589	£2,874,460	£2,968,298
Tameside General	£1,575,960	£1,627,408	£1,680,535	£1,735,397	£1,792,049
Royal Bolton	£2,471,203	£2,551,876	£2,635,183	£2,721,210	£2,810,045
Total GM acute sites	£20,085,114	£20,740,800	£21,417,890	£22,117,085	£22,839,105
NW Ambulance Service	£901,073	£930,489	£960,865	£992,233	£1,024,625
TOTAL	£20,986,187	£21,671,289	£22,378,755	£23,109,318	£23,863,730

Table 6.6 shows the growth over time in tariff revenues under the current system. Between 2009/10²⁴ and 2013/14, total revenues increase by 17%, from approximately £20.99 million to £23.86 million under the current system. This is based on our estimates of projected growth in stroke activity over time and an assumption of tariff uplift of 1.5% per annum.

²³ These figures were supplied by Les Allen, Commissioning Business Service of Greater Manchester PCTs.

²⁴ Assuming the level of activity in the Capgemini model remains valid for 2009/10; prices and costs are expressed in 2008/09 terms.

Table 6.7: Tariff revenues to NHS acute sector in Greater Manchester under the new system, over the five-year planning cycle (2008/09 prices)

	2009/10	2010/11	2011/12	2012/13	2013/14
Pennine Acute					
Fairfield General	£2,235,369	£2,308,343	£2,383,700	£2,461,517	£2,541,874
Rochdale Infirmary	£901,706	£931,143	£961,540	£992,930	£1,025,344
North Manchester	£1,087,052	£1,122,539	£1,159,185	£1,197,027	£1,236,104
Royal Oldham	£1,295,765	£1,338,066	£1,381,747	£1,426,855	£1,473,435
Trafford General	£752,673	£777,244	£802,618	£828,819	£855,877
Manchester Royal Infirmary	£1,220,026	£1,259,854	£1,300,983	£1,343,454	£1,387,311
South Manchester General	£1,456,998	£1,504,562	£1,553,679	£1,604,400	£1,656,776
Wigan Infirmary	£2,122,259	£2,191,541	£2,263,085	£2,336,964	£2,413,255
Salford Royal	£3,689,566	£3,810,013	£3,934,392	£4,062,832	£4,195,465
Stockport	£3,386,519	£3,497,073	£3,611,236	£3,729,126	£3,850,865
Tameside General	£1,261,726	£1,302,915	£1,345,450	£1,389,372	£1,434,729
Royal Bolton	£2,003,267	£2,068,664	£2,136,197	£2,205,934	£2,277,947
Total GM acute sites	£21,412,926	£22,111,959	£22,833,811	£23,579,229	£24,348,981
NW Ambulance Service	£2,068,517	£2,136,044	£2,205,776	£2,277,785	£2,352,144
TOTAL	£23,481,443	£24,248,003	£25,039,588	£25,857,014	£26,701,125

Table 6.7 shows the growth over time in tariff revenues under the new system. Between 2009/10 and 2013/14, total revenues increase by 17%, from approximately £23.48 million to £26.7 million under the new system. This is based on our estimates of projected growth in stroke activity over time and an assumption of tariff uplift of 1.5% per annum.

Table 6.8: Cost of stroke care to NHS acute sector in Greater Manchester under the current system, over the five-year planning cycle (2008/09 prices)

	2009/10	2010/11	2011/12	2012/13	2013/14
Pennine Acute					
Fairfield General	£1,328,531	£1,371,901	£1,416,688	£1,462,936	£1,510,694
Rochdale Infirmary	£1,124,644	£1,161,358	£1,199,271	£1,238,422	£1,278,851
North Manchester	£1,344,351	£1,388,238	£1,433,557	£1,480,356	£1,528,683
Royal Oldham	£1,702,852	£1,758,442	£1,815,847	£1,875,126	£1,936,340
Trafford General	£1,026,435	£1,059,943	£1,094,546	£1,130,277	£1,167,176
Manchester Royal Infirmary	£1,437,905	£1,484,846	£1,533,319	£1,583,375	£1,635,065
South Manchester General	£1,851,765	£1,912,217	£1,974,642	£2,039,104	£2,105,672
Wigan Infirmary	£2,607,575	£2,692,700	£2,780,604	£2,871,378	£2,965,115
Salford Royal	£1,153,672	£1,191,334	£1,230,226	£1,270,387	£1,311,859
Stockport	£2,610,374	£2,695,591	£2,783,589	£2,874,460	£2,968,298
Tameside General	£1,575,960	£1,627,408	£1,680,535	£1,735,397	£1,792,049
Royal Bolton	£2,471,203	£2,551,876	£2,635,183	£2,721,210	£2,810,045
Total GM acute sites	£20,235,267	£20,895,854	£21,578,007	£22,282,429	£23,009,847
NW Ambulance Service	£901,073	£930,489	£960,865	£992,233	£1,024,625
TOTAL	£21,136,340	£21,826,343	£22,538,872	£23,274,661	£24,034,471

Table 6.8 shows the growth over time in costs under the current system. Between 2009/10 and 2013/14, total costs increase by 17%, from approximately £21.14 million to £24.03 million under the current system. This is based on our estimates of projected

growth in stroke activity over time and an assumption of tariff uplift of 1.5% per annum.

Table 6.9: Cost of stroke care to NHS acute sector in Greater Manchester under the new system, over the five-year planning cycle (2008/09 prices)

	2009/10	2010/11	2011/12	2012/13	2013/14
Pennine Acute					
Fairfield General	£1,738,531	£1,795,286	£1,853,894	£1,914,415	£1,976,911
Rochdale Infirmary	£901,706	£931,143	£961,540	£992,930	£1,025,344
North Manchester	£1,087,052	£1,122,539	£1,159,185	£1,197,027	£1,236,104
Royal Oldham	£1,295,765	£1,338,066	£1,381,747	£1,426,855	£1,473,435
Trafford General	£752,673	£777,244	£802,618	£828,819	£855,877
Manchester Royal Infirmary	£1,220,026	£1,259,854	£1,300,983	£1,343,454	£1,387,311
South Manchester General	£1,456,998	£1,504,562	£1,553,679	£1,604,400	£1,656,776
Wigan Infirmary	£2,122,259	£2,191,541	£2,263,085	£2,336,964	£2,413,255
Salford Royal	£5,468,341	£5,646,857	£5,831,201	£6,021,562	£6,218,138
Stockport	£3,333,954	£3,442,792	£3,555,183	£3,671,243	£3,791,093
Tameside General	£1,261,726	£1,302,915	£1,345,450	£1,389,372	£1,434,729
Royal Bolton	£2,003,267	£2,068,664	£2,136,197	£2,205,934	£2,277,947
Total GM acute sites	£22,642,298	£23,381,464	£24,144,760	£24,932,974	£25,746,920
NW Ambulance Service	£2,068,517	£2,136,044	£2,205,776	£2,277,785	£2,352,144
TOTAL	£24,710,815	£25,517,508	£26,350,536	£27,210,759	£28,099,064

Table 6.9 shows the growth over time in costs under the new system. Between 2009/10 and 2013/14, total costs increase by 17%, from approximately £24.71 million to £28.01 million under the current system. This is based on our estimates of projected growth in stroke activity over time and an assumption of tariff uplift of 1.5% per annum.

Comparing costs in the long-term

Table 6.10 presents a view of the change in total costs that will arise under the two systems taking account of the projected growth in population in Greater Manchester, and assuming the current distribution of stroke among the population by age-group and sex. We assume an increase in costs of 2.5% per annum²⁵. No account is taken of any changes in prevalence that may occur as a result of the implementation of health prevention measures.

Table 6.10 shows the growth over time in costs under the current system and the new system. Between 2009/10 and 2019/20, total costs increase by around 31%, from approximately £21.14 million to £27.74 million under the current system, and from £24.889 million to £32.43 million under the new system.

²⁵ We have used a different assumption here from that of 1.5% used for NHS short-term planning purposes.

