Service for the diagnosis and initial management of acute stroke

Commissioning guide
Implementing NICE guidance

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Service for the diagnosis and initial management of acute stroke

This commissioning guide provides support for the local implementation of NICE clinical guidelines through commissioning, and is a resource to help health professionals in England to commission an effective service for the diagnosis and initial management of acute stroke.

This commissioning guide should be read in conjunction with the following NICE guidance:

- NICE clinical guideline CG68. Diagnosis and initial management of acute stroke and transient ischaemic attack (TIA).

The clinical guideline covers clinical and cost effectiveness in detail and underpins the content of this guide. Implementation of the guidance noted above is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement this guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in the guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

The NICE guideline should also be read with the Department of Health National Stroke Strategy. Commissioners may also wish to refer to the NICE commissioning guide on diagnosis and initial management of transient ischaemic attack (TIA) and NICE commissioning guide on anticoagulation therapy service when reviewing or redesigning stroke services.

The guide:

- makes the case for commissioning an acute stroke service
- specifies service requirements
- helps you determine local service levels
- helps you ensure corporate and quality assurance.

The full text of this commissioning guide is accessed from the navigation menu on the right hand side of the screen. The associated commissioning tool is available until 25 June 2010 to primary care organisations in England who are already registered to use the tool. New registrations for the existing commissioning tool will not be possible after 31 March 2010.

From 1 April 2010 the new freely available commissioning and benchmarking tool can be downloaded here. There is no need to register.
We are keen to improve the commissioning guides in order to better meet the needs of commissioners. Please send us your ideas for future topic-specific guides or other comments.

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- Topic-specific Advisory Group: acute stroke service
Commissioning a service for the diagnosis and initial management of acute stroke

Suspected stroke is a medical emergency, and an urgent response saves lives and reduces long-term disability. Rapid diagnosis, immediate brain imaging, appropriate use of thrombolysis and direct admission to an acute stroke unit all contribute to better outcomes for stroke patients. Each year in England approximately 110,000 people have a first or recurrent stroke. More than 900,000 people are living with the effects of stroke, with half of these people being dependent on others for help with everyday activities. Stroke represents a substantial health and resource burden costing the NHS £2.8 billion per year in direct costs and £2.4 billion per year in informal care.

The **National Stroke Strategy** describes stroke as a disturbance to the blood supply to the brain. Brain scanning is needed to differentiate between an ischaemic stroke (approximately 85% of all strokes) and a stroke caused by a primary intracerebral haemorrhage. Thrombolysis (clot-busting drugs) given to a person who has had a primary intracerebral haemorrhage would be fatal. However, thrombolysis for ischaemic stroke given within 3 hours of symptom onset can save lives and reduce dependency. Thrombolysis should only be administered where specialist medical and nursing care is always available.

**NICE clinical guideline CG68 on stroke** recommends that all people with suspected stroke should be admitted directly to a specialist acute stroke unit following initial assessment. Brain imaging should be performed immediately (in the next slot and definitely within 1 hour) for people with acute stroke who meet the criteria in **NICE clinical guideline CG68 on stroke** and for all other people with acute stroke as soon as possible (within 24 hours).

The **2008 National Sentinel Stroke Audit** found that although the number of thrombolysis services in the UK is increasing rapidly, the number of units offering a 24-hour, 7-day a week (24/7) service and the number of patients receiving thrombolysis remains low. The **National Audit Office** estimated the cost of thrombolysis for 9% of patients with acute ischaemic stroke to be £9.9 million and the saving in care costs to be £26.4 million.

The **NHS in England: operational plans 2008/9–2010/11** requires all PCTs to implement the recommendations in the National Stroke Strategy and performance is monitored against the target to ensure that patients spend at least 90% of their time in an acute stroke unit.

