Update on Stroke Reconfiguration Programme
Birmingham, Solihull and Black Country

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 improved patient outcomes.

2. Overview

Stroke is a major cause of death with 40,000 deaths in England; 12,000 in NHS Midlands & East region alone (2009). Over the past few years work has taken place at a national and regional level to improve stroke services. 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 provided across the region. The Midlands and East Strategic Health Authority was still concerned about the model / configuration for stroke services and in January 2012 launched 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 regional review evidenced a best practice specification that all Hyper Acute Stroke Units (HASUs) should achieve if they are to provide optimum care to patients. HASUs are the specialist departments that deliver care in the first 72 hours post stroke. This best practice centred on the timeliness of response and required 24/7 consultants on call as well as access to rapid scanning and thrombolysis services. This specification recommended 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.

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. The seven CCGs in Birmingham, Solihull and the Black Country have now joined together to launch this local review to take forward these regional recommendations.

At the time of the regional review there were six hospital trusts in the conurbation delivering nine Hyper Acute Stroke Units. Since this time a public consultation took place in Sandwell and West Birmingham to configure stroke services at Sandwell General Hospital, resulting in eight HASU sites across the area. There are further plans to move to six sites with Heart of England Foundation Trust, considering moving HASU services from both Solihull and Good Hope hospitals to the Heartland site. This would result in 6 HASU sites across the area.

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. This review will consider improvements across the whole stroke patient journey, from prevention to hospital stroke care to rehabilitation services. However, a key part of this review relates to the Hyper Acute Stroke Units. This review seeks to identify if six hyper acute sites is appropriate for the area and if they can deliver the necessary improvements to patient care. Clinical Commissioning Groups are clear that factors including quality of care, workforce, patient experience and access 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 is the most appropriate configuration for local stroke services.

Sandwell and West Birmingham Clinical Commissioning Group (SWB CCG) is leading the Birmingham and Black Country Stroke Reconfiguration Programme on behalf of all seven CCGs. SWB CCG will have overall responsibility for the delivery of the programme and will host the Stroke CCG Programme Board to provide a strategic steer. The decision on the future placement of Hyper Acute and Acute Stroke Units will sit with the individual CCG Governing Bodies; the role of the Programme Board will be to advise and recommend the preferred model for Hyper Acute Stroke Units.

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 and CCG Landscape

The review of stroke 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 area either on an ad hoc basis, or based upon the traditional referral flow (catchments of acute organisations)

3.2 Clinical scope

The regional Midlands and East best practice service specification divides the pathway into eight phases and specifies the standards to be achieved in each. 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.

4. Programme Outcomes:

The vision for the stroke review is to prioritise stroke care and to develop a clinically driven model for stroke 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 their stroke. In particular, the Birmingham, Solihull and Black Country stroke review aims to achieve:

- A Reduction in stroke mortality rates
- A Reduction in average length of stay
- A Reduction in stroke re-admissions
- Achievement of 90% of patients able to stay on a dedicated stroke ward
- Increase in the percentage of patients receiving thrombolysis treatment
- Achievement of diagnosis and treatment for high risk TIA within 24hrs
- Increase in the number of patients discharged to their normal place of residency

4.1 High Level Criteria:

In determining the optimum configuration of local stroke services, the CCG will prioritise the below criteria:

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 standard of quality in the stroke system leading to improved patient outcomes. Regional evidence shows that improving outcomes for patients 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: Providers are able to attract and retain the best healthcare professionals, and invest in them via an accredited training and development programme, as well as rotating staff appropriately across the pathway. This includes delivering quality education and training for staff and continuous improvement 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. Ambulance travel time is not the only consideration, as this criteria will also look at accessibility by public transport, impact on family and carers and patient experience.

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 West Midlands Ambulance Service returns. Patients and visitors will have access to local ASU and TIA services.

d) Ease of Delivery

Definition: Assess how the acute stroke service provider can improve substantially from current provision. 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.

Outcome: Optimum service to stroke patients supporting collaborative capability across the Cardiovascular Network, providers, local authorities, 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.

4.2 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 within 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 Programme 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 into account Birmingham, Solihull and the Black Country and also acknowledges other neighbouring health economies.

In addition the review will need to consider the whole patient pathway and the interface between the acute phase and the rehabilitation phase, and the rehabilitation and long term care phases.

5.2 Non Hyper Acute Projects:

This review will consider the whole patient journey, not just Hyper Acute Stroke Units. Working with lead representatives in each CCG and with provider organisations the review seeks to understand current stroke service provision (within other stroke services) against the standards and criteria set out in the regional best practice service specification. The role of the programme team will be to support the gap analysis and recommendations 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 the respective provider.