Table 6.10: Comparison of cost of stroke care to NHS acute sector in Greater Manchester under the current system and the new system, over time (2008/09 prices)

	2009/10		2014/15		2019/20	
	Current	New	Current	New	Current	New
Pennine Acute						
Fairfield General	£1,328,531	£1,738,531	£1,638,391	£2,144,017	£1,743,609	£2,281,706
Rochdale Infirmary	£1,124,644	£901,706	£1,386,950	£1,112,015	£1,476,020	£1,183,429
North Manchester	£1,344,351	£1,087,052	£1,657,901	£1,340,591	£1,764,371	£1,426,683
Royal Oldham	£1,702,852	£1,295,765	£2,100,017	£1,597,983	£2,234,880	£1,700,605
Trafford General	£1,026,435	£752,673	£1,265,836	£928,223	£1,347,128	£987,833
Manchester Royal Infirmary	£1,437,905	£1,220,026	£1,773,275	£1,504,579	£1,887,155	£1,601,203
South Manchester General	£1,851,765	£1,456,998	£2,283,661	£1,796,821	£2,430,318	£1,912,213
Wigan Infirmary	£2,607,575	£2,122,259	£3,215,753	£2,617,244	£3,422,269	£2,785,324
Salford Royal	£1,153,672	£5,468,341	£1,422,749	£6,743,749	£1,514,118	£7,176,834
Stockport	£2,610,374	£3,333,954	£3,219,204	£4,111,549	£3,425,942	£4,375,593
Tameside General	£1,575,960	£1,261,726	£1,943,529	£1,556,005	£2,068,343	£1,655,932
Royal Bolton	£2,471,203	£2,003,267	£3,047,574	£2,470,499	£3,243,290	£2,629,155
Total GM acute sites	£20,235,267	£22,642,298	£24,954,839	£27,923,273	£26,557,443	£29,716,511
NW Ambulance Service	£901,073	£2,068,517	£1,111,235	£2,550,967	£1,182,598	£2,714,791
TOTAL	£21,136,340	£24,884,126	£26,066,073	£30,474,241	£27,740,041	£32,431,302

Other acute costs

Almost all patients with a stroke will come to hospital through A&E and hence there is a cost associated with that A&E attendance. It may be reasonable to assume that the total of these costs will not change as a result of the change in system of care. However there are likely to be consequences for individual providers since most patients will now enter the acute system through a CSC or a PSC. However these costs have not been included in the Capgemini model and so we are not able to comment on any changes that may take place as reflected in that model.

Instead we provide some suggested figures for the cost of A&E attendances based on the most recent national tariff – for 2009/10 which retains the 2008/09 structure. There are three possible tariffs charged at high (£109), medium (£80) and low (£59). We can exclude the low tariff as this does not relate to A&E departments. The high tariff relates to patients where there is high-cost imaging or other investigation. We assume all stroke and TIA patients are likely to fall into the high category, and that all patients arrive at the acute unit through the A&E department²⁶.

Table 6.11 suggests that the total tariff revenue²⁷ from A&E attendances by patients with suspected strokes or TIAs from Greater Manchester is almost £970,000. Taking the change in the pattern of patient flows used in the Capgemini model, this suggests some significant changes in the flow of tariff revenue to Greater Manchester providers. However these calculations should be treated with caution as the assumptions upon which they are based have not been tested locally.

²⁶ These assumptions should be checked locally.

²⁷ We do not have detailed data on A&E costs by provider and hence in this example for illustrative purposes, costs are assumed to equal tariff revenue.

Table 6.11: Comparison of total cost of A&E attendances for patients with potential stroke or TIA in Greater Manchester under the current system and the new system (2009/10 prices)

	Tariff basis		Cost basis	
	Current	New	Current	New
Pennine Acute				
Fairfield General	£67,035	£201,541	£67,035	£201,541
Rochdale Infirmary	£36,406	£4,469	£36,406	£4,469
North Manchester	£59,732	£9,919	£59,732	£9,919
Royal Oldham	£95,266	£13,843	£95,266	£13,843
Trafford General	£44,908	£6,213	£44,908	£6,213
Manchester Royal Infirmary	£63,983	£10,682	£63,983	£10,682
South Manchester General	£93,413	£9,156	£93,413	£9,156
Wigan Infirmary	£115,649	£14,933	£115,649	£14,933
Salford Royal	£83,276	£460,089	£83,276	£460,089
Stockport	£88,072	£209,716	£88,072	£209,716
Tameside General	£97,228	£11,663	£97,228	£11,663
Royal Bolton	£102,896	£17,113	£102,896	£17,113
Total Greater Manchester	£947,864	£969,337	£947,864	£969,337
Other provider sites	£21,364		£21,364	
TOTAL	£969,228	£969,337	£969,228	£969,337

Patients who have suffered a stroke will also have outpatient appointments in the period after their stroke to follow up and monitor their condition. This is also an additional cost that the acute sector bears. Although it may seem reasonable to assume that the total of these costs will not change as a result of the change in the system of care, this assumption depends on whether the dependency levels of surviving patients change, and so could be subject to amendment following further analysis. If we assume outpatient appointments occur at the patient's local hospital then there is unlikely to be any change in the tariff revenues and costs as a result of the change in the system.

Costs for primary care, community care and social services are not included. These – all the costs for ongoing community-based rehabilitation, medical care in the community and continuing care where required – are discussed in the next two sections of this report.

The figures presented in this section take no account of any improvement there may be in levels of disability as a result of the switch from the current system to the new system. These improvements may result in lower costs of treatment under the new system. While this may be an important issue, more detailed work on acute and rehabilitation costs in the Greater Manchester stroke system is required before any figures could be put forward for consideration.

Finally no account has been taken in the projected incidence figures of any improvements in health that may occur as a result of preventative campaigns in the Greater Manchester system, although we can observe the magnitude of difference needed if costs are to be held at the current level.

6.2 Comparison with national results

In this section we compare the results of our analysis for Greater Manchester with those that emerged for England as a whole from the National Audit Office study of the cost of stroke (NAO 2005). The national figures are based on a range of broad assumptions about costs incurred at different stages of the care process, and differ in some ways – which are pointed out – from the work underlying our results. Nevertheless this provides at the very least a useful consistency check for our analysis.

It was estimated that the cost of the acute aspect of stroke care for England as a whole was roughly £540 million (at 2003/04 prices), for a population of approximately 50 million people. This gives a figure per head of population of £10.65. The roughly equivalent figure for Greater Manchester is £20 million²⁸ (at 2008/09 prices), based on the current system of stroke care, for a population of approximately 2.5 million people, giving a figure of £7.80 per head of population.

If we apply an uplift to the 2003/04 national figure to bring it into line with the 2008/09 Greater Manchester figure, we would expect to find that £12 is spent per head in England at 2008/09 figures (on the basis of 2.5% inflation per annum). So this suggests that the cost of stroke care to the acute sector in Greater Manchester is around 65% of the equivalent in England as a whole. No account is taken in this analysis of the relative differences in incidence of stroke.

Some caution should be applied to the interpretation of these figures as they depend on the validity of the England figures – and indeed the Greater Manchester ones. We have already observed in the Greater Manchester system that many admissions as a result of stroke are not recorded under the standard stroke tariffs but appear as A99 or A34. This is unlikely to be just a Greater Manchester phenomenon, and so there may be some under-estimation of the incidence of stroke in England.

All of these figures are very tentative. National figures are based on high-level cost estimates of some parts of the process while the Greater Manchester figures relate more to tariff payments than an actual detailed analysis of the breakdown of costs.

7 Assessment of the economic cost of change to NHS community and primary care providers

The focus of this section is care and services provided by Greater Manchester community care and primary care providers. Potentially this covers the following stages of the stroke care pathway: initial clinical diagnosis; post-acute care and rehabilitation, continuing monitoring, assessment and care in the community, and the provision of drugs in a safe and timely way. These may be provided in a range of settings; however there is no indication that these settings are expected to change as a result of the switch from the current system to the new system of stroke care.

So there are costs associated with stroke care both in the initial stage when an individual suffers a stroke, and in terms of the after-stroke care when the individual

²⁸ We have not included ambulance costs since the England figure did not include these costs.

returns to the community. Primary care associated with stroke covers mainly consultations with GPs or other health care professionals usually in a local GP surgery – this may be at the time of stroke onset or as the patient recovers from a stroke and is back living in the community. The cost of drugs provided in the community, ie not in hospital, associated with stroke care for people who have suffered a stroke is also considered in this section of the report. There may also be some primary care costs associated with preventative measures such as monitoring the patient, testing blood pressure, cholesterol etc.

Patients who have suffered a stroke may also be seen by a range of other community health care professionals – district nurses, physiotherapists, occupational therapists, chiropodists – for reasons associated with their stroke. These services will usually be provided directly by the local PCT through community health services. Some hospital providers may also offer a range of these services. Stroke patients are also likely to have follow-up outpatient appointments at their local acute hospital to monitor their progress (this was discussed in Section 6). Each of these represents a cost associated with stroke. We refer to this as the medical care that individuals who have suffered a stroke may need as they continue to live their lives – whether medication, community nursing, or GP consultation and monitoring.

