

# NHS Midlands and East

## Stroke Services Specification

### Version Control

Version No.	Date	Authors/ Editors	To be reviewed by	Status
v1.0	01 June 2012	Tim Lawrence, Laura Dendy	External Expert Advisory Group (EEAG)	1 <sup>st</sup> Draft
v2.0	14 June 2012	Tim Lawrence, Laura Dendy	EEAG, Stroke Network Directors, Project Board	2 <sup>nd</sup> Draft
v2.3	21 June 2012	Tim Lawrence, Laura Dendy	EEAG	3 <sup>rd</sup> Draft
v2.6	22 June 2012	Tony Rudd, Tim Lawrence	Damian Jenkinson	4 <sup>th</sup> Draft
v2.7	25 June 2012	Tim Lawrence, Laura Dendy	EEAG, Stroke Network Clinical Leads	5 <sup>th</sup> Draft
v2.8	28 June 2012	Tim Lawrence	Damian Jenkinson	6 <sup>th</sup> Draft
v3.0	29 June 2012	EEAG	N/A	Final
V3.1	24 Oct 2012	EEAG		Amended Final
V3.2	26 Oct 2012	EEAG p.24 - TIA performance standard 2 removed		

# 1. Introduction and Purpose

---

## 1.1 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.

## 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 NHS<sup>1</sup>, £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

---

<sup>1</sup> NAO (2010) *Progressing in improving stroke care* report  
121026 NHS Midlands East Stroke Service Specification FINAL

## 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.

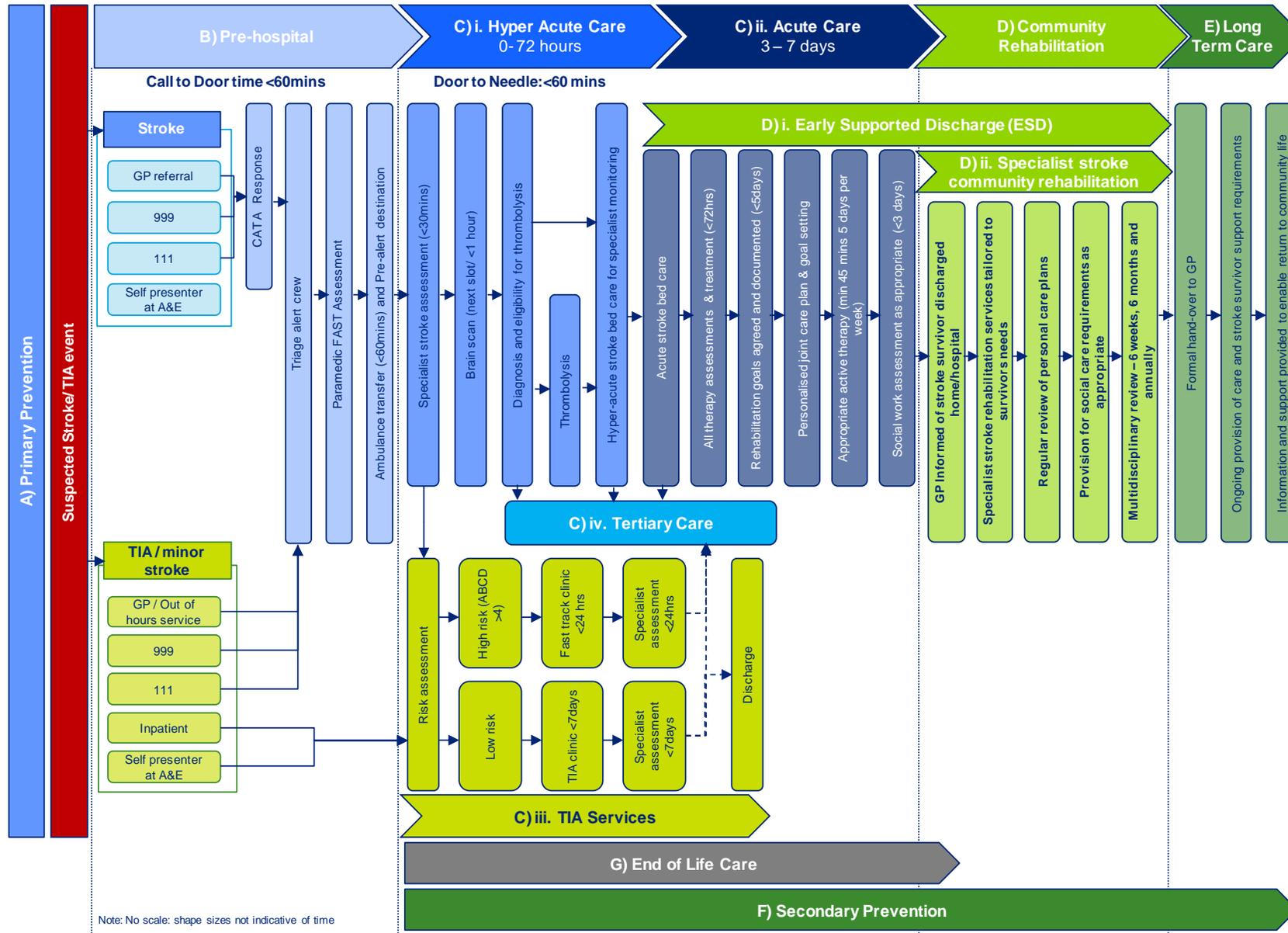
The performance standards specified for each pathway stage are defined according to the data definitions of the stated data collection audit (e.g. ASI, SSNAP, QOF etc.)