6. Stages of Reconfiguration:

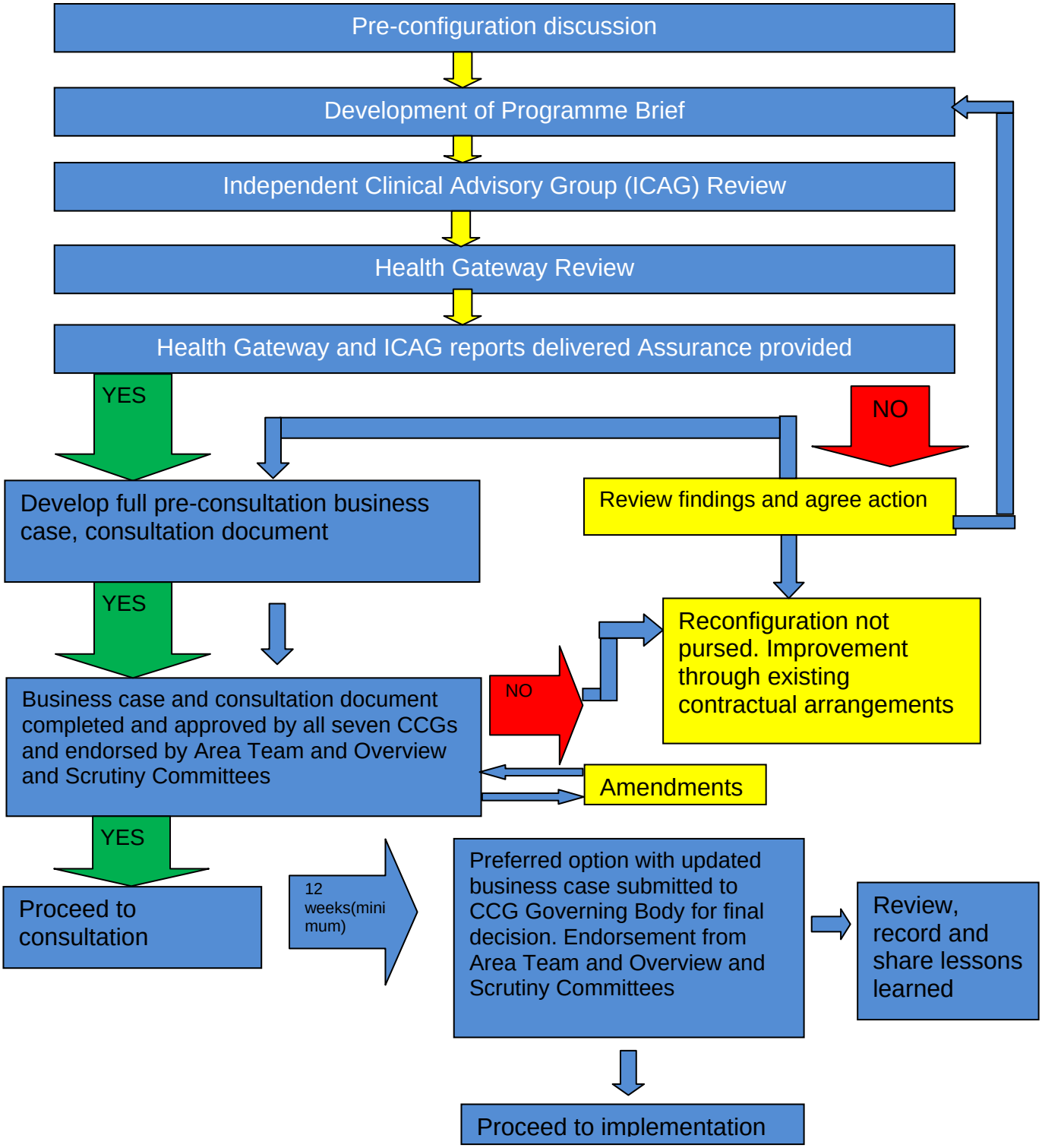
The Birmingham Solihull and Black Country Stroke CCGs will not support the Stroke programme to proceed to the next stage in the reconfiguration scheme without the successful completion of the following three stages of reconfiguration:

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, Healthwatch, public 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. Feedback review decisions and rationale to stakeholders.

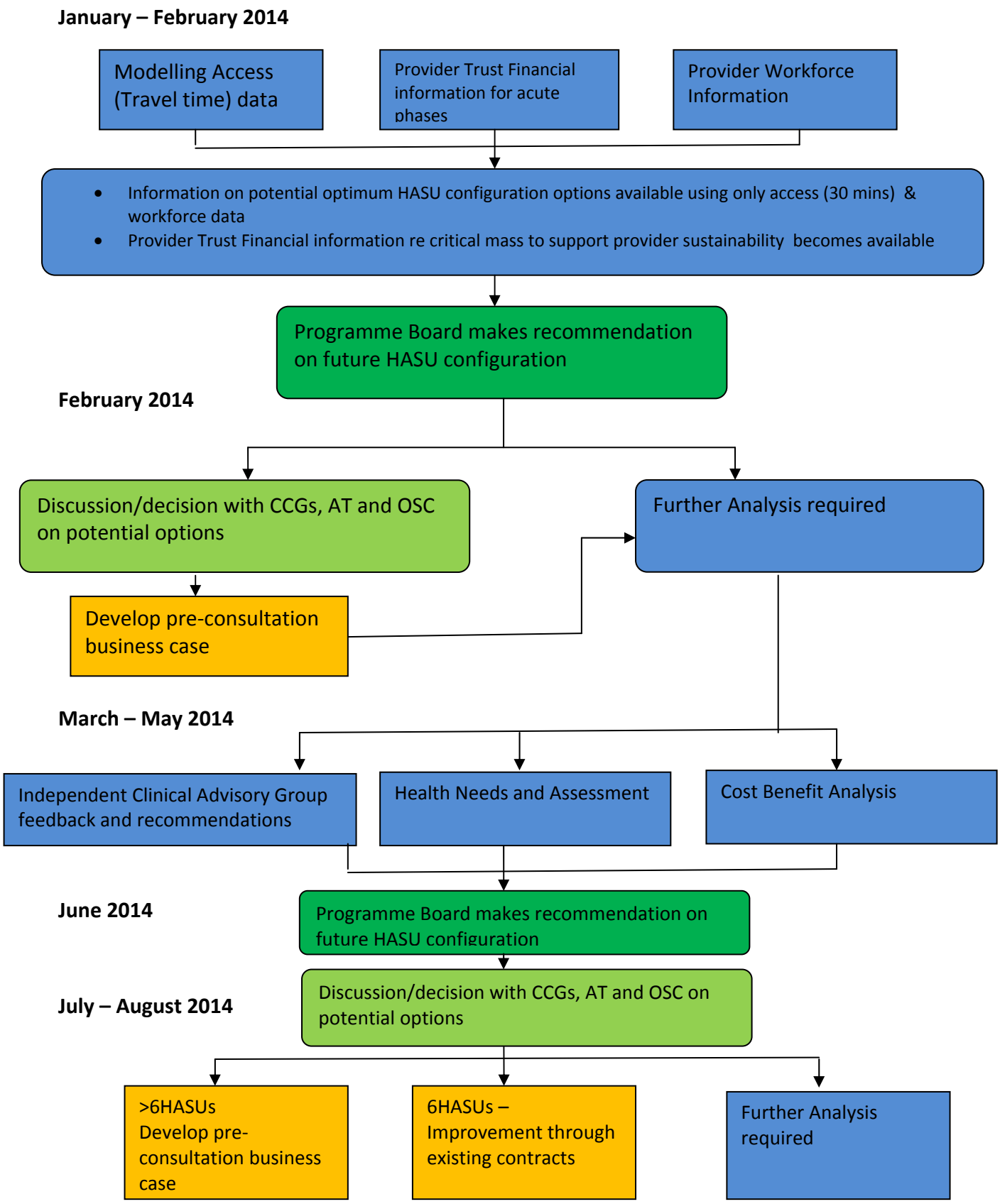
Stages of Reconfiguration:



7. Decision Framework

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:

7.1 Key Decision points:



7.2 High Level Project Milestones:

	Dec 13	Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14	Jan 15	Feb 15	Mar 15
Scoping	√															
Activity Modelling	√	√	√													
Financial Modelling	√	√	√													
Public Health data	√	√	√	√												
Provider Submissions			√	√												
Independent Expert Advisory Group					√											
Cost Benefit Analysis					√	√										
Recommendation PB							√									
Decision 7 CCGs								√	√							
Public Consultation										√	√	√				

8. Update on Programme Review Progress:

8.1 Programme Sub Groups

A number of sub groups have been organised to deliver the stroke review, these include:

- Modelling task group (developing options)
- Finance sub group (considering the financial cost of the different options and developing a financial model that support s the patient journey)
- Communications and engagement sub group
- Public Health Sub Group (developing the Health Needs Assessment)
- Local Clinical Advisory Group (advising on Clinical Quality Standards and performance Metrics)
- Independent Clinical Advisory Group (assessing the options to ensure that proposed options meet the clinical quality requirements)

These groups will meet regularly, reporting to the Stroke Programme Board. Ultimately, the decisions will be made by each individual CCG's Governing Body. This Programme Board has been set up to help facilitate work over this large area; however any decisions will be made by each local CCG. This final decision will need to be endorsed by Overview and Scrutiny Committees and the NHS England Area Team leads.