In addition, depending on the prevailing model of care, there may be substantial rehabilitation programmes within the community setting and the cost of these should also be included in this section. We have no information on the extent or cost of community-based rehabilitation programmes in Greater Manchester. We assume that these programmes are not affected by the proposed changes in the system, and so there are no cost implications at present. However if there are improvements in the disability levels of patients coming through the system that result from the switch in care, then we might expect some change in costs here.

There is little direct information available on the local costs of provision in this sector. The expectation may be that these costs will to a large extent remain unaffected by the change in the system. However this is an assumption that should be tested through local studies of the costs of these forms of care and how these are affected by changes in the system of care. We provide some indication of the financial cost of care for each Greater Manchester PCT using the results of the National Audit Office study (NAO 2005).

7.1 Estimating the costs of primary and community care

NHS community care and primary care services are provided through the local PCTs in Greater Manchester. This section summarises all of these types of costs for the Greater Manchester system. We base our analysis on national figures from the National Audit Office report on stroke care (NAO 2005) which we apply to local incidence and prevalence as appropriate.

The National Audit Office report suggested that the costs of outpatient drugs for England as a whole for patients who have had a stroke is £507.2 million. This was based on estimates of the quantity and cost of drugs used by patients who had a stroke

within the year as well as existing stroke patients in the community²⁹. The study also provided an estimate of the total cost of diagnostic tests for England as a whole (£9.6 million) but we were not able to differentiate that part corresponding to GP visits – although this is likely to be relatively small. While the study also included some costs for outpatient visits by patients who had suffered a stroke, no figures were included for the range of medical care discussed above so it is likely that the total national figure is an underestimate of the total cost of care in this setting.

Nevertheless we have used the national results on costs of drugs in the community to give some indication of the level of similar costs in Greater Manchester³⁰. In Table 7.1 we have applied the national rate of expenditure on drugs for stroke care to the Greater Manchester population, and allocated this according to PCT, using the incidence data from the Capgemini model. Given that these figures are not based on actual costs in the Greater Manchester system, we have not assumed any change in costs as a result of changing from the current system of care to the new system. We also note that the figures calculated on this basis for Stockport PCT are considerably higher than the actual amount spent on stroke-related drugs such as anti-platelet drugs and anti-coagulants and protamine.

Table 7.1: Comparison of total cost of drugs provided in the community for stroke care, by Greater Manchester PCTs, under the current system and the new system (2008/09 prices)

	Total cost	Total cost
	Current	New
Ashton, Leigh & Wigan	4,260,000	4,260,000
Bolton	2,560,000	2,560,000
Bury	2,000,000	2,000,000
Heywood, Middleton & Rochdale	1,820,000	1,820,000
Manchester	4,410,000	4,410,000
Oldham	2,850,000	2,850,000
Salford	2,590,000	2,590,000
Stockport	2,980,000	2,980,000
Tameside & Glossop	2,820,000	2,820,000
Trafford	2,680,000	2,680,000
TOTAL	29,000,000	29,000,000

If the change to a new system of care results in less patients dying from stroke and possibly less dependency the implications for costs may go either way. The increase in the number of people surviving would mean that more people in the community would require drugs and other forms of care; however if the stroke population became less dependent the result might be a decrease in the cost of care at this stage of the pathway.

²⁹ Figures provided by Stockport PCT suggest that the total cost of drugs appropriate for patients who have had a stroke was £1.61 million in 2007/08. Moreover these drugs could have been prescribed for conditions other than stroke; on the other hand patients with stroke may require other drugs.

³⁰ These are only a rough proxy for the costs of primary and community care per head of population as a result of stroke. Considerably more local research is required to give figures which could be used in this analysis. However we provide some further assessment based on programme budget figures in Table 7.3.

Table 7.2 presents a view of the total costs that will arise under the two systems taking account of the projected growth in population in Greater Manchester, and assuming the current distribution of stroke among the population by age-group and sex. No account is taken of any changes in prevalence that may occur as a result of the implementation of health preventative measures.

Thus, total costs will increase by 13%, from £29.7 million to £33.6 million between 2009/10 and 2019/20 under both the current system and the new system. We have assumed no change in costs as a result of the switch from one system of care to another.

Table 7.2: Comparison of total cost of drugs provided in the community for stroke care, by Greater Manchester PCTs, under the current system and the new system, over time (2008/09 prices)

	Total cost - 2009/10		Total cost - 2014/15		Total cost - 2019/20	
	Current	New	Current	New	Current	New
Ashton, Leigh & Wigan	4,370,000	4,370,000	4,640,000	4,640,000	4,940,000	4,940,000
Bolton	2,620,000	2,620,000	2,790,000	2,790,000	2,970,000	2,970,000
Bury	2,050,000	2,050,000	2,180,000	2,180,000	2,320,000	2,320,000
Heywood, Middleton & Rochdale	1,860,000	1,860,000	1,980,000	1,980,000	2,110,000	2,110,000
Manchester	4,520,000	4,520,000	4,810,000	4,810,000	5,120,000	5,120,000
Oldham	2,920,000	2,920,000	3,110,000	3,110,000	3,310,000	3,310,000
Salford	2,660,000	2,660,000	2,820,000	2,820,000	3,000,000	3,000,000
Stockport	3,060,000	3,060,000	3,250,000	3,250,000	3,460,000	3,460,000
Tameside & Glossop	2,890,000	2,890,000	3,070,000	3,070,000	3,270,000	3,270,000
Trafford	2,750,000	2,750,000	2,920,000	2,920,000	3,110,000	3,110,000
TOTAL	29,700,000	29,700,000	31,600,000	31,600,000	33,600,000	33,600,000

As stated previously, the figures presented take no account of any improvement there may be in levels of disability as a result of the switch from the current system to the new system. These costs are not insignificant and we recommend that there should be more detailed work on primary and community care costs in the Greater Manchester stroke system.

7.2 Comparison with national results

Another source of comparative information on expenditure by PCTs on stroke is the programme budget data produced on an annual basis by the Department of Health, and based on returns by each PCT. All expenditure on stroke by PCTs other than for GMS or PMS (essentially GP services) should be recorded under cerebrovascular disease (code 10B) within the 'problems of circulation' category (code 10). This is intended to include expenditure on acute care as well as expenditure on drugs and some elements of community health services ie it combines the expenditure discussed in Section 6 with a large part of that covered in this section. However expenditure on

the care of people who experience TIAs is not intended to be included under this heading. In fact it is a part of the larger ‘neurological’ category.

Table 7.3 suggests that when expenditure is calculated in this way, Greater Manchester in 2006/07 was spending more per head of population on the care of stroke patients than the average in England as a whole, by about 11 per cent. This is not strictly comparable with previous figures as for example TIAs are not included. Nevertheless it does indicate that there may be some inconsistencies in the data provided from different sources which eventually will need to be reconciled.

Table 7.3: Expenditure on cerebrovascular disease (code 10B) programme budget, 2006/07, by Greater Manchester PCTs (2006/07 prices)

PCT	Total expenditure	Expenditure per 100,000 population
	£	£
Ashton, Leigh & Wigan	7,086,000	2,345,782
Bolton	2,884,000	1,083,937
Bury	2,526,000	1,392,152
Heywood, Middleton & Rochdale	3,306,000	1,609,250
Manchester	10,401,000	2,210,476
Oldham	3,704,000	1,682,697
Salford	3,085,000	1,411,408
Stockport	4,946,000	1,763,853
Tameside & Glossop	3,436,000	1,534,038
Trafford	4,289,000	2,016,900
Greater Manchester	45,663,000	1,768,992
England	802,983,959	1,590,816

8 Assessment of the economic cost of change to local authorities

The focus of this section is the continued care and support for people who have suffered a stroke provided by Greater Manchester local authority and independent providers. This covers primarily the ‘continued care in a community setting’ stage of the stroke care pathway. For people with high levels of dependence this will consume a lot of resources, for others it may be minimal. These services may be provided in a range of settings and by range of providers; however there is no indication that these settings are expected to change as a result of the switch from the current system to the new networked system of care.

People who have a stroke may require substantial care, assistance and support to continue to live as full a life as possible within their own community environment – which may be their own home, with friends or family, or in an institutional setting such as residential or nursing care. The degree of support a person who has had a stroke requires depends to some extent on the level of disability that has resulted; however other factors can play a large part including the age of the person and whether they suffer from co-morbidities, or availability of individual and social support networks.