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
<b>Service Outcomes</b>	<p>Primary care and other health care professionals (e.g. opticians, ophthalmologists) are effective in:</p> <ul style="list-style-type: none"> <li>• Identifying patients at risk of stroke or TIA</li> <li>• Identifying atrial fibrillation and reducing the risk of stroke e.g. through anticoagulation</li> <li>• Promoting the “Know your Pulse” campaign and other national/ regional campaigns</li> <li>• Advising at risk patients of lifestyle choices and treatments to minimise risk of stroke and TIA</li> <li>• Advising and educating patients on how to identify symptoms of stroke and TIA to enable effective early intervention/ treatment</li> <li>• Ensuring patient attendance at vascular health check programme and regular long term condition reviews as appropriate</li> </ul> <p>Social care staff in domiciliary care, care homes and day centres, together with personal assistants purchased through Direct Payments are:</p> <ul style="list-style-type: none"> <li>• Effectively trained in the signs of stroke and TIA and aware of the consequences of delay</li> <li>• Able to recognise when a referral to emergency care is needed, and able to contact such services quickly</li> <li>• Able to reassure service users whilst the emergency services are en-route</li> </ul> <p>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.<sup>2</sup> Local health economy, including voluntary organisations communicates basic information to patients on the symptoms, emergency treatment, risk factors, lifestyle factors and treatments.</p>
<b>Performance Standards</b>	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.

<sup>2</sup> 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	
<b>Service Outcomes</b>	<p><b>Clinical assessment by ambulance staff:</b> Patients with suspected acute stroke (or sudden onset of neurological symptoms) are screened using a validated tool<sup>3</sup> to diagnose stroke or assess TIA risk<sup>4</sup>.</p> <ul style="list-style-type: none"> <li>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).</li> <li>Higher risk TIA (ABCD2 score &gt;3, on anticoagulation or with crescendo TIA<sup>5</sup>) is treated as an emergency, being at greater and imminent risk of stroke, undergoes specialist assessment within 24 hours of presentation to healthcare professional.<sup>6</sup></li> <li>All suspected stroke patients are assessed and managed in accordance with best clinical practice and monitored for atrial fibrillation and other dysrhythmias<sup>7</sup>.</li> </ul>		
	<p><b>Ambulance transfer to hospital:</b> 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</p> <ul style="list-style-type: none"> <li>All patients with suspected acute stroke are immediately transferred by ambulance to a stroke centre offering hyper acute stroke services<sup>8</sup></li> </ul>		

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

<sup>4</sup> NICE Quality Standards – Quality Statement 1; National Stroke Strategy Quality Markers – QM8: Assessment

<sup>5</sup> Crescendo TIA is defined as two or more TIAs in one week

<sup>6</sup> 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

<sup>7</sup> RCP 2012 – 4.1.1.1 F, G & H

<sup>8</sup> National Stroke Strategy Quality Markers – QM7: Urgent Response

## 2. B) Pre-Hospital Phase



	<ul style="list-style-type: none"> <li>• 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).</li> <li>• The Ambulance Paramedic service links with the receiving hospital when they have a suspected stroke patient<sup>9</sup>, providing a system of pre-alert to enable potential stroke patients (FAST positive) to be met on arrival.</li> <li>• Action plans are in place to improve ambulance response and on-scene times.</li> </ul>			
<b>Education &amp; Training</b>	<p>All ambulance and triage staff follow best practice clinical guidelines in the recognition of and handling of stroke patients’ e.g. FAST, ABCD2</p> <ul style="list-style-type: none"> <li>• All Ambulance crews and paramedics are trained in stroke recognition using validated tools (e.g. FAST)</li> <li>• 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.</li> <li>• Communication training provided to help manage patients with aphasia</li> <li>• Ongoing stroke specific training is included as part of Continuous Professional Development (CPD)</li> </ul>	<ul style="list-style-type: none"> <li>• Ambulance service has an established method of obtaining and implementing new guidance for stroke care</li> </ul>	<ul style="list-style-type: none"> <li>• Ambulance service participates in local Stroke Research Network trials and studies</li> </ul>	
<b>Workforce</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• There is an identified clinical lead for stroke within the ambulance service</li> <li>• Skill mix supports supervision of junior and trainee ambulance personnel</li> </ul>			
<b>Performance Standards</b>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
	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)		60%	
	3. Percentage of FAST positive patients with a ‘call to door’ time <60 mins (SSNAP)	60%	70%	

<sup>9</sup> 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 cases 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. This standard is only **one** factor and must be seen within the context of other crucial variables such as travel times, clinical and financial sustainability, workforce and inclusive whole-systems working. 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.

Service Outcomes	Immediate		Long term (>18months)
	<6 months	6-12 months	
<b>Service Outcomes</b>	<p><b>Clinical assessment:</b> 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<sup>10</sup>:</p> <ul style="list-style-type: none"> <li>• Hyper acute service alerted prior to patient arrival (where appropriate)</li> <li>• Hyper acute service has sufficient capacity for all stroke admissions</li> <li>• Patients are seen and assessed by a member of the specialist stroke team without delay and within 30 minutes of arrival</li> <li>• Patients diagnosed with stroke receive early multidisciplinary assessment:               <ul style="list-style-type: none"> <li>○ Eligibility for thrombolysis</li> <li>○ Need for immediate brain imaging</li> <li>○ Swallow screening (within 4 hours of admission<sup>11</sup>) 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</li> <li>○ Assessment for malnutrition and need for nasogastric tube or gastrostomy within 24 hours of admission<sup>12</sup></li> <li>○ Protocols for assessment and management of other causes of stroke: intracerebral haemorrhage, subarachnoid haemorrhage, acute arterial dissection, cerebral venous thrombosis<sup>13</sup></li> </ul> </li> </ul>		

<sup>10</sup> National Stroke Strategy Quality Markers – QM8: Assessment; NICE Quality Standards – Quality Statement 3

<sup>11</sup> NICE Quality Standards – Quality Standard 4

<sup>12</sup> RCP 2012 – 4.17

<sup>13</sup> RCP 2012 – 4.7- 4.9

## 2. C) i. Hyper acute stroke care



	<ul style="list-style-type: none"> <li>○ Patients with ischaemic stroke or TIA found to be in atrial fibrillation should be anticoagulated (once intracranial bleeding excluded by imaging) at the discretion of the prescriber, but no later than 14 days from the onset<sup>14</sup></li> <li>● 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<sup>15</sup></li> <li>● Ensure all patients with stroke are given an antiplatelet (e.g. aspirin 300mg) immediately after scanning unless contraindicated<sup>16</sup></li> <li>● Diagnosis discussed with patient and carer and plan of care clearly written in patient notes</li> </ul>		
	<p><b>Thrombolysis:</b> 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:</p> <ul style="list-style-type: none"> <li>● Appropriate stroke patients, identified as potentially eligible for thrombolysis treatment, to be scanned within next available CT slot</li> <li>● Appropriate stroke patients to be scanned and receive thrombolysis, ideally within 30 mins and certainly within 60 mins of admission (door to needle time)<sup>17</sup>.</li> <li>● Thrombolysis should be conducted within the criteria specified within the RCP National clinical guidelines for stroke 2012</li> </ul>		
	<p><b>Monitoring:</b> Protocols or pathways in place that ensure appropriate monitoring of stroke patients in the hyper acute phase of care:</p> <ul style="list-style-type: none"> <li>● All hyper acute patients should be monitored according to a protocol post stroke for 24 hours and then according to patients needs.<sup>18</sup></li> <li>● 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.</li> <li>● All conscious patients admitted with suspected acute stroke are mobilised out</li> </ul>		