8.3 Patient Advisory Group

A Patient Advisory Group with patient representatives from each of the CCG areas has been established; the first meeting took place on Wednesday 18 December. The Programme will work closely with this group throughout the review to ensure that patient views are at the heart of any commissioning decisions. The Programme will also be carrying out wider patient and stakeholder engagement over the coming months; however this group will meet regularly to help give assurance to the programme board.

8.4 Independent Clinical Advisory Group

An Independent Clinical Advisory Group (ICAG) has been established; chaired by Professor Tony Rudd National Clinical Director for Stroke NHS England. The Group will use the Midland and East service specification as an evidence based best practice specification for the whole stroke pathway, to guide the service in being clear about what needs to be provided to achieve a step change improvement in outcome. The ICAG will support the option appraisal process ensuring that future HASU options can deliver high quality sustainable services. ICAG has a strong membership, with a combination of national expertise, and experience in the major review and implementation of improvement to stroke services.

9 Recommendations:

The Committee is asked to:

a) Note and endorse the programme scope & approach including governance arrangements, (please refer to programme brief)
b) Note that their primary points of contact are their local commissioners, supported by Sandwell & West Birmingham CCG
c) Note that if consultation is required this will be determined in September 2014; proposals will be subject to a period of formal consultation
d) Advise the programme board on the preferred route of communication

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Stroke Services Specification

Version Control

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v2.0	14 June 2012	Tim Lawrence, Laura Dendy	EEAG, Stroke Network Directors, Project Board	2nd Draft
v2.3	21 June 2012	Tim Lawrence, Laura Dendy	EEAG	3rd Draft
v2.6	22 June 2012	Tony Rudd, Tim Lawrence	Damian Jenkinson	4th Draft
v2.7	25 June 2012	Tim Lawrence, Laura Dendy	EEAG, Stroke Network Clinical Leads	5th Draft
v2.8	28 June 2012	Tim Lawrence	Damian Jenkinson	6th Draft
v3.0	29 June 2012	EEAG	N/A	Final

Version 3.0

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 needto meet to deliver high quality care to patients and achieve the step change improvement sought by the Midlands and East StrokeReview. 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.

- 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[1], £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

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

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**

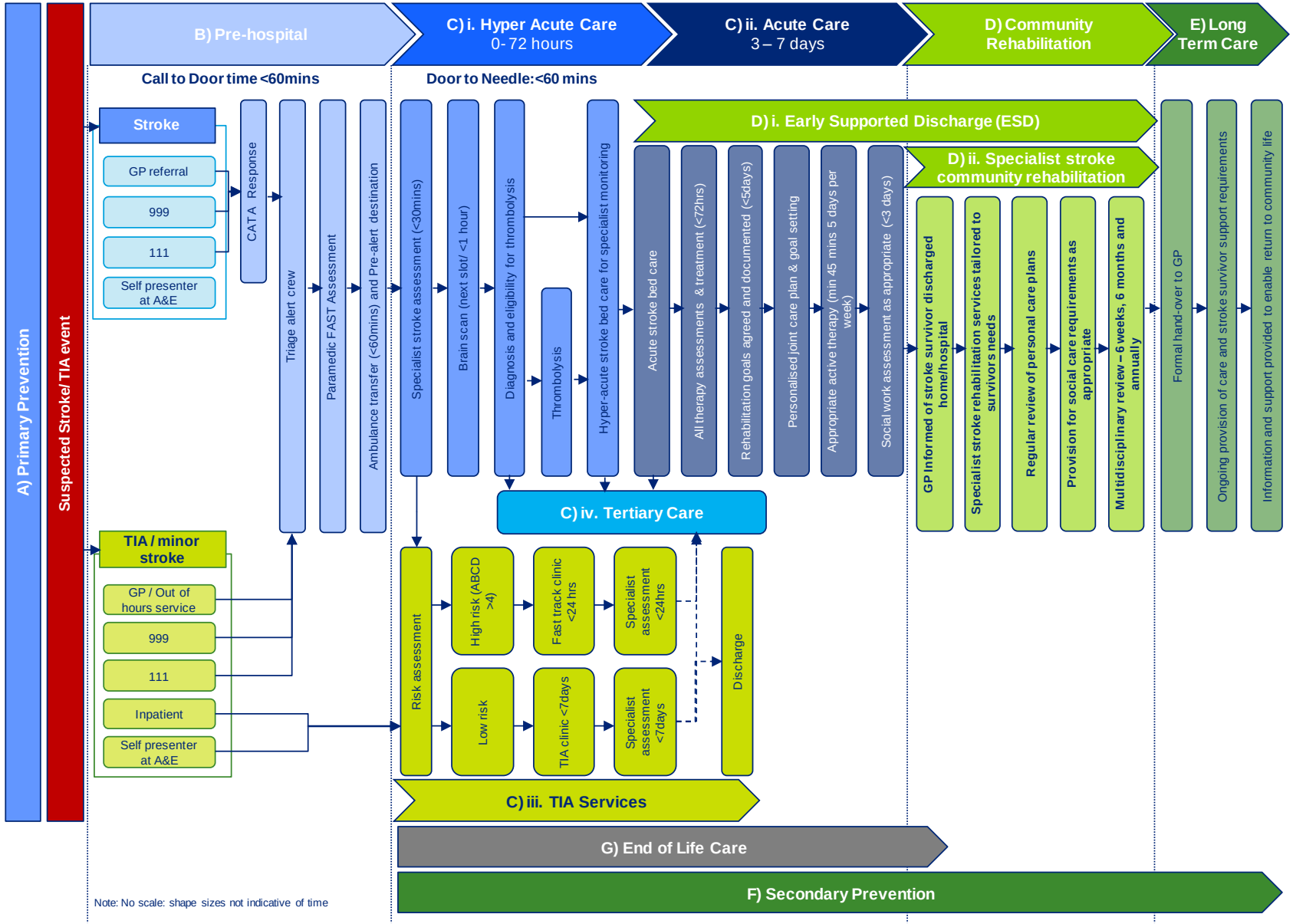
The specification divides the expected outcomes into three time windows – within 6 months, 6-12 months and 18 months or beyond. These are the expectation based on starting implementation following the Midlands and East SHA decision at the end of March 2013, therefore within 6 months would be by end of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