The **National Stroke Strategy** identifies stroke networks as a clear lever for change. The Department of Health has set up the stroke improvement programme to support the development of local stroke care networks. Stroke networks can support commissioners with service redesign to ensure that appropriate urgent care is available for people with stroke and transient ischaemic attack.
**Benefits**

The potential benefits of robustly commissioning an effective service for the diagnosis and initial management of acute stroke include:

- **improving clinical outcomes** and increasing the number of people who remain non-institutionalised and independent following a stroke
- **reducing deaths and dependency** through rapid diagnosis and appropriate treatment
- **improving performance and patient-centred clinical care** through implementing the recommendations outlined in [NICE clinical guideline CG68 on stroke](#)
- **reducing length of hospital stay**
- **improving processes of care**, partnership working, patient experience and engagement
- **better value for money**, through helping commissioners to manage their commissioning budgets more effectively – this may include opportunities for clinicians to undertake local service redesign to meet local requirements in novel ways.

**Key clinical issues**

Key clinical issues in providing an effective acute stroke service are:

- **ensuring that all front-line staff** are trained and competent in recognising stroke symptoms
- **ensuring that appropriate care and referral pathways** are in place and that people are transported by 999 call to a centre with a 24/7 acute stroke service and the ability to deliver thrombolysis
- **accurately assessing and diagnosing** all people with suspected stroke in healthcare settings and in the community
- **providing effective and efficient clinical care** in line with [NICE clinical guideline CG68 on stroke](#)
- **ensuring that acute stroke services are integrated** with other services for people with a stroke to ensure continuity of care
- **providing a quality assured service**.

**National priorities**

National priorities and initiatives relevant to commissioning an acute stroke service include:
- **World class commissioning.**
- **The NHS in England: The operating framework for 2009/10.**
- **National service framework for Coronary heart disease: Modern standards and service models**, **National service framework for long-term conditions** and **National service framework for older people.**
- **National clinical guidelines for stroke**: Royal College of Physicians Intercollegiate stroke working party.
- The **Care closer to home** initiative outlined in chapter 6 of the white paper ‘Our health, our care, our say’.
- **Commissioning framework for health and well-being.**
- Considering the impact of **patient choice**.
- The **Expert patients programme**.
- **A stronger local voice: a framework for creating a stronger local voice in the development of health and social care services.**
- Implementation of NICE clinical and public health guidelines. These are core standards, and performance against these standards will be assessed by the **Care Quality Commission** in line with **Standards for better health**.

Although many or all of these priorities may be relevant to the services nationally, your local service redesign may address only one or two of them.
Specifying a service for the diagnosis and initial management of acute stroke

Service components

The key components of an acute stroke service are:

- rapid referral, assessment and investigation of acute stroke
- rapid treatment and direct admission to an acute stroke unit
- developing a high-quality acute stroke service.

Rapid referral, assessment and investigation of acute stroke

The prompt recognition of symptoms of stroke and transient ischaemic attack are described in NICE clinical guideline CG68 on stroke. The National Stroke Strategy recommends that all front-line staff should be competent in identifying people with suspected stroke. It also recommends that commissioners ensure that care pathways and protocols are in place so that all people with suspected acute stroke are transferred immediately by ambulance to a hospital with access to a 24-hour, 7-day a week (24/7) acute stroke service that can provide a stroke triage system, expert clinical assessment, timely imaging and intravenous thrombolysis.

Immediate access to brain imaging is critical because treatments such as aspirin or thrombolysis (clot-busting drugs) are dangerous for patients with haemorrhagic stroke. The 2008 national sentinel stroke audit found that some hospitals had difficulty providing rapid (within 24 hours of admission) access to brain imaging and CT (computed tomography) scanning, particularly during evenings and weekends. NICE clinical guideline CG68 on stroke makes recommendations for the management of acute stroke that may necessitate brain and/or carotid imaging and CT scanning, and the timescales within which this should be done. Commissioners should review the availability of brain scanning and imaging slots to ensure prompt access to services with skilled radiological staff and clinicians able to interpret the results on a 24/7 basis.