<sup>14</sup> RCP 2012 – 4.10.1 C

<sup>15</sup> NICE Quality Standards – Quality Statement 5

<sup>16</sup> RCP 2012 – 4.6.1 J-L

<sup>17</sup> BASP Stroke Service Standards 1.4

<sup>18</sup> Physiological monitoring and maintenance of hemostasis is recommended in RCP 2012 – 4.12

## 2. C) i. Hyper acute stroke care



	<p>of bed on the day of admission unless contraindicated with frequent opportunity to practice functional activities with a trained healthcare professional<sup>19</sup></p> <ul style="list-style-type: none"> <li>Mixed gender wards may be used for critical or highly specialised care in line with DH guidelines for mixed sex accommodation</li> </ul>		
	<p><b>Access to support services:</b> Hyper acute services have onsite access to the following support services and clinical interpretation:</p> <ul style="list-style-type: none"> <li>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 24/7<sup>20</sup></li> <li>Carotid imaging (e.g. ultrasound, MRA, CTA), within 24 hours<sup>21</sup></li> </ul> <p>Access (onsite or via clear pathway) is also available to tertiary care services with clear protocols to provide:</p> <ul style="list-style-type: none"> <li>Neuro surgery</li> <li>Vascular surgery</li> </ul>		
	<p><b>Repatriation/ Patient transfer:</b></p> <ul style="list-style-type: none"> <li>If patient transfer is required from hyper acute to acute care services appropriate pathway protocols are in place and followed.</li> <li>A system is in place to reduce delays in patient transfers.</li> </ul>		
<p><b>Education &amp; Training</b></p>	<p>Hyper acute service staff have comprehensive knowledge of the stroke pathway:</p> <ul style="list-style-type: none"> <li>Clinical staff assessing stroke admissions are trained in thrombolysis and interpretation of brain imaging</li> <li>In-house multidisciplinary team stroke training programmes provided.</li> <li>External stroke training available</li> <li>Stroke physicians and non-medical specialist/ expert practitioners attend BASP thrombolysis training</li> <li>Communication training provided to help manage patients with aphasia.</li> </ul>		

<sup>19</sup> BASP Stroke Service Standards – 3.7

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

<sup>21</sup> RCP 2012 – 4.4.1 C; BASP Stroke Service Standards – 2.2

## 2. C) i. Hyper acute stroke care



	<ul style="list-style-type: none"> <li>All staff aware of the Mental Capacity Act and its implications</li> <li>Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework</li> </ul>		
<b>Workforce</b>	<p><b>Consultant Stroke Specialist led:</b> Access to consultant stroke specialist<sup>22</sup> decision making for all hyper acute stroke related issues, including thrombolysis 24/7:</p> <ul style="list-style-type: none"> <li>In person or via telemedicine<sup>23</sup></li> <li>Sustainable on-call consultant with stroke training rota (no more than 1:6)</li> <li>At least daily consultant stroke specialist rounds, 7 days a week</li> <li></li> </ul> <p>In practice, the EEAG will therefore expect to see daily consultant-level stroke specialist rounds, 7 days a week. These could be consultant-level healthcare professionals who may not be doctors as long as they have SEFF-approved stroke training and demonstrable skills and knowledge appropriate to that level. That, in conjunction with the less frequent, unpredictable need for brief medical input to thrombolysis decision-making (e.g. via telemedicine) would provide coverage for all DGHs including those based in remote locations. (Added October 2012)</p>		
	<p><b>Multidisciplinary Team:</b> Hyper acute services have a sufficient multi-disciplinary team on rota to provide service outcomes with an identified consultant stroke specialist clinical lead:</p> <ul style="list-style-type: none"> <li>24/7 availability of appropriately trained staff for assessment of all patients, including thrombolysis eligibility assessment</li> <li>Specialist stroke nursing is available for the care and monitoring of all hyper acute service patients</li> <li>Meet at least once per week to exchange information about individual patients<sup>24</sup></li> </ul>		

<sup>22</sup> 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)

<sup>23</sup> 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)

<sup>24</sup> RCP 2012 – 3.2.1 F

## 2. C) i. Hyper acute stroke care



	<p><b>Staffing Numbers</b> Hyper acute services provide minimum staffing ratios<sup>25</sup> of:</p> <ul style="list-style-type: none"> <li>• 6 BASP thrombolysis trained physicians on a rota 24/7</li> <li>• 2.9 WTE nurses per bed to comply with 80:20 trained vs. untrained skill mix</li> <li>• 0.73 WTE Physiotherapist per 5 beds (respiratory &amp; neuro)</li> <li>• 0.68 WTE Occupational Therapist per 5 beds</li> <li>• 0.68 WTE S&amp;LT per 10 beds</li> <li>• Access to social worker</li> </ul>			
<p><b>Performance Standards</b></p>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
	1. Percentage of all stroke patients admitted to hyper acute unit within 4 hours of arrival to hospital (SSNAP)	90%		
	2. Percentage of patients seen and assessed within 30mins of admission by a specialist in stroke (SSNAP)	90%	95%	
	3. Percentage of appropriate patients having thrombolysis within 60 mins of entry (door to needle time) (SSNAP)	85%	90%	95%
	4. Percentage of appropriate patients having thrombolysis within 45 mins of entry (door to needle time) (SSNAP)			90%
	5. Percentage of appropriate patients having thrombolysis within 30 mins of entry (door to needle time) (SSNAP)			50%
	6. Percentage of stroke patients, identified as ineligible for thrombolysis, scanned within 12 hours of admission (SSNAP)	95%		
	7. Percentage of all conscious stroke patients to receive a swallow screen within 4 hours of admission (SSNAP)	100%		
	8. Percentage of patients who fail swallow screen that are assessed by Speech and Language Therapist within 24 hours (SSNAP)	100%		
	9. Proportion of patients with stroke assessed and managed by stroke nursing staff and at least one	80%		