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 of 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 whogoes 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 acritical 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 TIA[5]) 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 dysrrhythmias[7].		
	Ambulance transfer to hospital: Ambulance service transfer to the appropriate stroke centre within 60mins, 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 offeringhyper acute stroke services[8]		

[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] RCP2012 – 4.2.1C & D; low risk TIA should receive specialist assessment as soon as possible, but definitely within one week of onset of symptoms
[7] RCP2012 – 4.1.1.1F,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 patient[9], 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		**<6months**	**6-12 Months**	**>18 months**
	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 hoursof symptom onset (SSNAP)		60%	
	3. Percentage of FAST positive patients with a 'call to door' time <60 mins(SSNAP)	90%	95%	

[9] BASP Stroke Service Stanadards 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 teamto 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 admission[11]) 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 admission[12] ○ Protocols for assessment and management ofother causes of stroke: intracerebral haemorrhage, subarachnoid haemorrhage, acute arterial dissection, cerebral venous thrombosis[13]		

[10]National Stroke Strategy Quality Markers –QM8: Assessment; NICE Quality Standards – Quality Statement 3
[11]NICE Quality Standards – Quality Standard 4
[12] RCP2012 – 4.17
[13] RCP2012– 4.7-4.9

2. C) i. Hyper acute stroke care

	○ 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[14] • 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[15] • Ensure all patients with stroke are given an antiplatelet (e.g. aspirin 300mg) immediatelyafter scanningunless contraindicated[16] • 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 within30minsand certainlywithin 60 minsof admission (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.		

[14] RCP2012 – 4.10.1C
[15] NICE Quality Standards – Quality Statement 5
[16] RCP 2012 – 4.6.1J-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

	• All conscious patients admitted with suspected acute stroke are mobilised out of bed on the day of admission unless contraindicatedwith frequent opportunity to practice functional activities with a trained healthcare professional[19] • 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 haveonsite 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 24/7[20] • Carotid imaging (e.g. ultrasound, MRA, CTA), within 24 hours[21] Access (onsite or via clear pathway) is also available to tertiary care services with clear protocols to provide: • Neurosurgery • 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 acuteservice 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		

[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] RCP2012 – 4.4.1 C; BASP Stroke Service Standards – 2.2

2. C) i. Hyper acute stroke care

	• Communication training provided to help manage patients with aphasia. • All staff aware of the Mental Capacity Act and its implications • 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 specialist[22]decision making for all hyper acute stroke related issues, including thrombolysis 24/7: • In person or via telemedicine[23] • Sustainable on-call consultant with stroke training rota (no more than1:6) • 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 • Meet at least once per week to exchange information about individual patients[24]		

[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] RCP2012 – 3.2.1F

2. C) i. Hyper acute stroke care

	Staffing Numbers Hyper acute services provide minimum staffing ratios[25] 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			
Performance Standards		**<6months**	**6-12 Months**	**>18 months**
	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%		

[25] RCP 2012 – 3.3

2. C) i. Hyper acute stroke care

	9. 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%		
	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[26] 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 catheters[27] 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 services[28] 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[29]. 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

[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

2. C) ii. Acute stroke care

	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] • Carotid imaging (including ultrasound, MRA, CTA) • Based on carotid imaging/stenosis, CEA should be undertaken as soon as possible and within 7 days[31] 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 72hours, with documented multidisciplinary goals agreed within 5 days[32]) • Personal care plan which is patient-centred, goal-led and implemented from admission. The expected date of discharge will be planned and worked towardsand 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 admission[33] • 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	• Access to a service capable of appropriately managing mood, behaviour or cognitive disturbance following a stroke • A dysphagia	• Rehabilitation services that provide specialist stroke care 7 days a week

[30] Brain imaging should be performed immediately (ideally the next imaging sot 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 (RCP2012 – 4.5.1A&B)
[31] RCP2012 – 4.4.1C
[32] RCP2012 – 3.2.1
[33] NICE Quality Standards – Quality Standard 10

2. C) ii. Acute stroke care

	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 impairment prior to discharge or within 6 weeks[35] • Specialised neuro-rehabilitation services e.g. spasticity, orthotics, continence, driving, vocational etc. prior to discharge[36] • 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[37] • Comprehensive secondary prevention advice and treatment[38] is provided	management service is available including Percutaneous Endoscopic Gastrostomy (PEG)	
	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		

[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 – 3.14.1A
[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

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 • Staff are aware of the Mental Capacity Act and it implications • Communication training provided to help manage patients with aphasia.		• The practice development team incorporates stroke in education and training plans
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 patients[39]

[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 hyperacute 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		**<6months**	**6-12 Months**	**>18 months**
	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%		

[40] 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[41] (SSNAP)	80%		
	8. Percentage of appropriate patients receiving 5 x45min face-to-face sessions per week each of speech and language therapy as necessary[41] (SSNAP)	80%		
	9. Percentage of appropriate patients receiving 5 x45min face-to-face sessions per week each of physiotherapy as necessary[41](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%		

[41] 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 TIAwill 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 patients[42] 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[43]
	• 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 surgery[44] where indicated, which should be undertaken within 7 days of onset of TIA[45]
	  ○ Provision of aspirin, clopidogrel orstatins as appropriate
	  ○ Control of blood pressure		

[42] High risk TIA is defined as ABCD score of 4 or above or crescendo TIA (two or more TIAs in one week)
[43] RCP 2012 – 4.2.1C&D
[44] Carotid endarterectomy is the recommended procedure, with less routine indications for carotid angioplasty or stenting (RCP2012 – 4.4.1 L)
[45] RCP 2012 – 4.4.1 C

2. C) iii. TIA services

	○ Information and advice provided regarding stroke risk and secondary prevention • Lower risk TIA patients should receive specialist assessment as soon as possible, but definitely within one week of symptoms[46]			
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 Training[47] • 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		**<6months**	**6-12 Months**	**>18 months**
	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%		
	2. Number of people who are referred as having a TIA who are at higher risk of stroke (IPMR)	70%		

[46] RCP 2012 – 4.2.1 E
[47] 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 services[48] . 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 middle cerebral infarction should be referred within 24 hours and treated (e.g. decompressivehemicraniotomy) within 48 hours[49]. • Treatment for aneurysm (endovascular embolisation or surgical clipping) should be available within 48 hours[50]		
	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 stroke[51]		• High risk TIA[42] that require carotid endarterectomy are admitted for urgent investigation and surgery within 48 hours