We suggested in Section 3 that people living after stroke can be categorised as having very severe disability and therefore very high dependence, severe disability and fairly high dependence, having moderate disability and some dependence, having low disability and little dependence, and no disability and therefore independence. In addition a considerable proportion of people will die within 30 days. Disability has been commonly assessed using Barthel scores at point of discharge of patient – an index of activities of daily living – where patients are allocated to a range from independent, to mild, to moderate, to severe, to very severe disability. This distinction is important if different costs are to be assigned to different systems of care where we expect those systems to result in changes in the levels of mortality and dependence in a population. The application of an average unit cost per patient across the system is unlikely to produce a robust estimate of changes in cost.

So to address the financial costs for local authorities under the current system and the new system we need estimates of changes in the distribution of disability as a result of the switch to a different system of care. However there is very little evidence either nationally or locally that can be brought to bear on this issue. We can only suggest the magnitude of changes in costs that may arise under certain assumptions.

There is little direct information available on the local costs of provision in this sector. The expectation may be that these costs will to a large extent remain unaffected by the change in the system. However this is an assumption that should be tested through local studies of the costs of these forms of care and how this is affected by changes in the system of care. We provide some indication of the financial costs of care for Greater Manchester – shown as a breakdown by local authority. This is based on the results of the National Audit Office study referred to previously (NAO 2005).

8.1 Estimating the costs of continued care in the community for people with stroke

Care at this stage of the stroke care pathway is most often provided through the social care departments of local authorities, although it is often financed by individuals themselves as well as the local authorities. Individuals can also independently manage and fund their own care.

In Table 8.1 we have applied the national rate of expenditure on care for people with stroke in the community to the Greater Manchester population, and allocated this according to local authority using the incidence data from the Capgemini model as a proxy for prevalence of stroke in the population. Given that these figures are not based on actual costs in the Greater Manchester system³¹, we have not assumed any change in costs as a result of changing from the current system of care to the new system. These costs may be borne by the local authorities or by the individuals themselves.

³¹ There will be some data available from Stockport Local Authority on the costs of care for people with stroke which a future analysis can use to provide more locally-based estimates.

Table 8.1: Comparison of total cost of stroke care in the community in Greater Manchester, by local authority area of residence, under the current system and the new system (2008/09 prices)

	Total cost	Total cost
	Current	New
Wigan	14,600,000	14,600,000
Bolton	8,770,000	8,770,000
Bury	6,860,000	6,860,000
Rochdale	6,230,000	6,230,000
Manchester	15,200,000	15,200,000
Oldham	9,780,000	9,780,000
Salford	8,900,000	8,900,000
Stockport	10,200,000	10,200,000
Tameside	9,690,000	9,690,000
Trafford	9,200,000	9,200,000
TOTAL	99,500,000	99,500,000

Table 8.2 presents a view of the change in total costs that will arise under the two systems taking account of the projected growth in population in Greater Manchester, and assuming the current distribution of stroke among the population by age-group and sex. No account is taken of any changes in prevalence that may occur as a result of the implementation of health preventative measures.

Table 8.2: Comparison of cost of stroke care in the community in Greater Manchester, by local authority area of residence, under the current system and the new system, over time (2008/09 prices)

	Total cost 2009/10		Total cost 2014/15		Total cost 2019/20	
	Current	New	Current	New	Current	New
Wigan	14,600,000	14,600,000	15,900,000	15,900,000	17,000,000	17,000,000
Bolton	8,770,000	8,770,000	9,560,000	9,560,000	10,200,000	10,200,000
Bury	6,860,000	6,860,000	7,480,000	7,480,000	7,960,000	7,960,000
Rochdale	6,230,000	6,230,000	6,790,000	6,790,000	7,230,000	7,230,000
Manchester	15,200,000	15,200,000	16,500,000	16,500,000	17,600,000	17,600,000
Oldham	9,780,000	9,780,000	10,700,000	10,700,000	11,300,000	11,300,000
Salford	8,900,000	8,900,000	9,700,000	9,700,000	10,300,000	10,300,000
Stockport	10,200,000	10,200,000	11,200,000	11,200,000	11,900,000	11,900,000
Tameside	9,690,000	9,690,000	10,600,000	10,600,000	11,200,000	11,200,000
Trafford	9,200,000	9,200,000	10,000,000	10,000,000	10,700,000	10,700,000
TOTAL	99,500,000	99,500,000	108,000,000	108,000,000	115,000,000	115,000,000

To make some assessment of the potential for cost savings as a result of less patients dying, or a reduction in the levels of dependency as a result of the change to a new system of care two factors should be considered: the distribution of dependency and the differences in cost per head for different levels of dependency. So an indication of the change in the distribution of disability (dependency) that results from any change is required. Currently we can only speculate on this but we would recommend further detailed local research to provide more robust figures.

Assumptions are also required about the difference in use of resources according to level of disability. Saka and colleagues in their work for the National Audit Office (Saka *et al.* 2005) assumed that patients assessed as independent would have no further costs following discharge from hospital, and would incur no increase in living costs (and there would be no implications for their ability to work). Mild stroke cases were assumed to require some care at home but no further rehabilitation. Moderate stroke cases were assumed to require further home-based rehabilitation and some care at home to enable daily activities. Care at home for the last two categories was assumed to be provided by informal carers. Severe stroke cases were assumed to stay in residential homes and very severe cases in high-dependency care homes. It was also assumed that none of the last three categories are able to work after the stroke.

9 Assessment of the economic cost of change to individuals and carers

Calculations of costs incurred by individuals or their carers as a result of illness are always rather uncertain. So comparisons of costs between different systems of care necessarily suffer from the same uncertainty – although it may be the case that both systems are subject to the same type of uncertainty.

However it is important to give some consideration to these issues; there may be a loss in this sector if costs were being shifted to patients and carers. Moreover there may be a link to the personal budgets agenda that the Government is promoting. What stroke care services would patients prefer if they were in control of the whole budget for their own care?

There are two types of cost with which we are concerned in this section: the costs of informal care – which have not been included in the previous section on the cost of social care related to the individual's disability as a result of a stroke, and indirect costs suffered by an individual or society as a whole which may include productivity losses as well as increased levels of disability and other forms of benefits.

We are not aware of local sources of information on which we can base our estimates – although these could be developed over time if this emerges as an important area of consideration. Nationally there are few robust sources of information on the costs to individuals and their carers of disability associated with stroke. In a recent report to inform the Black Report on the costs of disability (Black 2008), we provided an estimate of the total cost of informal care in England as a result of all forms of sickness and disability that lay within a wide range from £41 billion to £87 billion (Boyle 2008).

To estimate the cost of informal care we have applied the national cost estimates derived by the National Audit Office (NAO 2005) to local estimates of the incidence of stroke in Greater Manchester. It was estimated that informal care costs were £2.41 billion for England as a whole, although the figure ranged from £1.93 billion to £2.83 billion depending on the prevalence rate used. If we simply apply the average figure to the population of Greater Manchester (which is roughly 5% of the England total), we estimate informal care costs at approximately £140 million.

Again, to address the financial costs for individuals and carers under the current system and the new system, requires estimates of changes in the distribution of disability as a result of the switch to a different system of care. As we have said in previous sections, there is very little evidence either nationally or locally that can be brought to bear on this issue.

A similar approach is applied to the calculation of indirect costs associated with stroke. There will be a reduction in overall production in the economy³² (which takes the form of a reduction in income to the individual) as a result of mortality or sickness and disability resulting from strokes and TIAs. There will also be increased benefit payments by government such as disability living allowance, attendance allowance and incapacity benefit resulting from stroke. The National Audit Office report calculated the total cost of lost production (income) as a result of stroke at over £1 billion and the total cost of additional benefits as a result of stroke at almost £700 million (NAO 2005). Applying these national estimates of costs to Greater Manchester incidence estimates suggests a cost to the Greater Manchester system of £60 million in lost production and £39 million in extra benefit payments.

Finally there are almost certainly non-financial measures that should be taking into consideration such as the ability of people to enjoy a full and happy existence; however for want of any clear measurable representation, these have not been included in any of this analysis.

10 Conclusion

Our analysis suggests that the cost of stroke across the whole of Greater Manchester for 2008/09 is somewhere in the region of £400 million. This compares with the most recent estimate (which we have updated from 2003/04 costs) for England as a whole for 2008/09 of almost £7.9 billion.