<sup>25</sup> RCP 2012 – 3.3

## 2. C) i. Hyper acute stroke care



	member of the MDT within 24 hours of admission to hospital (SSNAP)			
	10. Percentage of all stroke admissions thrombolysed (SSNAP)	10%	15%	20%
	11. Percentage of patients who spend at least 90% of their time on a stroke unit (SSNAP)	80%		90%
	12. Carotid imaging performed within 24 hours for patients suitable for carotid endarterectomy	70%	80%	90%

## 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 disabilities<sup>26</sup> 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.

Service Outcomes	Immediate		Long term (>18months)
	<6 months	6-12 months	
<b>Service Outcomes</b>	<p><b>Acute stroke care:</b> All stroke patients should have access to high quality stroke care and spend the majority of their time in hospital under specialist stroke care:</p> <ul style="list-style-type: none"> <li>• Patients have access to a stroke trained nurse at all times</li> <li>• Protocol in place for the promotion of bladder and bowel continence including a policy to avoid urinary catheters<sup>27</sup> and prevention of pressure sores</li> <li>• Daily consultant or specialist registrar ward rounds at least 5 days a week</li> <li>• Protocols are in place for receiving and discharging patients 7 days a week in a timely manner</li> <li>• All patients with stroke have access to a designated stroke rehabilitation services<sup>28</sup> whether in an acute stroke bed or on a specialist rehabilitation unit in hospital.</li> <li>• 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<sup>29</sup>. Rehabilitation commences as soon as possible following admission into the acute stroke pathway.</li> <li>• Social work assessment as soon as possible and within a maximum of 3 days from referral, if appropriate</li> </ul>		<ul style="list-style-type: none"> <li>• Stroke trained MDT available 7 days a week</li> </ul>

<sup>26</sup> National Stroke Strategy Quality Markers – QM10: High-quality specialist rehabilitation

<sup>27</sup> BASP Stroke Service Standards – 3.8

<sup>28</sup> BASP Stroke Service Standards – 4.1; NICE Quality Standards – Quality Standard 6

<sup>29</sup> BASP Stroke Service Standards – 3.7

## 2. C) ii. Acute stroke care



	<p><b>Access to support services:</b> Acute stroke services have access (not necessarily onsite) to the following support services and clinical interpretation:</p> <ul style="list-style-type: none"> <li>• Brain imaging (MRI and CT)<sup>30</sup></li> <li>• Carotid imaging (including ultrasound, MRA, CTA)</li> <li>• Based on carotid imaging/ stenosis, CEA should be undertaken as soon as possible and within 7 days<sup>31</sup> of symptoms</li> </ul> <p>Access is also available to tertiary care services (onsite or offsite with clear protocols) to provide:</p> <ul style="list-style-type: none"> <li>• Neuro surgery</li> <li>• Vascular surgery</li> </ul>		
	<p><b>Rehabilitation planning in hospital:</b> Rehabilitation programmes are built around the individual needs with patient agreed goals:</p> <ul style="list-style-type: none"> <li>• Patients assessed by specialist rehab team within 72 hours, with documented multidisciplinary goals agreed within 5 days<sup>32</sup>)</li> <li>• 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</li> <li>• Multidisciplinary meetings at least once a week to plan patient care</li> </ul>		
	<p><b>Rehabilitation services available:</b> Rehabilitation services that provide specialist stroke care 5 days a week:</p> <ul style="list-style-type: none"> <li>• Assessment by specialist therapists (Physiotherapist, occupational therapist, speech and language therapist) within 72 hours of admission<sup>33</sup></li> <li>• 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)<sup>34</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Access to a service capable of appropriately managing mood, behaviour or cognitive disturbance following a stroke</li> <li>• A dysphagia management service is</li> </ul>	<ul style="list-style-type: none"> <li>• Rehabilitation services that provide specialist stroke care 7 days a week</li> </ul>

<sup>30</sup> 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)

<sup>31</sup> RCP 2012 – 4.4.1 C

<sup>32</sup> RCP 2012 – 3.2.1

<sup>33</sup> NICE Quality Standards – Quality Standard 10

<sup>34</sup> 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



	<ul style="list-style-type: none"> <li>• 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</li> <li>• Screening of all patients to identify mood disturbance and cognitive impairment prior to discharge or within 6 weeks<sup>35</sup></li> <li>• Specialised neuro-rehabilitation services e.g. spasticity, orthotics, continence, driving, vocational etc. prior to discharge<sup>36</sup></li> <li>• Stroke survivors with continued loss of bladder control 2 weeks after diagnosis are reassessed and agree an ongoing treatment plan involving both patients and carers<sup>37</sup></li> <li>• Comprehensive secondary prevention advice and treatment<sup>38</sup> is provided</li> </ul>	available including Percutaneous Endoscopic Gastrostomy (PEG)	
	<p><b>Preparation for discharge:</b></p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Protocols are in place to ensure patients and families are fully informed and participate in the process of transfer of care</li> <li>• 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</li> <li>• Stroke survivors receive advice and support to enable a return to previous level of activities</li> <li>• A formal discharge summary report should be shared with the referrer, GP and stroke survivor (if requested) within 7 days of discharge</li> </ul>		