[48] BASP Stroke Service Standards – 5.1; National Stroke Strategy Quality Markers –QM 9: Stroke Treatment
[49] RCP2012 – 4.6.1N
[50] RCP2012 – 4.8.1C
[51] 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

Education and Training	• Staff trained to recognise when specialist referral is required			
Workforce	• Stroke physicians input to the multi-disciplinary management of appropriate cases			
Performance Standards		**<6months**	**6-12 Months**	**>18 months**
	1. Percentage of patients receivingcarotid 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)

<table>
<tr><td>Workforce</td><td colspan="2">• A stroke ESD multidisciplinary team composition should include as a minimum (WTE per 100 cases per year[52]):
○ 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</td><td></td><td></td></tr>
<tr><td>Other</td><td colspan="2">Equipment and Aids:
• All equipment and aids (e.g. wheelchairs, continence equipment) should be reviewed and ordered during ESD service</td><td>• Open referral system in social services for assessments of home adaptations and equipment needs</td><td></td></tr>
<tr><td rowspan="3">Performance Standards</td><td></td><td><6months</td><td>6-12 Months</td><td>>18 months</td></tr>
<tr><td>1. Percentage of stroke survivors supported by a stroke skilled Early Supported Discharge team (ASI 9)</td><td>40%</td><td></td><td></td></tr>
<tr><td>2. Percentage appropriate stroke survivors whose treatment programme started within one working day of release from hospital*</td><td>80%</td><td>100%</td><td></td></tr>
</table>

**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.*

[52] 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 servicesenable stroke survivors develop a greater quality of life and independence following stroke. Patients will access community rehabilitation servicesfollowing 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 families[53], 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 management[54] • 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 it[55] (target for 45 mins per discipline, 5 days a week[56]) • 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	• Training in self-management, goal setting and problem solving skills is available[60]	

[53] National Stroke Strategy Quality Markers –QM13: Long term care and support; Adult Social Care Outcomes Framework
[54] RCP2012 – 3.8.1A
[55] BASP Standards – 3.10, 3.11, 3.12; 4.4, 4.5, 4.6; NICE Quality Standards – Quality Standard 7
[56] RCP 2012 – 3.14.1A
[60] Royal College of Physicians Stroke Guidelines; London commissioning guidelines

laundry)
- 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[57]
- 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[58]:
  - 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, nasograstric 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 sexualfunctioning (including

[57] RCP 2012 – 3.8.1 D
[58] RCP 2012 – 6.4 to 6.46

	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) ○ 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 months[59]		
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 it 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		

[59] RCP2012 – 3.8.1C

2. D) ii.Stroke Specialist Community Rehabilitation

	○ 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)			
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		**<6months**	**6-12 Months**	**>18 months**
	1. Percentage of appropriate patients and carers with joint care plans on discharge from hospital (ASI 7/ SSNAP)	85%	95%	100%
	*2. Percentage of stroke survivors contacted by a member of community rehabilitation team within one working day and assessed within 72 hours**	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. Percentage of stroke patients that are reviewed six weeks after leaving hospital**	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[61] 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 therapiesare 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 care[62] • 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 though 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 provided[63]. • 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 employment[64]		

[61] National Stroke Strategy Quality Markers –QM15: Participation in community life
[62] NICE Quality Standards – Quality Standard 11
[63] National Stroke Strategy Quality Markers –QM3: Information, advice and support, QM 14: Assessment and review
[64] 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 it 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, physchological 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		**<6months**	**6-12 Months**	**>18 months**
	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%	50%	60%
	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[65]. 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[66] 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 week[67]; 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 weeks[68] • Anticoagulation (e.g. Warfarin) for individuals with atrial fibrillationand 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 contraindicated[69] • Smoking cessation, alcohol, tailored exercise programmes and healthy		

[65] National Stroke Strategy Quality Markers –QM2: Managing risk
[66] National Stroke Strategy Quality Markers –QM 14: Assessment and review
[67] RCP2012 – 5.1.1A
[68] RCP2012 – 5.4.1D. Note: For non-admitted patients requiring blood pressure treatment, treatment should be stated at the first clinic visit
[69] RCP2012 – 5.6.1A

2. F) Secondary Prevention

	lifestyle advice for all stroke/TIA survivors.		
	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[70] • 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[77] • 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 TIA[71]		
	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[70] • Stroke survivors given named contact to help them plan and manage their long-term care[72] • 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 groups[70]		
Performance		**<6months**	**6-12 Months**	**>18 months**

[70] National Stroke Strategy Quality Markers – QM2: Managing Risk
[71] Quality and Outcomes Framework: Stroke 1
[72] Care Quality Commission: Supporting Life After Stroke

2. F) Secondary Prevention

Standards	1. Percentage of patients with stroke or TIA who smoke whose notes record smoking status within the previous 15 months[73] (QOF)	90%		
	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[74] (QOF)	70%		
	3. Percentage of patients with a TIA or stroke who have a record of total cholesterol in the last 15 months[75] (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[76] (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[77] (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%

[73] QOF Smoking 3
[74] QOF Stroke 6
[75] QOF Stroke 7
[76] QOF Stroke 8
[77] QOF Smoking 4

G) End of Life care

Stroke is the UK's third biggest killer[78]. 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 family[79] • 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 phase[79].	• 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 settings[79]		

Performance Standards	**<6months**	**6-12 Months**	**>18 months**
1. Percentage mortality of stroke patients at 1 month following a stroke (SSNAP)	N/A		

[78] Stroke Association Manifesto 2010-2015
[79] 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.			

Stroke Services Reconfiguration Programme Brief

Birmingham, Solihull and Black Country

January 2014

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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 hyperacute 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 Hyperacute 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:**

Taking into account the legal advice, if a decision to reduce HASU centres is reached the Programme Board will recommend service reconfiguration to reduce HASU centres with a procurement process based on competition open to all providers. The timetable for this will be published once a decision has been made on the optimum number of HASU centres.

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
- That 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 specificationsas 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.