Table 10.1 Estimated costs of stroke across the whole Greater Manchester system, 2008/09

		England	Greater Manchester
NHS	Acute	611 million	22 million
	Primary and community	574 million	29 million
Local authority	Social care	1,970 million	100 million
Individual	Informal care	2,723 million	140 million
	Lost production	1,231 million	60 million
Society	Benefit payments	777 million	39 million
TOTAL		7,886 million	390 million

The change to a new system of stroke care is estimated to result in an increase in costs to the acute sector of around £3.4 million. However as Table 10.1 shows, this is a small proportion of the total cost of stroke to the Greater Manchester system as a

³² Account is taken of the proportion of the population affected by stroke that is of working-age.

whole. A 3.4% reduction in the costs of social care or 2.4% reduction in the costs of informal care would compensate for this increase.

We suggest that the analysis provided in this report supports the case for change in the system of stroke care in Greater Manchester. If the new system of acute stroke care results in just a small improvement in the levels of dependency among stroke patients in the community in future years, this would result in substantial cost savings to the system as a whole which would outweigh any immediate increase in costs for the acute sector.

However the results of this analysis should be treated with caution. There is insufficient detailed information available in the system about costs and levels of activity – even in the acute sector – for a definitive judgement to be made. We strongly recommend that further detailed local analysis is taken forward so as to understand better the nature and extent of activity and costs that relate to stroke care in Greater Manchester.

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45. Appendix

Pan London Annual Review - Operational Guide 2013/14

Pan London Annual Review - Operational Guide 2013/14 v0.2

Background

In London, prior to April 2013, review of Hyper Acute Stroke Units (HASU) and Acute Stroke Units (SU), in accordance with the Healthcare for London Stroke acute commissioning and tariff guidance, was undertaken by the Cardiac & Stroke Networks. The purpose of this guide is to ensure that, following the closure of the local Networks, London HASU and SU are reviewed on an annual basis in a standardised and systematic way by relevant Clinical Commissioning Groups.

Evidence to support assessments

The main source of data for patient level metrics within standards A2, B and C (HASU) and A2 (SU) and data related to A, B, C and D infrastructure standards is the new audit web tool called Stroke Sentinel National Audit Programme (SSNAP). This is hosted by the Royal College of Physicians (RCP). Trusts are able to access data related to their own service and the RCP produces quarterly reports.

However, there will be a need for other sources of data and also there is a requirement for services to maintain their own data in particular with regards to the A1 (staffing ratios), Infrastructure, B, C, and D standards (see Appendix 1 for HASU and Appendix 2 for SU). Other sources of evidence include: schedules of rotas, agendas/minutes for meetings, training programs and reports.

Scoring Documentation

Scoring the HASU and SU during an annual review should be against all of the applicable standard criteria as per the London Stroke tariffs guidance (see Appendix 3 for HASU A2 standards and HASU B, C and D standards and Appendix 4 for SU and TIA B, C and D standards).

HASU annual review encompasses the following:

- A1 Standards – STAFF
- A1 Standards – INFRASTRUCTURE
- A1 Standards – PERFORMANCE
- A2 Standards – PERFORMANCE
- B Standards
- C Standards
- D Standards

SU annual review encompasses the following:

A1 Standards – STAFF

A1 Standards – INFRASTRUCTURE

A1 Standards – PERFORMANCE

A2 Standards – PERFORMANCE STANDARDS

B Standards

C Standards

D Standards

The annual measuring period is across previous 12 months (4 quarters) since last annual assessment.

Timeline of Review Preparation

All units have been subjected to these reviews before and should be aware of what preparation is involved; however there may have been staff changes so not all members of staff will be familiar with the documentation and there is a significant amount of work involved. Therefore it is vital that they have enough time to prepare and draw together all the right information to present at the review.

Below is an approximate minimum timeline of milestones in preparation for the review:

What	Details	When	Who
1. Validated SSNAP reports / data submission	Yearly reports including any recent organisational and quarterly reports that make up the 12 month time frame. All Infrastructure and therapy SSNAP reports	Day 0	Trust
2. Exception report submitted to review team	Submit patient level data with details of clinical exception	17 - 21 days	Trust
	Please see FAQ for	28 days	Representatives

3. Review visit	further information		from Trust, Network, Commissioner, Clinical lead

Frequently Asked Questions

PROCESS

Q: Who should be present at the annual review?

A: *A clinical representation from the Strategic Clinical Leadership Group (SCLG) for stroke, a clinical representative of the relevant CCG and a CCG commissioning officer, and for each HASU, the Strategic Clinical Network Manager for Stroke.*

Q: Is it a review or assessment?

A: *This is an annual review of a HASU or an SU against continuing to receive the uplifted stroke tariff and 12 months worth of reports and data are reviewed and scored against performance standards.*

Q: How much notice should a site receive?

A: *It would be useful to give the site up to one month to prepare and plan for the annual review although this is only intended as a guide in regards to staffing and data preparation.*

Q: When should the review occur? Should it align with SSNAP yearly reporting?

A: *Not all HASU and SU sites across London are due for annual review at the same time. It may not be feasible to assess every site at the same time of the year.*

Q: Who leads the review?

A: *The clinical representative of the SCLG together with local commissioners should lead and guide the review. It would be helpful for both leads to make contact prior to the review.*

Q: What data, including the sources for measuring performance, should be used for the review?

A: *Please see the evidence supporting review section in the guide.*

Q: Who receives the scoring? Does the provider complete this individually?

A: *Scoring should be completed by the review team at the time of the review.*

Feedback about the outcome should be sent to the Chief Executive, the service manager and the clinical lead within the provider organisation.

Q: Where is the review conducted?

A: *At a designated space on the HASU or SU site adhering to site and trust meeting policies. The venue is organised by the HASU or SU being reviewed. The visit may also include a walk through of the patient pathway or tour of the unit.*

Q: What would the required time be for the review?

A: *As a guide the review should be conducted within 2 hours.*

Q: Can we review co located HASU and SU sites at the same time?

A: *Yes – it tends to be easier to arrange one meeting.*

Q: What happens if a site does not meet the standards?

A: *A review notice (can range from 3months to 6 months) is given with a review period ascertaining if implementation of performance improvement initiatives have made a difference. If after this period the performance has not increased and the site has not passed the review then a reduction of the London tariff uplift is enforced and backdated, in line with London stroke tariff guidance.*

Q: Who completes the report and where does it go to?

A: *The CCG is responsible for completing the report and this is sent to the Chief Executive, the service manager and the clinical lead within the provider organisation. Key headlines will also be shared with the SCLG.*

Q: Where is the review paperwork/data stored?

A: *The CCG should store and archive review documentation as per NHS data storage policy.*

Appendix 1

HASU annual review full comparison (Green indicating SSNAP use as a source for data, Yellow indicating potential or incomplete SSNAP use as a source for data, Red indicating no SSNAP use as a source for data)

HASU Criteria	A1 STANDARDS	Data Source
16	Provision of 0.73 WTE Physiotherapist/5 beds	SSNAP Organisational Audit 4.3 Staff rotas should be made available for review at time of assessment.
17	Provision of 0.68 WTE Occupational Therapist/5 beds	SSNAP Organisational Audit 4.3 Staff rotas should be made available for review at time of assessment.
18	Provision of 0.68 WTE SALT/10 beds	SSNAP Organisational Audit 4.3 Staff rotas should be made available for review at time of assessment.
24	Provision of 24/7 nursing workforce to provide: 2.9 WTE nurses / bed 80:20 trained to untrained skill mix	SSNAP Organisational Audit 3.8 Staff rotas should be made available for review at time of assessment.
INFRASTRUCTURE		
1	A robust operational pathway for receiving suspected stroke patients, alerting HASU team of suspected stroke patient admission and transferring stroke patients to HASU if presentation to A&E	Cannot be sourced through SSNAP Information can be obtained through detailed discussion with the lead stroke clinician at each unit. Written evidence of the pathway should be available.
2	A radiology service	Cannot be sourced through

	responsible for provision of the following: CT scanning for suspected stroke patients (24/7) CT reporting by radiology or stroke consultant (24/7) A contingency plan to ensure continuity of provision of CT scanning	SSNAP Information can be obtained through detailed discussion with the lead stroke clinician at each unit.
3	Established high-level thrombolysis treatment pathway	Cannot be sourced through SSNAP Information can be obtained through detailed discussion with the lead stroke clinician at each unit. Written evidence of the pathway should be available.
4	24/7 availability of appropriately trained staff in eligibility assessment and administering thrombolysis treatment	Cannot be sourced through SSNAP The service should provide a rota to demonstrate compliance.
9	24/7 availability of appropriately trained staff in assessment of suspected stroke patients who are ineligible for thrombolysis treatment	Cannot be sourced through SSNAP The service should provide a rota to demonstrate compliance.
20	Arrangements for timely repatriation to appropriate local or co-located SU	Cannot be sourced through SSNAP Written evidence of policies and protocols should be made available.
22	Consultant led HASU team	Cannot be sourced through SSNAP Consultant rota should be made available.
23	Provision of 24/7 consultant cover provided by at least 6	Cannot be sourced through SSNAP