<sup>35</sup> RCP 2012 – 3.2.1 H

<sup>36</sup> BASP Stroke Service Standards – 4.10

<sup>37</sup> RCP 2012 3.2.1G; NICE Quality Standards – Quality Standard 8

<sup>38</sup> BASP Stroke Service Standards – 4.17

## 2. C) ii. Acute stroke care



<p><b>Education &amp; Training</b></p>	<p>All staff of the MDT are knowledgeable of the care standards and protocols of the stroke pathway:</p> <ul style="list-style-type: none"> <li>• In-house and external training provided, with staff released for training as required, including a stroke specific in-house induction training programme.</li> <li>• Staff skill mix supports supervision of junior and trainee personnel</li> <li>• All registered nursing staff in stroke units trained in urinary bowel continence</li> <li>• Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework or recognised competency framework.</li> <li>• Health and social care professionals should ensure that they are up to date with the current guidance from the DVLA</li> <li>• Staff are aware of the Mental Capacity Act and its implications</li> <li>• Communication training provided to help manage patients with aphasia.</li> </ul>		<ul style="list-style-type: none"> <li>• The practice development team incorporates stroke in education and training plans</li> </ul>
<p><b>Workforce</b></p>	<p><b>Acute Stroke Services</b></p> <p>Sufficient capacity to provide the service to the performance standards set:</p> <ul style="list-style-type: none"> <li>• Consultant specialist stroke physician available 5 days a week</li> <li>• Consultant to see all new patients on the next working day following admission and provide 5 day a week consultant review</li> <li>• Provide a means for a consultant review of a deteriorating patient out-of-hours</li> <li>• 24/7 provision of stroke trained nurses</li> <li>• Identified clinical leads (i.e. one A&amp;E Clinical Stroke Lead and one Radiology Stroke Lead)</li> </ul>		<ul style="list-style-type: none"> <li>• 7 day provision of stroke trained multidisciplinary therapists</li> <li>• Regular stroke physician to input into the review and medical management of patients<sup>39</sup></li> </ul>

<sup>39</sup> BASP Stroke Service Standards – 4.3

## 2. C) ii. Acute stroke care



	<p><b>Staffing numbers:</b> Acute and rehabilitation services should have a multidisciplinary team comprising of<sup>40</sup>:</p> <ul style="list-style-type: none"> <li>○ Nurses: 1.35 WTE per bed (65:35 trained to untrained skill mix)</li> <li>○ Physiotherapists: 0.84 WTE per 5 beds</li> <li>○ Occupational Therapists: 0.81 WTE per 5 beds</li> <li>○ Speech &amp; Language Therapists: 0.81 WTE per 10 beds</li> <li>○ Psychologists</li> <li>○ Dieticians</li> <li>○ Social workers</li> </ul> <ul style="list-style-type: none"> <li>● Access is available to a range of additional professionals including those in: <ul style="list-style-type: none"> <li>○ Clinical Psychology</li> <li>○ Oral health</li> <li>○ Orthoptics</li> <li>○ Orthotics</li> <li>○ Pharmacy</li> </ul> </li> </ul> <p>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.</p>			
<b>Other</b>	<p><b>Equipment and Aids:</b></p> <ul style="list-style-type: none"> <li>● All equipment and aids (e.g. wheelchairs, continence equipment etc) should be reviewed and ordered before discharge</li> </ul>	<ul style="list-style-type: none"> <li>● Open referral system in social services for assessments of home adaptations and equipment needs</li> </ul>		
<b>Performance Standards</b>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
	1. Percentage of patients with agreed rehabilitation goals within 5 days of admission with appropriately formatted copy of goals given to them (SSNAP)	80%		
	2. Percentage of appropriate patients weighed (or alternative weight estimate if weighting not appropriate) within 72 hours of admission to acute stroke care (SSNAP)	100%		

<sup>40</sup> RCP 2012 – 3.3

## 2. C) ii. Acute stroke care



3.	Percentage of incontinent patients having continence management plan within 7 days of admission (SSNAP)	80%		
4.	Percentage of appropriate patients to receive an occupational therapy assessment within 72 hours of admission to acute stroke care (SSNAP)	95%		Within 24 hours – 95%
5.	Percentage of appropriate patients to receive physiotherapy assessment and treatment within 72 hours of admission to acute stroke care (SSNAP)	95%		Within 24 hours – 95%
6.	Percentage of appropriate patients to receive speech and language assessment and treatment within 72 hours of admission to acute stroke care (SSNAP)	95%		Within 24 hours – 95%
7.	Percentage of appropriate patients receiving 5 x45min face-to-face sessions per week each of occupational therapy as necessary <sup>41</sup> (SSNAP)	80%		
8.	Percentage of appropriate patients receiving 5 x45min face-to-face sessions per week each of speech and language therapy as necessary <sup>41</sup> (SSNAP)	80%		
9.	Percentage of appropriate patients receiving 5 x45min face-to-face sessions per week each of physiotherapy as necessary <sup>41</sup> (SSNAP)	80%		
10.	Percentage of patients receiving cognitive/ perceptual screening within six weeks if required (SSNAP)	85%		
11.	Percentage of patients receiving a continence assessment before discharge (SSNAP)	100%		
12.	Percentage of appropriate patients and carers provided with joint care plan on discharge from hospital (ASI 7)	100%		

<sup>41</sup> NICE Quality Standards – Quality Standard 7

## 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.

Service Outcomes	Immediate		Long term (>18months)
	<6 months	6-12 months	
Service Outcomes	<p><b>TIA identification:</b></p> <ul style="list-style-type: none"> <li>• TIA patients are risk stratified using the ABCD2 score</li> <li>• All TIA patients will be referred to a TIA service (accepting direct referral from primary care and A&amp;E)</li> </ul>		
	<p><b>TIA Service:</b> Specific TIA service is provided for those identified with TIA:</p> <ul style="list-style-type: none"> <li>• Access 7 days a week, 365 days a year.</li> <li>• 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</li> <li>• High risk patients<sup>42</sup> 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 immediately<sup>43</sup></li> <li>• TIA service has access to:               <ul style="list-style-type: none"> <li>○ Blood tests</li> <li>○ ECG</li> <li>○ 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</li> <li>○ Completion of carotid imaging (where indicated)</li> <li>○ Referral for carotid surgery<sup>44</sup> where indicated, which should be undertaken within 7 days of onset of TIA<sup>45</sup></li> <li>○ Provision of aspirin, clopidogrel or statins as appropriate</li> <li>○ Control of blood pressure</li> <li>○ Information and advice provided regarding stroke risk and secondary prevention</li> </ul> </li> </ul>		