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

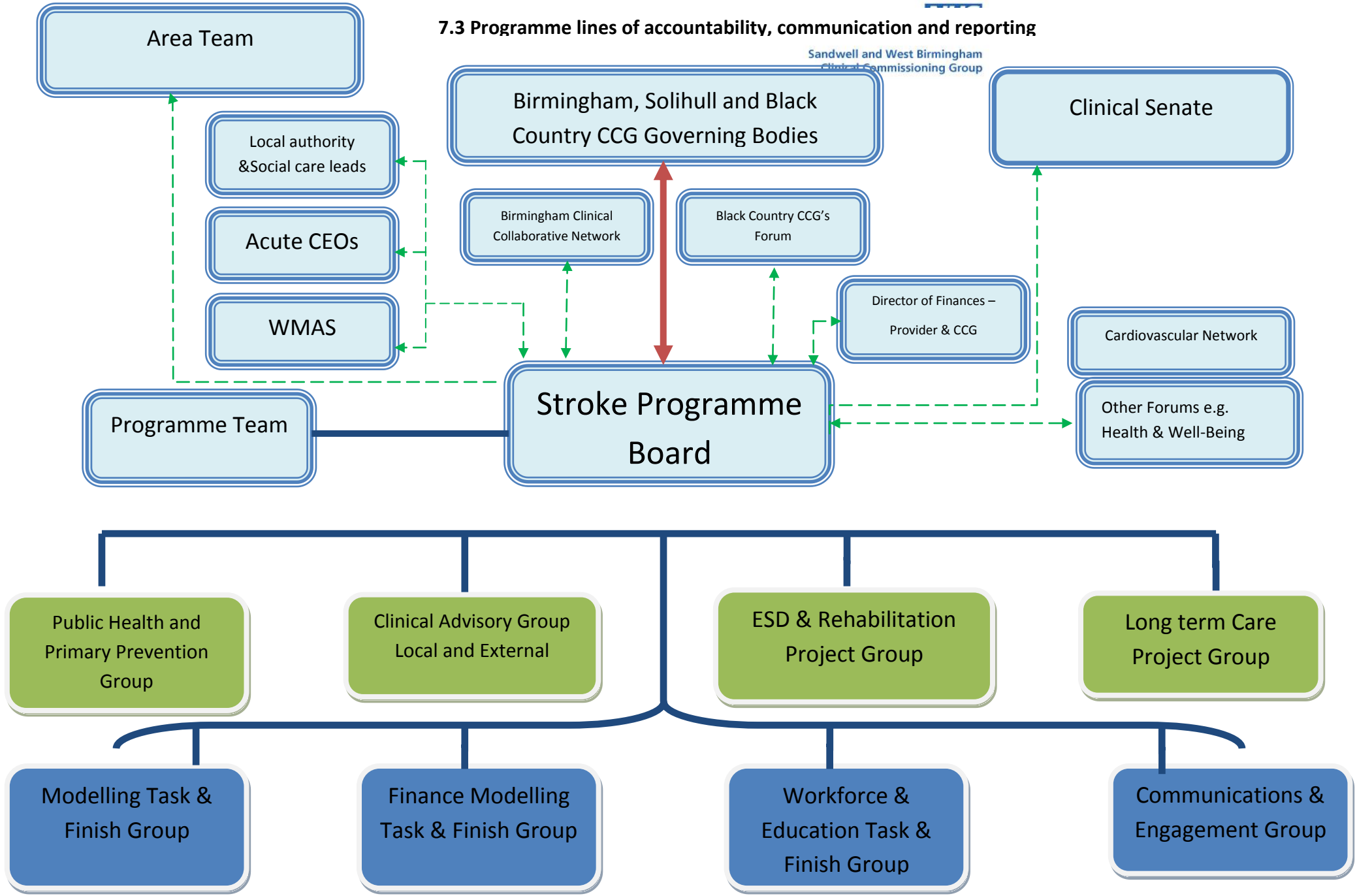
Key Stakeholders	Engagement	Role	Communications
CCGs	Stroke Programme Board CCG Governing Bodies CCG local stroke meetings	Actively shape the development of the local system proposal according to local commissioning intentions and health economics. As commissioners, take the lead in the preparation of 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



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:

	Dec 13	Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14	Jan 15	Feb 15	Mar 15
Scoping	√															
Activity Modelling	√	√	√													
Financial Modelling	√	√	√													
Public Health data	√	√	√	√												
Provider Submissions			√	√												
Independent Expert Advisory Group					√											
Cost Benefit Analysis					√	√										
Recommendation PB							√									
Decision 7 CCGs								√	√							
Public Consultation										√	√	√				

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 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.

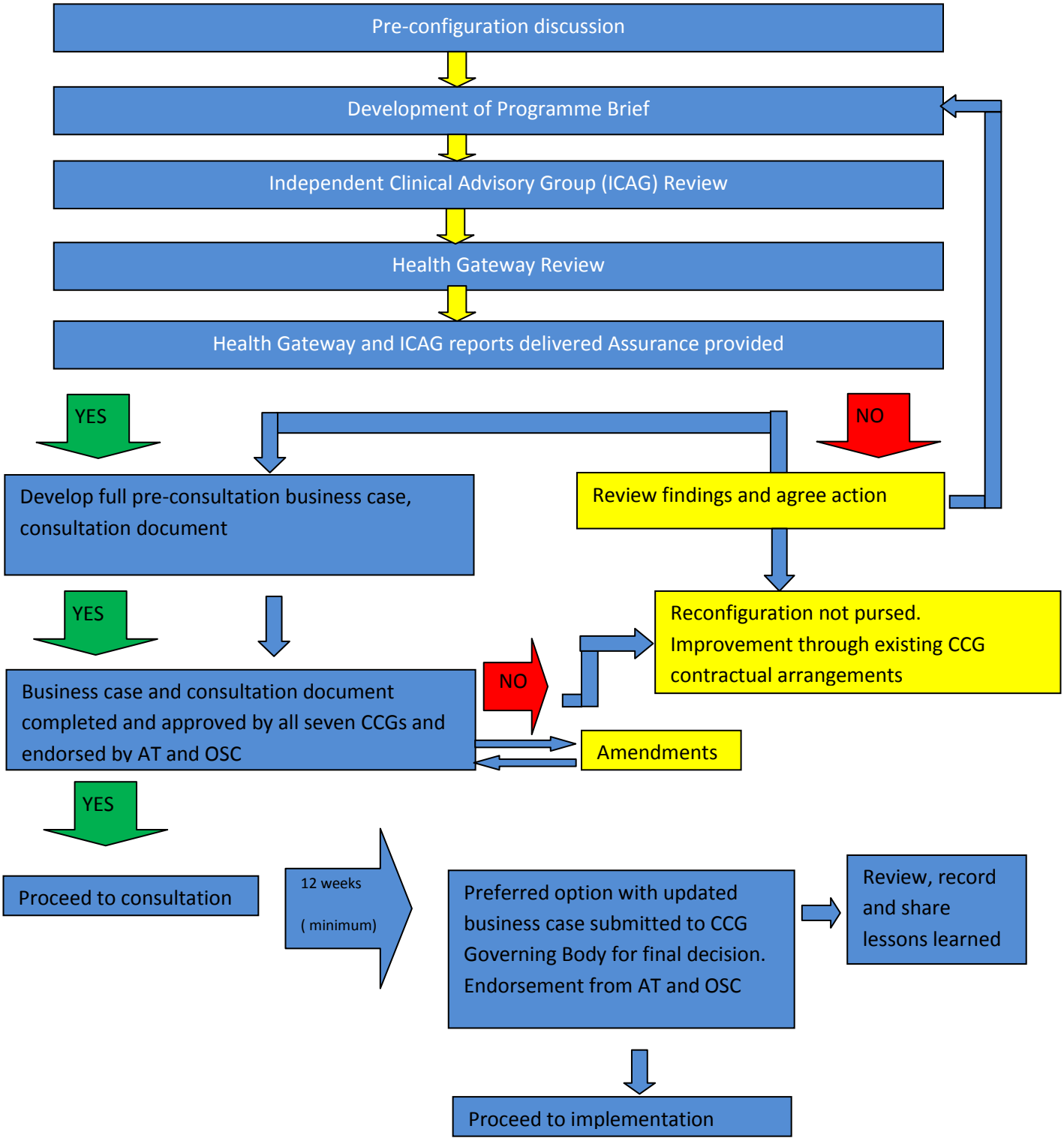
The consultation process: managing the consultation process, producing documentation and ensuring that statutory requirements to consult the public, healthcare professionals and other statutory bodies (including Overview and Scrutiny Committees) are met.