	BASP thrombolysis trained consultants on a rota able to make thrombolysis and hyper acute treatment decisions	Consultant rota should be made available.
28	Evidence of management plan for access to neurosurgery, interventional neuroradiology and vascular surgery for appropriate patients	SSNAP Organisational Audit 6.1

HASU	A2 STANDARDS	Data Source

Criteria		
5	100 % of appropriate stroke patients, identified as potentially eligible for thrombolysis treatment, to be scanned within next available CT slot (this must support a door to needle time of 60 mins)	SSNAP Core Data Set 1.13-2.4
7	100 % of appropriate stroke patients to receive thrombolysis within 3 hrs or as soon as possible of symptom onset	SSNAP Core Data Set 2.6, 2.7
8	100% of appropriate patients scanned within 24 hrs of admission to A&E	SSNAP Core Data Set 1.14, 2.4
10	95 % of all appropriate stroke patients to be admitted to HASU directly from A+E	SSNAP Core Data Set 1.14, 1.15
11	70 % of all stroke patients to receive a swallow test within 24 hrs of admission	SSNAP Core Data Set 2.10
13	75 % of all patients to receive physiotherapist assessment within 72 hrs of admission (performance standard)	SSNAP Core Data Set 3.6
14	100% of appropriate patients to receive continuous physiological monitoring (ECG, oximetry, blood pressure) by appropriately trained staff	SSNAP Organisational Audit 3.4
6	90 % of stroke patients eligible for thrombolysis (within license), to receive thrombolysis treatment within 60 mins of entry to A&E (door to needle time)	SSNAP Core Data Set 2.6- 2.7

HASU Criteria	B STANDARDS	Data Source
6	90% of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 45 mins of entry to A&E (door to needle time) (performance standard)	SSNAP Core Data Set 2.6- 2.7
12	100 % of appropriate stroke patients to be weighed during admission (performance standard)	Cannot be sourced through SSNAP Local audit results should be presented.
15	Daily consultant level ward rounds (performance standard)	SSNAP Organisational Audit 3.11
27	100 % appropriate patients and carers to receive contemporary patient information provided in a variety of formats (performance standard)	SSNAP Organisational Audit 9.2

HASU Criteria	C STANDARDS	Data Source
6	50% of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 30 mins of entry to A&E (door to needle time) (performance standard)	SSNAP Core Data Set 2.6- 2.7
31	Patient and carer involvement in development of stroke services	SSNAP Organisational Audit 8.6
33	Evidence of timely implementation of service delivery improvements e.g. new guidance, performance standard compliance improvements	SSNAP Organisational Audit 8.3
35	Demonstration of participation in stroke related research, as a key part of HASU services	SSNAP Organisational Audit 8.9 -8.10
25	Recruitment plan for vacant positions and success in filling vacant positions	Cannot be sourced through SSNAP Discussion with the relevant professional lead and evidence via rotas of numbers of staff in post.

HASU Criteria	D STANDARDS	Data Source
26	Plan for rotation of posts across the professional groups along the patient pathway	Cannot be sourced through SSNAP Discussion with the relevant professional leads and, where possible, rotas.
34	Completion of leadership training by key members of the stroke team to support stroke service improvement	SSNAP Organisational Audit 8.12 -8.23

Appendix 2

SU annual review – full comparison (Green indicating SSNAP use as a source for data, Yellow indicating potential or incomplete SSNAP use as a source for data, Red indicating no SSNAP use as a source for data)

SU Criteria	A1 Standards	Data source
STAFF		
11	Provision of 0.84 WTE physiotherapist/5 beds	SSNAP Organisational Audit 4.3 Staff rotas should be made available for review at time of assessment.
12	Provision of 0.81 WTE OT/5 beds	SSNAP Organisational Audit 4.3 Staff rotas should be made available for review at time of assessment.
13	Provision of 0.81 SALT/10 beds	SSNAP Organisational Audit 4.3 Staff rotas should be made available for review at time of assessment.
23	Provision of 24/7 nursing workforce to provide: 1.35 WTE nurses/bed, 65:35 trained to untrained skill mix	SSNAP Organisational Audit 3.8 Staff rotas should be made available for review at time of assessment.
INFRASTRUCTURE		
8	Evidence of a protocol to initiate suitable secondary prevention measures in all appropriate patients	Cannot be sourced through SSNAP Written protocol should be provided

9	A radiology service responsible for provision of the following: CT scanning and reporting, MRI scanning, ultrasonic angiology	Cannot be sourced through SSNAP Evidence should be obtained through discussion with lead clinician
16	Availability of rehab facilities ie access to physio gym, OT kitchen, SALT equipment	Cannot be sourced through SSNAP Facilities should be examined during walk round inspection
17	Demonstration of maintenance of all 5 characteristics of a good stroke unit: MDMs at least weekly to plan care; provision of information to patients about stroke; continuing education programmes for staff; consultant physician with responsibility for stroke; formal links with patient and carer organisations	SSNAP Organisational Audit 4.6, 9.2, 8.1, 9.4
18	Demonstration of agreed referral pathways from SU to community rehab providers	SSNAP Organisational Audit 5.1 onwards
21	Sharing of information between SU and GP and rehab provider (if applicable)	Cannot be sourced through SSNAP Information can be obtained through discussion with lead clinician and presentation of template letters (if this exists)
22	Consultant led SU team; minimum of 5 consultant or equivalent ward rounds per week; dedicated junior medical team trained in stroke management	SSNAP Organisational Audit 3.5

SU Criteria	A2 Standards	Data Source
1	Timely admission of patients from HASU: 90% of patients repatriated within 24 hours	SSNAP Core Data Set 1.15, 4.1, 4.2, 4.3
2	95% of all stroke patients to be admitted directly to SU on HASU transfer (performance standard)	SSNAP Core Data Set 1.15, 4.1, 4.2, 4.3
3	95% of stroke patients to spend all of their in-hospital time in SU (performance standard)	SSNAP Core Data Set 4.3, 7.2
4	75% of all patients to receive a physiotherapist assessment within 72 hours of admission to SU (performance standard)	SSNAP Core Data Set 6.2
5	60% of all patient to receive an occupational therapy assessment within 7 days of admission to SU (performance standard)	SSNAP Core Data Set 6.1
6	75% of all patients to be weighed within 72 hours of admission to SU (performance standard)	Cannot be sourced through SSNAP Results of local audit should be presented
10	70% of all patients to have their mood assessed by time of discharge (performance standard)	SSNAP Core Data Set 6.7
14	Patient access to a social worker (performance standard)	SSNAP Organisational Audit 4.1
35	Provision of, and attendance at, MDT stroke training programmes	Some elements in SSNAP Organisational Audit in 8.12-8.23

		Written evidence of training provided within Trust and list of key staff members who have attended relevant external training.