<sup>42</sup> High risk TIA is defined as ABCD score of 4 or above or crescendo TIA (two or more TIAs in one week)

<sup>43</sup> RCP 2012 – 4.2.1 C & D

<sup>44</sup> Carotid endarterectomy is the recommended procedure, with less routine indications for carotid angioplasty or stenting (RCP 2012 – 4.4.1 L)

<sup>45</sup> RCP 2012 – 4.4.1 C

## 2. C) iii. TIA services



	<ul style="list-style-type: none"> <li>Lower risk TIA patients should receive specialist assessment as soon as possible, but definitely within one week of symptoms<sup>46</sup></li> </ul>			
<b>Education &amp; Training</b>	<ul style="list-style-type: none"> <li>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 Training<sup>47</sup></li> <li>Education and training for primary care staff in recognition and management of TIA patients</li> <li>Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework or recognised competency framework.</li> </ul>			
<b>Workforce</b>	<ul style="list-style-type: none"> <li>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)</li> </ul>			
<b>Performance Standards</b>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
	1. TIA cases with a higher risk of stroke who are assessed and treated within 24 hours of presenting to a healthcare professional (ASI 5/ IPMR)	70%		

<sup>46</sup> RCP 2012 – 4.2.1 E

<sup>47</sup> <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	
<b>Service Outcomes</b>	<p><b>Access to tertiary services:</b> Surgical services are provided as early as possible through early recognition of the need for surgical intervention:</p> <ul style="list-style-type: none"> <li>All patients with a suspected non-disabling stroke or TIA have urgent access to comprehensive neurovascular services<sup>48</sup>. Neurovascular services include:                             <ul style="list-style-type: none"> <li>Neurosurgical services</li> <li>Vascular surgical services</li> </ul> </li> <li>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.</li> </ul>		
	<p><b>Neuro surgical services</b> There are relatively few indications for neurosurgical intervention in patients with stroke; however specific cases of stroke may require urgent management. For example:</p> <ul style="list-style-type: none"> <li>Cases of middle cerebral infarction should be referred within 24 hours and treated (e.g. decompressive hemicraniotomy) within 48 hours<sup>49</sup>.</li> <li>Treatment for aneurysm (endovascular embolisation or surgical clipping) should be available within 48 hours<sup>50</sup></li> </ul>		
	<p><b>Vascular surgical services:</b></p> <ul style="list-style-type: none"> <li>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 stroke<sup>51</sup></li> </ul>		<ul style="list-style-type: none"> <li>High risk TIA<sup>42</sup> that require carotid endarterectomy are admitted for urgent investigation and surgery within 48 hours</li> </ul>

<sup>48</sup> BASP Stroke Service Standards – 5.1; National Stroke Strategy Quality Markers – QM 9: Stroke Treatment

<sup>49</sup> RCP 2012 – 4.6.1 N

<sup>50</sup> RCP 2012 – 4.8.1 C

<sup>51</sup> 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



<b>Education and Training</b>	<ul style="list-style-type: none"> <li>Staff trained to recognise when specialist referral is required</li> </ul>			
<b>Workforce</b>	<ul style="list-style-type: none"> <li>Stroke physicians input to the multi-disciplinary management of appropriate cases</li> </ul>			
<b>Performance Standards</b>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
	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	
<b>Service Outcomes</b>	<p><b>ESD service:</b> ESD team should be stroke specific and sufficiently able to commence treatment within 24 hours of discharge:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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</li> <li>• Single point of contact provided to patients, carer and families (into rehab)</li> <li>• 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)</li> <li>• 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)</li> <li>• Access is provided to community rehabilitation services/ long term care provision following ESD if required.</li> </ul>		<ul style="list-style-type: none"> <li>• 7 days a week ESD service</li> </ul>
<b>Education &amp; Training</b>	<ul style="list-style-type: none"> <li>• Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework</li> </ul>		

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



<b>Workforce</b>	<ul style="list-style-type: none"> <li>• A stroke ESD multidisciplinary team composition should include as a minimum (WTE per 100 cases per year<sup>52</sup>):             <ul style="list-style-type: none"> <li>○ Occupational Therapy (1)</li> <li>○ Physiotherapy (1)</li> <li>○ Speech and Language Therapy (0.4)</li> </ul> </li> <li>• The stroke ESD team has access to support from:             <ul style="list-style-type: none"> <li>○ Stroke physician (0.1)</li> <li>○ Nurse (0- 1.2)</li> <li>○ Social worker (0- 0.5)</li> <li>○ Rehabilitation assistants (0.25)</li> <li>○ Clinical Psychology</li> <li>○ Dieticians</li> <li>○ Orthotics</li> <li>○ Orthoptics</li> </ul> </li> <li>• There are coordinated stroke skilled ESD teams working in partnership with local authorities and other health and third sector providers</li> <li>• ESD team meets weekly as a minimum to plan and manage patient care</li> </ul>			
<b>Other</b>	<b>Equipment and Aids:</b> <ul style="list-style-type: none"> <li>• All equipment and aids (e.g. wheelchairs, continence equipment) should be reviewed and ordered during ESD service</li> </ul>	<ul style="list-style-type: none"> <li>• Open referral system in social services for assessments of home adaptations and equipment needs</li> </ul>		
<b>Performance Standards</b>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
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>	80%	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.