The post-consultation process: decision making process including sign-off with appropriate bodies and managing any subsequent reviews or challenges.

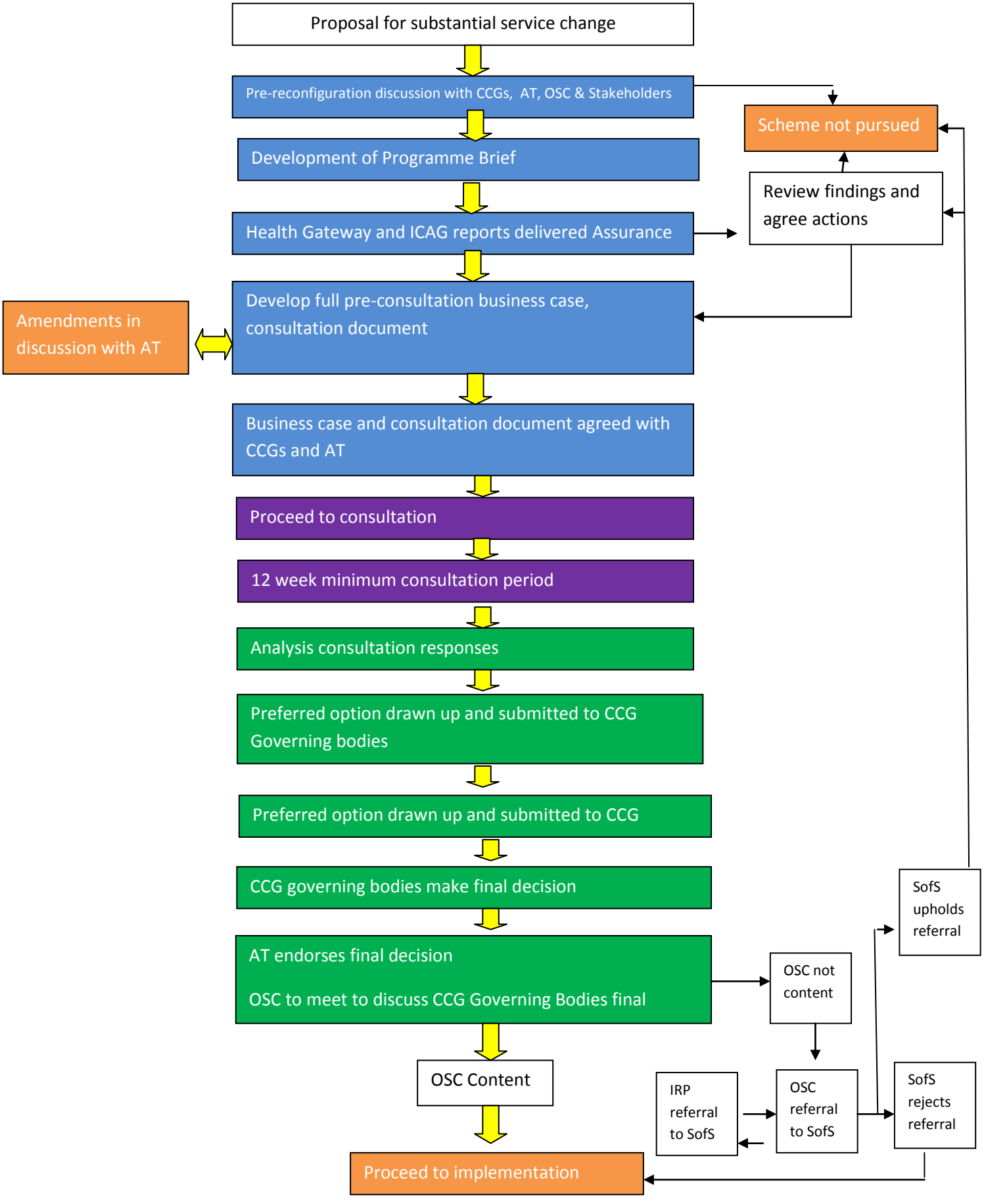
Designation Decision and Configuration Implementation -

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:

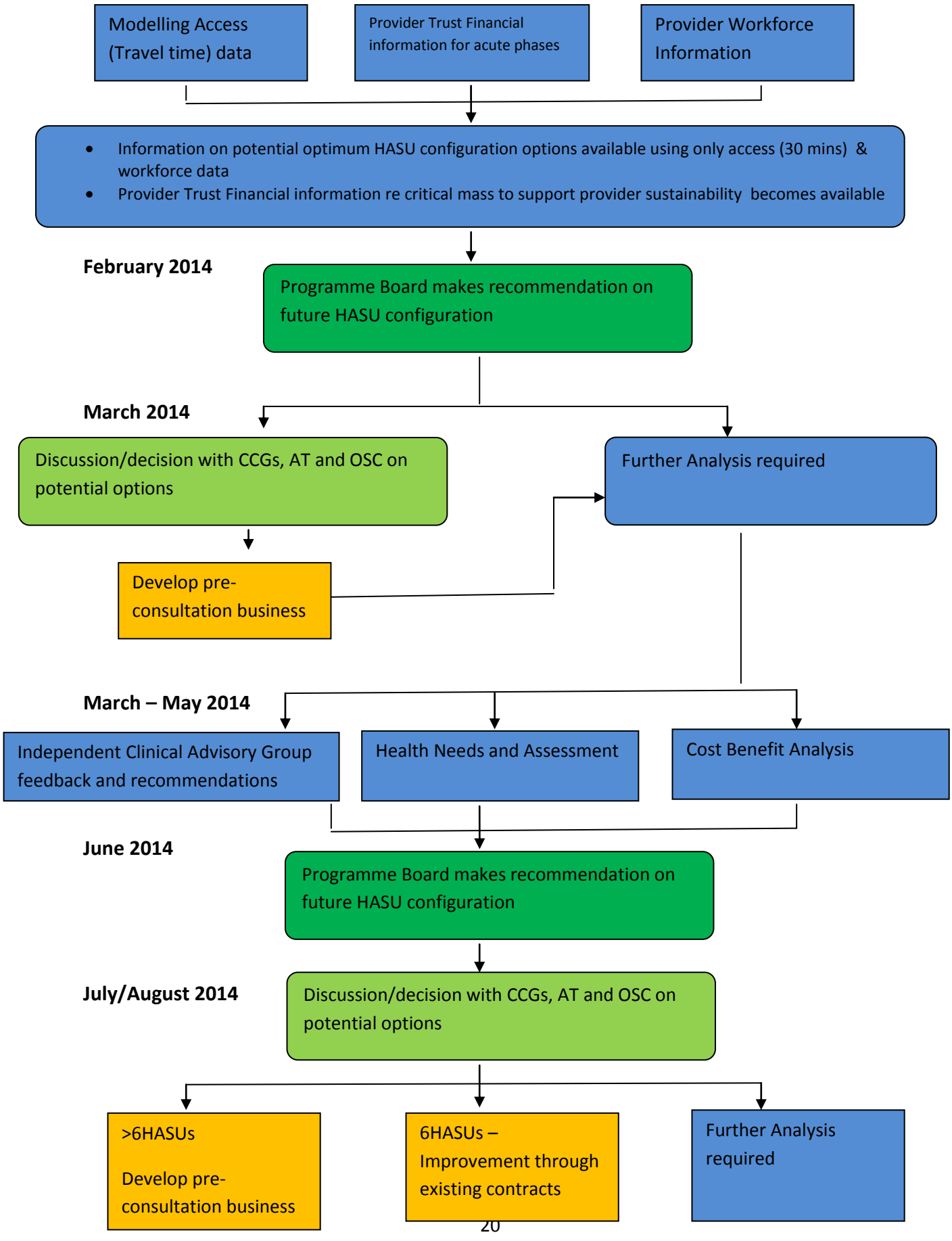


8.2 Overview of the reconfiguration/consultation process:



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, are 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 30minutes access travel time				
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.

<u>Provider submissions are not required to address how the West Midlands Ambulance Service will support stroke services, or the triage protocol to be used.</u>

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:

	Option 6	**Option (s)5**	**Option (s) 4**	**Option (s)3**
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. Any decision to reduce the number of HASU centres will be followed by a competitive procurement tender process.

11.2.5 Procurement Tender Process:

Key Milestones	Approx No. of Working Days
Issue Advert / Invitations	
PQQ Expressions of Interest Invited	
PQQ Expression of Interest Returned	10
PQQ Evaluation	10
PQQ Shortlist	
PQQ Standstill Period/debriefs	5
ITT/final proposal invited	
ITT/final proposal returned	20(max)
ITT Evaluations commence	25
Contract Award Recommendation	10
Contract Award Approved (eg Board)	5
ITT Standstill period	5
Contract Award	
Mobilisation (inc any TUPE issues)	85
Service Commencement Date	

Key

PQQ = Pre-qualification Questionnaire
ITT = Initiation To Tender
w/c = Week Commencing

N.B. all dates and no of days are approximate at this stage.

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:

The programme no longer has access to the Deloittes' 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

[1] The Green Book: Appraisal and Evaluation in Central Government. HM Treasury, 2011.

- 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.

Terms of Reference for Stroke Programme Board:

PURPOSE

The Stroke Programme Board takes an overarching strategic view of the development of stroke services across the Birmingham, Solihull and Black Country to achieve a step change improvement in the quality of stroke services.

ACCOUNTABILITY

The Stroke Review Programme Board is accountable to the Birmingham, Solihull and Black Country CCGs.

Expected Outcomes

- To ensure that all people living in Birmingham, Solihull and Black Country who have had a Stroke have access to high quality Stroke Services at all stages in the pathway, including longer term quality of life
- To oversee the programme governance and structure to ensure that the overall purpose is achieved and to report progress to the Birmingham, Solihull and Black Country CCGs and Area Team
- Ensure equitable provision of services and a seamless transition in care across the whole patient journey.
- To ensure that cross boundary resources and patient flows are built in options for future delivery.
- To ensure that there is sufficient resource to support the communications and engagement implications of the project
- To proactively engage with commissioners
- To receive monthly updates from the Project Management Office and to resolve any issues causing delay in the set milestones.
- Identify and share common risks and ensure mitigation against these.
- To facilities dialogue with lead clinicians from network Stroke Advisory Groups at key times during the project
- To receive the recommendations of the Independent Clinical Advisory Group
- To agree the implementation plan to take forward the recommendations.

Clinical Outcomes of programme:

- Reduction mortality rates
- Reduction in average length of stay
- Reduction in Stroke re-admissions
- Achievement of 90% stay on Stroke Unit
- Achievement of diagnosis and treatment for high risk TIA within 24hrs
- Increase in % of patients receiving thrombolysis
- Increase in the number of patients discharged to their normal place of residency

Core Membership

- Programme Board Chair – 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
- Project 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 Boards 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 Chairman 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 Group
- Public Health and Primary Prevention Group
- Financial Modelling Group
- Clinical Advisory Group
- Communications and Engagement Group

Quorum

- The Programme Stroke Board will be considered quorate if the:
  - Chair/Vice Chair
  - Minimum of 3 clinicians across all 7 CCGs
  - Public health lead
  - Communication& Engagement lead
  - West Midlands Cardiovascular Network Clinical Lead
  - West Midlands Cardiovascular Network Director or nominated lead
  - Programme Director

- If a quorate member of the Board 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 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 e-mails reflecting the decision are copied to all members of the Board are printed, appended to the minutes and are retained on file.

Frequency and notice of meetings

- The Board shall meet on a bi-monthly basis on a minimum of 6 occasions per financial year. Additional formal or informal meetings may be arranged and convened by the Chair.

- Meeting papers will be sent out 7 days (5 working days) in advance of the meeting

Relationship with the CCG Governing Body

The will be directly accountable to the Birmingham, Solihull and Black Country CCG Governing Bodies.

- CCG representatives shall report formally to 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 Body according to the respective Boards 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 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 Stroke Programme Board on the 17th December 2013 and approved by the CCG governing bodies (to be confirmed) 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.