SU Criteria	B Standards	Data Source
7	100% of appropriate patients to receive weekly nutritional screening	SSNAP Core Data Set 6.6
15	Availability of supporting services e.g. orthotics, podiatry, orthoptics, dietetics	SSNAP Organisational Audit 4.1
19	Arrangements for discharge of patient from SU with appropriate support	SSNAP Core Data Set 7.9.2, 7.11, 7.12
20	Plan for management of average length of stay (LOS)	Cannot be sourced through SSNAP Discussion with lead clinician
24	Recruitment plan for vacant positions and success in filling vacant positions	Cannot be sourced through SSNAP Discussion with the relevant professional lead and evidence via rotas of numbers of staff in post.
26	100% of appropriate patients and carers to receive contemporary patient information and care plans provided in a variety of formats (performance standard)	SSNAP Organisational Audit 9.2
27	Provision of a named contact on discharge for each patient	SSNAP Core Data Set 7.12
30	Demonstration of a stroke management group to oversee service delivery and improvement e.g. review of performance standards, impact of new	SSNAP Organisational Audit 8.12-8.23

	guidance and methods for improvement of service	
34	Provision of structured training plan for new and rotational staff to ensure a competent understanding of the stroke pathway and compliance to performance standards	Cannot be sourced through SSNAP Written evidence of programme.
37	Active involvement in local stroke networks	SSNAP Organisational Audit 9.4

SU Criteria	C and D Standards	Data Source
28	Process for obtaining and incorporating patient feedback into SU service development	SSNAP Organisational Audit 8.6
29	Patient and carer involvement in development of stroke services	SSNAP Organisational Audit 8.6
31	Evidence of timely implementation of service delivery improvements e.g. new guidance, performance standard compliance improvements	SSNAP Organisational Audit 8.16
33	Demonstration of participation in stroke related research, as a key part of SU services	SSNAP Organisational Audit 8.9. 8.10
25	Plan for rotation of posts across the professional groups along the patient pathway	Cannot be sourced through SSNAP Discussion with the relevant professional leads and, where possible, rotas.
32	Completion of leadership training by key members of the stroke team to support stroke service improvement	SSNAP Organisational Audit 8.12-8.23

Appendix 3

HASU A2 performance standards

Criteria	Performance standards	Actual performance	Max score	Actual score
5	100% of appropriate stroke patients identified as potentially eligible for thrombolysis treatment to be scanned within next available CT slot		5	
7	100% of appropriate stroke patients to receive thrombolysis within 3 hours or as soon as possible of symptom onset		5	
8	100% of appropriate patients scanned within 24 hours of admission to A & E		5	
10	95% of all appropriate stroke patients to be admitted to HASU directly from A & E		5	
11	100% of appropriate stroke patients to receive a swallow test within 24 hours of admission		3	
13	100% of appropriate patients to receive physiotherapist assessment within 72 hours of admission		2	
14	100% of appropriate patients to receive continuous physiological monitoring (ECG, Oximetry, blood pressure) by appropriately trained staff		2	
6	90% of stroke patients eligible for thrombolysis to receive thrombolysis within 45 minutes of entry to A & E (door to needle time)		5	
6	70% of stroke patients eligible for thrombolysis to		5	

	receive thrombolysis within 30 minutes of entry to A & E (door to needle time)			
			TOTAL 37	TOTAL Percentage

Trusts should achieve above 75% to continue to receive the full tariff.

HASU B, C and D standards

Criteria	Performance standard	Achieved	Evidence	Mitigation
B standards				
6	90% of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 45 mins of entry to A&E (door to needle time) (performance standard)		Eg SSNAP	
12	100 % of appropriate stroke patients to be weighed during admission (performance standard)		Eg Notes have been audited.	
15	Daily consultant level ward rounds (performance standard)		Eg Consultants rotate HASU ward rounds on a weekly basis.	
27	100 % appropriate patients and carers to receive contemporary patient information provided in a variety of formats (performance standard)		Eg Patient leaflets and information packs handed out to all patients.	
C Standards				
6	50% of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 30 mins of entry to A&E (door to needle time) (performance standard)			
31	Patient and carer involvement in development of stroke services			
33	Evidence of timely implementation of service delivery improvements e.g. new guidance, performance standard compliance improvements			

35	Demonstration of participation in stroke related research, as a key part of HASU services			
25	Recruitment plan for vacant positions and success in filling vacant positions			
D Standards				
26	Plan for rotation of posts across the professional groups along the patient pathway			
34	Completion of leadership training by key members of the stroke team to support stroke service improvement			

Appendix 4

SU B, C and D standards

Only those criteria that differ from HASU have been reported below.

Criteria	Performance standard	Achieved	Evidence	Mitigation
B standards				
7	100% of appropriate patients to receive weekly nutritional screening			
15	Availability of supporting services e.g. orthotics, podiatry, orthoptics, dietetics			
19	Arrangements for discharge of patient from SU with appropriate support			
20	Plan for management of average length of stay (LOS)			
27	Provision of a named contact on discharge for each patient			

TIA standards

Criteria	Performance standard	Achieved	Evidence	Mitigation
5	90% of high risk TIA patients to receive a specialist assessment and treatment within 24 h of first presentation to a healthcare professional			
7	90% of low risk TIA patients to receive a specialist assessment and treatment within 7 days of first presentation to a healthcare professional			
11	90 % of appropriate TIA patients with symptomatic carotid stenosis to undergo CEA within 14 days of first presentation to a healthcare professional			

46. Appendix

Pan London HASU annual review template

HASU annual review

Unit:

Date:

Assessment Team:

Clinical Lead:

Network Lead:

HASU Criteria	A1 STANDARDS	Measurement	RAG rating	Additional notes
STAFF				
16	Provision of 0.73 WTE Physiotherapist/5 beds Required: 2	Calculation provided by Trust. Should include appropriate evidence (budget statements, staff lists, staff roster etc) to demonstrate that the staff genuinely work on the SU. When retrospectively assessing, the scoring is as follows: hitting or exceeding the ratio – Green, Red - outside 11%		Staff rotas
17	Provision of 0.68 WTE Occupational Therapist/5 beds Required: 1.9			Staff rotas
18	Provision of 0.68 WTE SALT/10 beds Required: 0.9			Staff rotas
24	Provision of 24/7 nursing workforce to provide: 2.9 WTE nurses / bed 80:20 trained to untrained skill mix Required: 40.6 Trained: 32.48 Untrained: 8.12	Calculation provided by Trust. Should include appropriate evidence (budget statements, staff lists, staff roster etc) to demonstrate that the staff genuinely work on the SU. When retrospectively assessing, the scoring is as follows: hitting or exceeding the ratio – Green; Red outside 20%		Staff rotas

INFRASTRUCTURE (exception reported only)			
1	A robust operational pathway for receiving suspected stroke patients, alerting HASU team of suspected stroke patient admission and transferring to HASU from A&E	Review the arrangements	Discussion & written evidence
2	A radiology service responsible for provision of the following (24/7): - CT scanning for suspected stroke patients - CT reporting by radiology or stroke consultant - A contingency plan to ensure continuity of provision of CT scans	Do these exist?	Discussion
3	Established high-level thrombolysis treatment pathway	Provide evidence of pathway	Discussion & written evidence of pathway
4	24/7 availability of appropriately trained staff in eligibility assessment and administering thrombolysis treatment	Provide evidence, eg staff rotas	Rota
9	24/7 availability of appropriately trained staff in assessment of suspected stroke patients who are ineligible for thrombolysis treatment	Provide evidence, eg staff rotas	Rota
20	Arrangements for timely repatriation to appropriate local or co-located SU	Review the arrangements	Written evidence of policies and protocols
22	Consultant led HASU team	Provide management structure and name of lead consultant	Rota
23	Provision of 24/7 consultant cover provided by at least 6 BASP	Provide evidence, eg job plans	Rota

	thrombolysis trained consultants on a rota able to make thrombolysis and hyper acute treatment decisions		
28	Evidence of management plan for access to neurosurgery, interventional neuroradiology and vascular surgery for appropriate patients	Review the arrangements	SSNAP & discussion

HASU Criteria	A2 STANDARDS	Measurement	RAG rating	Additional notes
5	100 % of appropriate stroke patients, identified as potentially eligible for thrombolysis treatment, to be scanned within next available CT slot (this must support a door to needle time of 60 mins)	(Ischaemic patients only) Green >=90%, below 60% Red		SSNAP
7	100 % of appropriate stroke patients to receive thrombolysis within 3 hrs or as soon as possible of symptom onset	Green 100%, <75%=Red		SSNAP
8	100% of appropriate patients scanned within 24 hrs of admission to A&E	Green 100%, <90%=Red		SSNAP
10	95 % of all appropriate stroke patients to be admitted to HASU directly from A+E	Green 95%, <75%=Red		SSNAP
11	70 % of all stroke patients to receive a swallow test within 24 hrs of admission	Green 70%; <50%=Red		SSNAP
13	75 % of all patients to receive physiotherapist assessment within 72 hrs of admission (performance standard)	Green 75%, <50%=Red		SSNAP
14	100% of appropriate patients to receive continuous physiological monitoring (ECG, oximetry, blood pressure) by appropriately trained staff	Green >=95% , below 80% Red		SSNAP

HASU Criteria	B STANDARDS	Measurement	RAG rating	Additional notes
6	90% of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 45 mins of entry to A&E (door to needle time)	Green 90%, <80%=Red		SSNAP
12	100 % of appropriate stroke patients to be weighed during admission	Green 100%, <75%=Red		Local audit results
15	Daily consultant level ward rounds	Check patient notes and job plans		SSNAP
27	100 % appropriate patients and carers to receive contemporary patient information provided in a variety of formats	Provide evidence that this is happening. Up to date leaflets and patient information (not photocopies), evidence that different font size, languages and different colours are available		SSNAP