<sup>52</sup> 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	
<b>Service Outcomes</b>	<p>A range of services are in place and easily accessible to support the individual long-term needs of individuals, their carer/s and families<sup>53</sup>, encouraging self-management where appropriate. Comprehensive social care is provided to all patients and their carers that need it</p> <ul style="list-style-type: none"> <li>• Single point of contact provided when patients leave hospital</li> <li>• 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 management<sup>54</sup></li> <li>• Any stroke survivors referred to a social worker will receive an assessment within 72 hours of receipt of the referral</li> <li>• 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.</li> <li>• 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<sup>55</sup> (target for 45 mins per discipline, 5 days a week<sup>56</sup>)</li> <li>• The GP and other relevant community services are informed that a stroke survivor has been discharged home or to another hospital prior to discharge.</li> <li>• Age appropriate provision made for the social care requirements of stroke survivor prior to discharge, e.g. domestic tasks (such as shopping and laundry)</li> </ul>	<ul style="list-style-type: none"> <li>• Training in self-management, goal setting and problem solving skills is available<sup>60</sup></li> </ul>	

<sup>53</sup> National Stroke Strategy Quality Markers – QM 13: Long term care and support; Adult Social Care Outcomes Framework

<sup>54</sup> RCP 2012 – 3.8.1 A

<sup>55</sup> BASP Standards – 3.10, 3.11, 3.12; 4.4, 4.5, 4.6; NICE Quality Standards – Quality Standard 7

<sup>56</sup> RCP 2012 – 3.14.1A

<sup>60</sup> Royal College of Physicians Stroke Guidelines; London commissioning guidelines

## 2. D) ii. Stroke Specialist Community Rehabilitation



- Adult social services provide advice on aids and adaptations to daily living
- Review of home environment, usually by a home visit by an occupational therapist, to adapt to patient needs where patient remains dependent in some activities<sup>57</sup>
- 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 required<sup>58</sup>:
  - 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)

<sup>57</sup> RCP 2012 – 3.8.1 D

<sup>58</sup> RCP 2012 – 6.4 to 6.46

## 2. D) ii. Stroke Specialist Community Rehabilitation



	<ul style="list-style-type: none"> <li>○ Home assessment (including need for larger scale equipment or adaptation)</li> <li>○ Return to work (including referral to specialist in employment or vocational rehabilitation)</li> <li>○ Driving</li> <li>○ Financial management and accessing benefits</li> <li>● Community leisure and exercise classes are available and promoted to stroke survivors, who are then supported to attend</li> <li>● 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</li> <li>● Telephone counselling support available for three months<sup>59</sup></li> </ul>		
<p><b>Education &amp; Training</b></p>	<ul style="list-style-type: none"> <li>● Specific education and training is developed and provided in accordance with the Stroke-Specific Education Framework</li> <li>● Staff are aware of the Mental Capacity Act and its implications</li> <li>● Carers receive training in care, for example, moving, handling and dressing; receive written information on management plan and point of contact for stroke information</li> </ul>		
<p><b>Workforce</b></p>	<ul style="list-style-type: none"> <li>● There are established stroke skilled, multidisciplinary community rehabilitation teams. Composition of the team should include as a minimum:             <ul style="list-style-type: none"> <li>○ Physiotherapist</li> <li>○ Occupational therapist</li> <li>○ Speech and language therapist</li> <li>○ Community nursing (as appropriate)</li> <li>○ Social care</li> <li>○ Rehabilitation assistants</li> <li>○ Clinical psychology (as appropriate)</li> </ul> </li> <li>● The community rehabilitation team has access to support from:             <ul style="list-style-type: none"> <li>○ GP</li> <li>○ Dieticians</li> <li>○ Orthotics</li> <li>○ Orthoptics</li> <li>○ Vocational rehabilitation</li> </ul> </li> <li>● Initial assessment of the stroke patient is carried out by a qualified</li> </ul>		

<sup>59</sup> RCP 2012 – 3.8.1 C

## 2. D) ii. Stroke Specialist Community Rehabilitation



	professional (some of the care may be delivered by rehabilitation assistants under the supervision of a qualified therapist)			
<b>Other</b>	<b>Equipment and Aids:</b> <ul style="list-style-type: none"> <li>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.</li> </ul>		<ul style="list-style-type: none"> <li>Open referral system in social services for assessments of home adaptations and equipment needs</li> </ul>	
<b>Performance Standards</b>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
	1. Percentage of appropriate patients and carers with joint care plans on discharge from hospital (ASI 7/ SSNAP)	85%	95%	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>	80%	90%	100%
	3. Percentage appropriate stroke survivors whose treatment programme started within 7 days where agreed as part of care plan (SSNAP)	80%	100%	
	4. <i>Percentage of stroke patients that are reviewed six weeks after leaving hospital*</i>	95%		

*\*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.*

## 2. E) Long term care



Stroke survivors and their carers should be enabled to live a full life in the community<sup>61</sup> 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	
<b>Service Outcomes</b>	<b>Provision of information and support for stroke survivors, carers and families:</b> <ul style="list-style-type: none"> <li>Ongoing physical, speech and language, continence and other required therapies are provided where clinically appropriate to meet patient needs</li> <li>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 care<sup>62</sup></li> <li>Carers are provided with clear guidance on how to find help if problems develop</li> </ul>	<ul style="list-style-type: none"> <li>All eligible users of social care services should have access to a personal budget</li> </ul>	<ul style="list-style-type: none"> <li>Carers have the opportunity to access long-term emotional and practical support through peer support groups facilitated by charitable or voluntary groups</li> </ul>
	<b>Regular review and needs assessment:</b> <ul style="list-style-type: none"> <li>The patient and family will be aware of their single named point of contact</li> <li>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 provided<sup>63</sup>.</li> <li>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.</li> <li>Stroke survivors and their carers are enabled to participate in paid, supported and voluntary employment<sup>64</sup></li> </ul>		

<sup>61</sup> National Stroke Strategy Quality Markers – QM 15: Participation in community life

<sup>62</sup> NICE Quality Standards – Quality Standard 11

<sup>63</sup> National Stroke Strategy Quality Markers – QM 3: Information, advice and support, QM 14: Assessment and review