Rapid treatment and direct admission to an acute stroke unit

Urgent treatment and direct access to an acute stroke unit have been shown to improve stroke outcomes. NICE clinical guideline CG68 on stroke recommends that all people with suspected stroke should be admitted directly to a specialist stroke unit following initial assessment, either from the community or from the accident and emergency department. Commissioners should ensure that the acute stroke unit is a discrete area in the hospital that is staffed by specialist stroke multidisciplinary teams. The teams should have access to equipment for monitoring and rehabilitating patients and hold regular multidisciplinary team meetings for goal setting.
**NICE clinical guideline CG68 on stroke** recommends a number of pharmacological treatments to be used in the treatment of acute stroke. In particular, commissioners should be aware of the recommendations that relate to thrombolysis and the administration of alteplase. **NICE clinical guideline CG68 on stroke** and **NICE technology appraisal TA122 Alteplase for the treatment of acute ischaemic stroke** recommend alteplase for the treatment of acute ischaemic stroke, when used by physicians trained and experienced in the management of acute stroke. It should only be administered in centres with facilities that enable it to be used in full accordance with its marketing authorisation.

**Developing a high-quality acute stroke service**

**NICE clinical guideline CG68 on stroke** recommends that alteplase should be administered only within a well organised stroke service with:

- staff trained in delivering thrombolysis and in monitoring for any complications associated with thrombolysis
- level 1 and level 2 nursing care staff trained in acute stroke and thrombolysis
- immediate access to imaging and re-imaging, and staff trained to interpret the images.

Staff in accident and emergency departments, if appropriately trained and supported, can administer alteplase for the treatment of acute ischaemic stroke provided that patients can be managed within an acute stroke service with appropriate neurological and stroke physician support.

Commissioners should use payment by results tariffs to support thrombolysis provision and may also wish to refer to **NICE Thrombolysis for stroke (alteplase) – national tariff uplift for 2008/09**, as additional costs may be incurred in the administration of alteplase.

The **National Stroke Strategy** states that stroke survival is strongly associated with processes of care that are carried out more frequently in stroke units, such as early mobilisation, early feeding and measures to prevent aspiration. The **Intercollegiate Stroke Working Party guidelines on good acute stroke care** recommend that acute stroke units need a multidisciplinary team with the skills and equipment to provide:

- appropriate care and monitoring (for example, of neurological function, blood pressure, cardiac rhythm, respiratory function, oxygen saturation and blood glucose)
- access to physiotherapy
- access to speech and language therapy (including swallowing)
- access to a dietetic service (including nutrition screening)
- critical care for stroke patients who require enhanced monitoring or who develop complications
- prompt access to support from specialist critical care colleagues
good communication with patients, their families and the patient’s GP.

The National Stroke Strategy recommends the establishment of stroke care networks covering populations of 0.5 to 2 million to review and organise delivery of stroke services across the care pathway. Stroke care networks consist of a range of organisations involved with stroke care, including PCTs, local authorities, voluntary sector organisations, primary care providers and NHS acute trusts. Commissioners may wish to engage with their local stroke care network when considering service redesign. Collaborative commissioning arrangements and discussions across a network of stroke providers and ambulance trusts may be necessary to ensure that acute stroke care, including thrombolysis, is available 24/7.

NICE clinical guideline CG68 on stroke makes recommendations for surgical intervention in a small number of carefully selected people with stroke. The National Stroke Strategy states that commissioners should ensure that services are available to investigate and treat unusual causes of stroke; commissioners should work collaboratively with other PCTs, and across a stroke network, so that each stroke unit is linked to a regional neuroscience centre. Strategic health authorities should make specialised commissioning arrangements to support the coordination of specialist neurological care, including interventional neuroradiology and neurosurgery. Commissioning arrangements should include an estimation of the number of patients likely to be referred.

Commissioners may wish to consider delivering an acute stroke service in a variety of ways, and mixed models of provision may be appropriate. Examples include:

- A hub and spoke service model with a 24/7 hyperacute stroke unit (hub) staffed by an acute stroke team with 24/7 radiology access, including advanced imaging. People who have had a stroke would be treated in the hyperacute unit and could then be transferred to a spoke unit within 48 hours. Some spoke units may provide specialist services but not on a 24/7 basis.
- A model in which assessment and imaging are carried out in local hospitals that have appropriate teleradiology and telemedicine support. This type of model may be particularly suitable in rural areas. Selected patients would be transferred to a hyperacute stroke unit.