HASU Criteria	C STANDARDS	Measurement	RAG rating	Additional notes
6	50% of stroke patients eligible for thrombolysis (to be thrombolysed), to receive thrombolysis treatment within 30 mins of entry to A&E (door to needle time)	Green 50%, <30%=Red		SSNAP
31	Patient and carer involvement in development of stroke services	Provide evidence that this is happening, eg focus groups, patient satisfaction surveys, discovery interviews		SSNAP

33	Evidence of timely implementation of service delivery improvements e.g. new guidance, compliance improvements	Provide evidence that this is happening		SSNAP
35	Demonstration of participation in stroke related research, as a key part of HASU services	Provide evidence that this is happening eg, lists of trials / research projects		SSNAP
25	Recruitment plan for vacant positions and success in filling vacant positions	Evidence of a recruitment strategy. Discuss vacancy rate		Discussion and rotas

HASU Criteria	D STANDARDS	Measurement	RAG rating	Additional notes
26	Plan for rotation of posts across the professional groups along the patient pathway	Provide evidence that this is happening. This should cover junior doctors, therapists and nurses		Discussion and rotas
34	Completion of leadership training by key members of the stroke team to support stroke service improvement	Provide evidence that this is happening		SSNAP

Additional comments:

47. Appendix

Pan London HASU annual review template

SU annual review

Date

Unit size

Assessment Team:

Clinical Lead:

Commissioning Lead:

Network Lead:

Criteria	A1 Standards	Measurement	RAG rating	Data source
	STAFF			
11	Provision of 0.84 WTE physiotherapist/5 beds Required: 4.4	Calculation provided by Trust. Should include appropriate evidence (budget statements, staff lists, staff roster etc) to demonstrate that the staff genuinely work on the SU.		Discussion – trust to provide data
12	Provision of 0.81 WTE OT/5 beds Required: 4.2	When retrospectively assessing, the scoring is as follows: hitting or exceeding the ratio – Green; outside 11% - Red.		Discussion – trust to provide data
13	Provision of 0.81 SALT/10 beds Required: 2.1	- Named staff roster provided - Head count - Rotas - WTEs can be made up using no		Discussion – trust to provide data
23	Provision of 24/7 nursing workforce to			Discussion – trust to provide data

	provide: 1.35 WTE nurses/bed, 65:35 trained to untrained skill mix Required: 35.1 Trained: 22.8 Untrained: 12.3	more than 15% agency. Bank is an acceptable substitution for substantive staff. • If Bank Staff, need to see recruitment plan including permanent posts. • Performance in a subsequent period should show agency as a % no more than 10%.		
	INFRASTRUCTURE			
8	Evidence of a protocol to initiate suitable secondary prevention measures in all appropriate patients			Discussion & written protocol
9	A radiology service responsible for provision of the following: CT scanning and reporting, MRI scanning, ultrasonic angiology			Discussion
16	Availability of rehab facilities ie access to physio gym, OT kitchen, SALT equipment			Discussion & walk round
17	Demonstration of maintenance of all 5 characteristics of a good stroke unit: MDMs at least weekly to plan care; provision of information to patients; continuing education programmes for staff; consultant physician with responsibility for stroke; formal links with patient & carer organisations			SSNAP
18	Demonstration of agreed referral pathways from SU to community rehab providers			SSNAP

21	Sharing of information between SU and GP and rehab provider (if applicable)			Discussion & presentation of template letters
22	Consultant led SU team; minimum of 5 consultant or equivalent ward rounds per week; dedicated junior medical team trained in stroke management			SSNAP

Criteria	A2 Standards	Measurement	RAG rating	Additional evidence/Comments
1	Timely admission of patients from HASU: 90% of patients repatriated within 24 hours	Timely is defined as within 24 hrs of confirmation that a patient has a discharge date and time, patient should be admitted to an SU (within 24 hrs of confirmed discharge date and time) Green ≥90%, below 65% Red		SSNAP
2	95% of all stroke patients to be admitted directly to SU on HASU transfer	Green 95%, <75% Red		SSNAP
3	95% of stroke patients to spend all of their in-hospital time in SU	Green: 80% or above, Red below 75%		SSNAP
4	75% of all patients to receive a physiotherapist assessment within 72 hours of admission to SU	Green 75%, <50% Red		SSNAP

5	60% of all patient to receive an occupational therapy assessment within 7 days of admission to SU	Green $\geq 60\%$, below 50% Red		SSNAP
6	75% of all patients to be weighed within 72 hours of admission to SU	Green 100%, <75% Red		Local audit
10	70% of all patients to have their mood assessed by time of discharge	Green 70%, <60% Red		SSNAP
14	Patient access to a social worker	Provide evidence that this is happening, eg systems are in place, referral forms		SSNAP
35	Provision of, and attendance at, MDT stroke training programmes	Provide evidence that they are taking place and numbers of attendees, eg agendas, feedback sheets from MDT, training attendance records etc Reflected and monitored in PDPs.		Trust to provide written evidence

Criteria	B Standards	Measurement	RAG rating	Additional Comments
7	100% of appropriate patients to receive weekly nutritional screening	Green 100%, <80%=Red		SSNAP
15	Availability of supporting services e.g. orthotics, podiatry, orthoptics, dietetics	Demonstrate that these exist e.g. evidence of referral pathway and paperwork and patient notes		SSNAP
19	Arrangements for discharge of patient from SU with appropriate support	Evidence of protocol and provision of discharge plan for 100% of patients JCP: Green 85%, <75%=Red		SSNAP
20	Plan for management of average length of stay (LoS)	Evidence of active monitoring of LoS, investigation into long LoS, active reduction of LoS plans, evidence that discharge plans are created early on in a patients stay		Discussion
24	Recruitment plan for vacant positions and success in filling vacant positions	Evidence of stroke recruitment strategy and vacancy rates		Discussion and evidence from rotas of numbers of staff in post
26	100% of appropriate patients and carers to receive contemporary patient information and care plans provided in a variety of formats	Provide evidence that this is happening. Up to date leaflets and patient information in different font sizes, languages and colours		SSNAP
27	Provision of a named contact on discharge for each patient	Provide evidence that this is happening		SSNAP

Criteria	B Standards	Measurement	RAG rating	Additional Comments
30	Demonstration of a stroke management group to oversee service delivery and improvement e.g. review of performance standards, impact of new guidance and methods for improvement of service	Provide evidence that this is happening – agenda/minutes, reasonable frequency		SSNAP
34	Provision of structured training plan for new and rotational staff to ensure a competent understanding of the stroke pathway and compliance to standards	Provide evidence of a stroke specific induction program		Written evidence
37	Active involvement in local stroke networks	Network to assess evidence of meeting attendance lists and rapid and reliable provision of data		SSNAP

Criteria	C and D Standards	Measurement	RAG rating	Additional notes
28	Process for obtaining and incorporating patient feedback into SU service development	Provide evidence that this is happening, e.g. focus groups, patient satisfaction surveys, interviews		SSNAP
29	Patient and carer involvement in development of stroke services	Provide evidence that this is happening, e.g. stroke forum regularly attended by clinical management		SSNAP
31	Evidence of timely implementation of service	Provide evidence that this is		SSNAP

	delivery improvements e.g. new guidance, performance standard compliance improvements	happening		
33	Demonstration of participation in stroke related research, as a key part of SU services	Provide evidence that this is happening, e.g. lists of trials / research projects		SSNAP
25	Plan for rotation of posts across the professional groups along the patient pathway	Provide evidence that this is happening		Discussion & where possible evidence of rotas
32	Completion of leadership training by key members of the stroke team to support stroke service improvement	Copies of PDPs provided, list of courses attended		SSNAP

Criteria	Standards	Measurement	RAG rating	Additional notes
5	90% of high risk TIA patients to receive a specialist assessment and treatment within 24 hours of first presentation to a healthcare professional	TIA pathway to cover both high and low risk treatment arms Evidence of compliance against		

7	90% of low risk TIA patients to receive a specialist assessment and treatment within 7 days of first presentation to a healthcare professional	performance standard e.g. local audit Green <90%, red less than 60%		
11	90% of appropriate TIA patients with symptomatic carotid stenosis to undergo CEA within 14 days of first presentation to a healthcare professional	Evidence of compliance with agreed network pathway e.g. local audit		

Additional comments:

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For further information email:

england.acutestroke@nhs.net