<sup>64</sup> National Stroke Strategy Quality Markers – QM 16: Return to work

## 2. E) Long term care



<b>Education &amp; Training</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Staff are aware of the Mental Capacity Act and its implications</li> <li>• Health and social care professionals should ensure that they are up to date with the current guidance from the DVLA</li> <li>• 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</li> <li>• Staff have the details of the local IAPT service so that those that need it can access the service</li> <li>• Carers involved with the care management process from the outset, and encouraged to participate in an educational programme (on stroke, care and management, prevention)</li> </ul>	<ul style="list-style-type: none"> <li>• Service should include staff with expertise and competence in assessing, treating and monitoring people with behavioural and cognitive disturbance</li> </ul>		
<b>Workforce</b>	<ul style="list-style-type: none"> <li>• Staff working in long term care should have access to support and guidance from stroke skilled staff</li> </ul>			
<b>Performance Standards</b>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
1.	Proportion of stroke patients that are reviewed six months after leaving hospital (ASI 8/ SSNAP)	95%		
2.	Percentage of stroke survivors that received psychological support for mood, behaviour or cognitive disturbance within six months (ASI 6/ SSNAP)	40%		
3.	Percentage of patients with Barthel score recorded at discharge (SSNAP)	100%		
4.	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 stroke<sup>65</sup>. 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	
<b>Service Outcomes</b>	<p><b>Assessment:</b> After stroke, stroke survivors and their carers need to be offered a review from primary care services<sup>66</sup> of their health, social care and secondary prevention needs:</p> <ul style="list-style-type: none"> <li>• All stroke survivors with a stroke will have their risk factors assessed as soon as possible and certainly within one week<sup>67</sup>; documented and a personal care plan for secondary prevention as part of the stroke team's assessment which is passed onto primary care</li> <li>• Monitored regularly in primary care on a yearly basis at minimum</li> </ul>	<ul style="list-style-type: none"> <li>• Protocols in place for stroke survivors education for secondary prevention of stroke encouraging better compliance with end result of reduced recurrent stroke</li> </ul>	
	<p><b>Monitoring:</b> 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:</p> <ul style="list-style-type: none"> <li>• Managing hypertension so systolic blood pressure is below 130 mmHg; treatment should be initiated prior to discharge or at two weeks<sup>68</sup></li> <li>• 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</li> <li>• All patients with ischaemic stroke, not in atrial fibrillation, to have anti-platelets medication unless contraindicated</li> <li>• All patient who have had an ischaemic stroke or TIA should be offered a statin drug unless contraindicated<sup>69</sup></li> <li>• Smoking cessation, alcohol, tailored exercise programmes and healthy lifestyle advice for all stroke/TIA survivors.</li> </ul>		

<sup>65</sup> National Stroke Strategy Quality Markers – QM 2: Managing risk

<sup>66</sup> National Stroke Strategy Quality Markers – QM 14: Assessment and review

<sup>67</sup> RCP 2012 – 5.1.1 A

<sup>68</sup> RCP 2012 – 5.4.1 D. Note: For non-admitted patients requiring blood pressure treatment, treatment should be stated at the first clinic visit

<sup>69</sup> RCP 2012 – 5.6.1 A

## 2. F) Secondary Prevention



	<p><b>Risk management:</b> 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<sup>70</sup></p> <ul style="list-style-type: none"> <li>• 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 care<sup>77</sup></li> <li>• Measures for secondary prevention introduced as soon as the diagnosis is confirmed, including discussion of individual risk factors</li> <li>• 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</li> <li>• Practices can produce a register of patients with stroke or TIA<sup>71</sup></li> </ul>		
	<p><b>Information and advice:</b> 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<sup>70</sup></p> <ul style="list-style-type: none"> <li>• Stroke survivors given named contact to help them plan and manage their long-term care<sup>72</sup></li> <li>• Meet individual needs, tailoring for a variety of ages, ethnicities and lifestyles</li> <li>• Access to leaflets in variety of formats (i.e. different languages, large print, braille, dysphasia friendly)</li> </ul>		
<b>Education &amp; Training</b>	<ul style="list-style-type: none"> <li>• All primary care professionals maintain and update their knowledge of national guidelines and implement them in practice, targeting high risk patient groups<sup>70</sup></li> </ul>		
<b>Performance Standards</b>	<p>1. Percentage of patients with stroke or TIA who smoke whose notes record smoking status within the previous 15 months<sup>73</sup> (QOF)</p>	<p><b>&lt;6months</b></p> <p>90%</p>	<p><b>6-12 Months</b></p> <p><b>&gt;18 months</b></p>

<sup>70</sup> National Stroke Strategy Quality Markers – QM2: Managing Risk

<sup>71</sup> Quality and Outcomes Framework: Stroke 1

<sup>72</sup> Care Quality Commission: Supporting Life After Stroke

<sup>73</sup> 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 <sup>74</sup> (QOF)	70%		
	3. Percentage of patients with a TIA or stroke who have a record of total cholesterol in the last 15 months <sup>75</sup> (QOF)	90%		
	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 <sup>76</sup> (QOF)	60%		
	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 <sup>77</sup> (QOF)	90%		
	6. Percentage of patients presenting with stroke with new or previously diagnosed atrial fibrillation who are anti-coagulated on discharge. (ASI 1)	60%	70%	80%

<sup>74</sup> QOF Stroke 6

<sup>75</sup> QOF Stroke 7

<sup>76</sup> QOF Stroke 8

<sup>77</sup> QOF Smoking 4

## G) End of Life care



Stroke is the UK's third biggest killer<sup>78</sup>. 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		
<b>Service Outcomes</b>	<p><b>End of life care:</b></p> <ul style="list-style-type: none"> <li>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 family<sup>79</sup></li> <li>Patients and carer offered opportunity to be discharged home for end of life care</li> <li>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.</li> <li>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 phase<sup>79</sup>.</li> </ul>	<ul style="list-style-type: none"> <li>Patients considered to be in the last 12 months of life are recommended for inclusion on the GP's GSF register</li> </ul>		
<b>Education &amp; Training</b>	<ul style="list-style-type: none"> <li>Preferred Priorities for Care (PPC) document shared with all health and social care staff involved in their care</li> <li>Application of the 'Gold standards framework' to enable identification of appropriate patients and their care, and the Liverpool Care Pathway</li> <li>Communication training provided to support practitioners in conversations about end of life care</li> </ul>			
<b>Workforce</b>	<ul style="list-style-type: none"> <li>Patients receiving end of life care do so from a workforce with appropriate skills and experience in all care settings<sup>79</sup></li> </ul>			
<b>Performance Standards</b>		<b>&lt;6months</b>	<b>6-12 Months</b>	<b>&gt;18 months</b>
	1. Percentage mortality of stroke patients at 1 month following a stroke (SSNAP)	N/A		

<sup>78</sup> Stroke Association Manifesto 2010-2015

<sup>79</sup> 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.				