Local stakeholders, including service users and their carers, should be involved in determining what is needed from an acute stroke service in order to meet local needs. The service should be patient-centred and integrated with other elements of care for people with stroke.

The service specification needs to consider:
• the required competencies of, and training for, staff responsible for providing the service, including training in the recognition of stroke symptoms and use of validated tools for front-line staff

• the expected number of patients needing direct admission to an acute stroke unit (taking into account how quickly any changes in service provision are likely to take place)

• ease of access and service location; ensuring there is rapid transport by ambulance to a receiving hospital with 24/7 access to a stroke specialist, urgent brain scanning and expertise in interpretation, and direct admission to an acute stroke service

• care and referral pathways

• information and audit requirements, including IT support and infrastructure

• service monitoring criteria.

Useful sources of information may include:

• The NHS networks: learning from practice database contains examples of innovative commissioning across the NHS and its partners.

• The Map of medicine provides an information resource that visually organises care pathways.

• The NICE shared learning database contains examples of how organisations have implemented NICE guidance locally.

• Mending hearts and brains.

• Implementing the National Stroke Strategy – an imaging guide sets out best practice and provides guidance on how imaging services may develop to provide gold standard TIA and stroke care.

• Workforce planning resource supports stroke-related workforce planning alongside the National Stroke Strategy.

• Heart Improvement – rapid access models.

• The Department of Health F.A.S.T campaign materials, which has leaflets and posters to download.

• NICE costing report on stroke: diagnosis and initial management of acute stroke and transient ischaemic attack.

• Providers guidance for stroke services – ASSET(1) is an evaluation toolkit created to help health care organisations improve and transform stroke services for patients.

• Commissioning guidance for stroke services – ASSET (2) provides advice to commissioners on good practice in improving stroke services and highlights key issues to consider.
Determining local service levels for a service for the diagnosis and initial management of acute stroke

Benchmarks for a standard population

Available data suggest that the standard benchmark rate for admission to an acute stroke unit is 100% of people who are admitted to secondary care following a stroke, or 120 per 100,000 population based on the national average, per year.

Available data suggest that the standard benchmark rate for treatment of acute ischaemic stroke with alteplase is 9% of people admitted to secondary care following a stroke, or 11 per 100,000 population based on the national average, per year.

For an average primary care trust population of 300,000, the average number of people requiring admission to an acute stroke unit would be 360 per year (0.12% of the population).

Of these, approximately 30 (9% of 360) may be expected to need treatment with alteplase for acute ischaemic stroke.

For an average general practice list size of 10,000, the average number of people requiring admission to an acute stroke unit would be 12 per year (0.12% of the population).

Of these, approximately 1 (9% of 12) may be expected to require treatment of acute ischaemic stroke with alteplase.

Examine the assumptions used in estimating these figures.

An acute stroke service is likely to fall under the programme budgeting category 210B (cerebrovascular disease).

Use the acute stroke service commissioning and benchmarking tool to determine the level of service that might be needed locally and to calculate the cost of commissioning the service using the indicative benchmark and/or your own local data.

Further information

Sources of further information to help you in assessing local health needs and reducing health inequalities include:

- Annex A of the Commissioning framework for health and well-being outlines the process and data needed to undertake a joint strategic needs assessment.
- Department of Health Delivering quality and value – focus on benchmarking.
- NICE *Health equity audit – learning from practice briefing.*
- The Disease management information toolkit (DMIT) is a good-practice tool for decision-makers, commissioners and deliverers of care for people with long-term conditions. It includes data on conditions that contribute to high numbers of emergency bed days. It also models the effects of interventions that may be commissioned at a local level and helps users to consider the likely impact of different commissioning options.
- Disease prevalence models produced by the Association of Public Health Observatories (APHO) provide PCT-level prevalence estimates for hypertension and coronary heart disease.
- PARR (Patients at risk of re-hospitalisation) is a risk prediction system for use by PCTs to identify patients at high risk of hospital re-admission.
- PRIMIS+ provides support to general practices on information management, including how to record for and analyse data quality, and a comparative analysis service focused on key clinical topics.
- Payment by Results (PbR) for stroke and transient ischaemic attack (TIA) services.
Assumptions used in estimating a population benchmark

The assumptions used in estimating a population benchmark rate for direct admission to an acute stroke unit (120 per 100,000 population – 100% of people admitted to secondary care following a stroke) and treatment of ischaemic stroke with alteplase (11 per 100,000 population – 9% of people admitted to secondary care following a stroke) are based on the following sources of information:

- **epidemiological data** on the incidence of stroke
- **hospital episode statistics** to establish number of admissions for stroke
- **expert clinical opinion** of the topic-specific advisory group, based on experience in clinical practice and literature review.

**Epidemiological data**

Estimates of the population-wide incidence of stroke vary widely depending on the definitions used and the types of populations studied.

The 2005 National Audit Office report *Reducing brain damage: faster access to better stroke care* suggested that the population-wide incidence of stroke is 0.22% per year. This includes both first and recurrent strokes, and equates to around 110,000 people per year. The incidence of stroke is likely to vary around the country based on the demographic characteristics of the population and the prevalence of vascular risk factors such as diabetes and hypertension[1]. The same report suggests that around 85% of strokes are ischaemic strokes.

**Activity data – ‘Hospital episode statistics’ data**

The ‘Hospital episode statistics’ database contains details of all admissions to NHS hospitals in England. It includes private patients treated in NHS hospitals, patients who were resident outside England and care delivered by treatment centres (including those in the independent sector) funded by the NHS.

Data were extracted to determine the number of people who were admitted to secondary care as an emergency following a stroke. The International classification of diseases (ICD) (10th revision) codes used to define stroke were:

- 161: intracerebral haemorrhage
- 163: cerebral infarction
- 164: stroke not specified as intracerebral haemorrhage or cerebral infarction.
Analysis suggests that around 63,000 people were admitted as an emergency following a stroke in 2006/07– approximately 0.12% of the population (120 per 100,000).

This estimate (63,000) is lower than the population-wide estimate (110,000) because it does not include a significant proportion of strokes that result in death or that occur in hospital. There may also be coding issues, for example, where a stroke has been coded with an ICD10 code other than those listed above.

The NICE clinical guideline CG68 on stroke recommends that all people with suspected stroke should be admitted directly to a specialist acute stroke unit following initial assessment. However, the National sentinel stroke audit – organisation of care (phase I) states that this model is only used in 16% of hospitals with 81% of people going to a generic admission unit following a stroke.

A proportion of people admitted following a stroke will be suitable for treatment with alteplase, as outlined in the NICE technology appraisal TA122 Alteplase for the treatment of acute ischaemic stroke. The proportion of people who receive alteplase will depend on the timing of admission following a stroke, how soon brain imaging or scanning can be performed to rule out haemorrhagic stroke, and the number who are younger than 80.

In 2006/07 around 50% of people admitted to secondary care following a stroke were younger than 80. This equates to around 60 per 100,000 population. Around 85% of these people are likely to have had an ischaemic stroke (see Epidemiological data above).

**Expert clinical opinion**

The consensus opinion of the topic-specific advisory group was that around 20% of people who have had an ischaemic stroke and are younger than 80 should be eligible to receive alteplase. However, this should not be seen as a limit, as the proportion of people who are eligible to receive alteplase could increase with more timely access to diagnostic scans.

**Conclusions**

Based on the epidemiological data and other information outlined above, it is concluded that on average around 120 per 100,000 population (100% of people admitted to secondary care following a stroke) will require admission to an acute stroke unit, and around 11 per 100,000 population are expected to require treatment with alteplase for ischaemic stroke. This is based on the following assumptions:

- The rate of admission to secondary care following a stroke, based on 2006/07 data, was 120 per 100,000 population, of which 100% should be admitted directly to an acute stroke unit.

- Of the 60 per 100,000 population who are younger than 80 and admitted following a stroke, 85% are likely to have had an ischaemic stroke and 20% of these (based on the consensus
opinion of the topic-specific advisory group) would be eligible to receive treatment with alteplase. This equates to 11 per 100,000 population, or approximately 9% of people admitted following a stroke.

Therefore the population benchmark for admission to an acute stroke unit is **100%** of people admitted to secondary care following a stroke or 120 per 100,000 population based on the national average, per year.

The population benchmark for receiving treatment for ischaemic stroke with alteplase is **9%** of people admitted to secondary care following a stroke or 11 per 100,000 population based on the national average, per year.

Use the acute stroke service commissioning and benchmarking tool to determine the level of service that might be needed locally and to calculate the cost of commissioning the service using the indicative benchmark and/or your own local data.

**References**


The commissioning and benchmarking tool

**Download the acute stroke commissioning and benchmarking tool.**

Use the acute stroke service commissioning and benchmarking tool to determine the level of service that might be needed locally and to calculate the cost of commissioning the service, as described below.

**Identify indicative local service requirements**

The indicative population benchmark for admission to an acute stroke unit is 100% of people admitted to secondary care following a stroke, or 120 per 100,000 population based on the national average, per year.

The commissioning and benchmarking tool helps you to assess local service requirements using the indicative benchmark as a starting point. With knowledge of your local population and its demographic, you can amend the benchmark to better reflect your local circumstances. For example, if your population is significantly younger or older than the average population, or has an ethnic composition different from the national average you may need to provide services for relatively fewer or more people.

**Review current commissioned activity**

You may already commission an acute stroke service for your population. You can download your own up-to-date secondary care activity data into the tool and data specifications and user notes are provided to help. You can review and amend the downloaded data for your population to calculate the service levels and cost of the service you currently commission. When commissioning outpatient appointments or activity outside of secondary care the tool provides you with tables that you can populate to help you calculate your total current commissioned activity and costs.

**Identify future change in capacity required**

Using the indicative benchmark provided, or your own local benchmark, you can use the commissioning and benchmarking tool to compare the activity that you might need to commission against your current commissioned activity. This will help you to identify the future change in capacity required. Depending on your assessment, your future provision may need to be increased or decreased.
**Model future commissioning intentions and associated costs**

You can use the commissioning and benchmarking tool to calculate the capacity and resources needed to move towards the benchmark level, and to model the required changes over a period of 4 years.

Use the tool to calculate the level and cost of activity you intend to commission and to consider the settings in which the acute stroke service may be provided, comparing the costs of commissioning the service across the various settings. The tool is pre-populated with data on the potential recurrent and non-recurrent cost elements that may need to be considered in future service planning, which can be reviewed and amended to better reflect your local circumstances.

Commissioning decisions should consider both the clinical and economic viability of the service, and **take into account the views of local people**. Commissioning plans should also take into account the costs of monitoring the quality of the services commissioned.
Ensuring corporate and quality assurance

Commissioners should ensure that the services they commission represent value for money and offer the best possible outcomes for patients. Commissioners need to set clear specifications for monitoring and assuring quality in the service contract.

Commissioners should ensure that they consider both the clinical and economic viability of the service, and any related services, and take into account patients' and carers' views and those of other stakeholders when making commissioning decisions.

An acute stroke service needs to:

- be effective and efficient
- be responsive to the needs of patients and carers
- provide treatment and care based on best practice, as defined in NICE clinical guideline CG68 on stroke and the National Stroke Strategy
- deliver the required capacity
- be integrated with other stroke services across primary, secondary and tertiary care and extending into social care, housing and the voluntary sector
- define agreed criteria for referral, local protocols and the care pathway across ambulance and provider trusts to ensure that, where indicated, people with suspected acute stroke are transferred directly to an acute stroke unit; protocols should also ensure that the same access to stroke specialists is made available to those who have a stroke while in hospital
- be patient-centred and provide equitable access, ensuring that patients are treated with dignity and respect, are fully informed about their care and are able to make decisions about their care in partnership with healthcare professionals
- demonstrate how it meets requirements under equalities legislation
- demonstrate value for money.

Local quality assurance

Any mechanisms for quality assurance at a local level are likely to refer to the following.

- Service and performance targets, as set out in the National Stroke Strategy quality markers: all patients have prompt access to an acute stroke unit and spend the majority of their time in stroke specialist care, 24-hour 7-day access to brain imaging,
thrombolysis (clot-busting drugs) within 3 hours, access to specialist neurological intensive care, complaints procedures.

- **Clinical governance arrangements**, including incident reporting.
- **Clinical quality criteria**: appropriateness of referral, consenting procedures, clinical protocols.
- **Audit arrangements**: frequency of reporting, reporting route and format, and dissemination mechanisms; arrangements should include auditing the proportion of eligible people with acute stroke who are provided with immediate care, and monitoring of patient outcomes and complications. See [audit support for NICE clinical guideline CG 68 on stroke](#).
- **Health, safety and security**: infection control, waste management, confidentiality procedures, legislative requirements.
- **Equipment**: testing and calibration.
- **Accreditation requirements**: for some or all elements of the service, the premises and/or staff.
- **Patient satisfaction**: patient and carer perspective and perception of service provision, complaints.
- **Patient outcomes**: reduced deaths, reduced disability, reduced long-term dependency rates, positive responses in patient experience surveys.
- **Staff competencies**: individual and team baseline requirements, specialist nursing for monitoring patients, appropriately qualified clinicians available to address respiratory, swallowing, dietary and communication issues.
- **Information requirements**, including both patient-specific information (NHS number, referring GP, provision of high-quality information to patients/carers) and service-specific information (referral-to-treatment times, workload trends, number of complaints).
- **The process for reviewing the service with stakeholders**, including decisions on changes necessary to improve or to decommission the service.
- **Achieving targets associated with equalities legislation**.

**Further information**

**General information** on quality and corporate assurance can be obtained from the following sources:

- The [National Patient Safety Agency](#) (NPSA) oversees the implementation of a system to report and learn from adverse
events and near misses occurring in the NHS. The publication ‘Seven steps to patient safety’ provides an overview of patient safety and gives updates on the tools that the NPSA is developing to support patient safety across the health service.

- **NHS alliance online resources.** NHS Alliance is the representational organisation of primary care and primary care trusts, and provides them with an opportunity to network and exchange best practice. The alliance supports its members with an open-access helpline, in-house and joint publications and briefings, internal newsletters and a website.

- The [DH commissioning framework](#) provides guidance on the commissioning process in the context of the NHS reform agenda.

- NHS Institute for Innovation and Improvement support for commissioners, includes [Commissioning for Health Improvement](#) products to accelerate the achievement of world class commissioning; [The Productive Leader](#) programme to enable leadership teams to reduce waste and variation in personal work processes, and to help inform planning, [Better care, better value indicators](#) to inform views on the scale of potential efficiency savings in different aspects of care, and to generate ideas on how to achieve these savings.

- [10 Steps to your SES: a guide to developing a single equality scheme](#). This guidance has been developed to assist NHS organisations that have a duty, as public authorities, to comply with the race, disability and gender public sector duties, and in anticipation of new duties in relation to age, religion and belief, and sexual orientation.

**Specific information** on quality and corporate assurance for an acute stroke service can be obtained from the following sources:

- **Better metrics** is a pragmatic project that provides clinically relevant measures of performance to support the development of measurable local targets and indicators for local quality improvement projects. See heart disease and stroke metric 2.04, 2.05, 2.06 [stroke or transient ischaemic attack](#).

- The [Quality and outcomes framework (QOF)](#) was designed to deliver substantial financial rewards for high-quality care. The framework sets out a range of national standards based on the best available research evidence.

- **Skills for health** works with employers and other stakeholders to ensure that those working in the sector are equipped with the right skills to support the development and delivery of healthcare services. See details of the [stroke competence framework](#).
- **Workforce planning resource** supports stroke related workforce planning.
- The Department of Health’s **F.A.S.T** campaign has leaflets and posters to download
- **NHS Evidence – stroke specialist library**
Topic-specific Advisory Group: acute stroke service

A topic-specific advisory group was established to review and advise on the content of the commissioning guide. This group met once, with additional interaction taking place via email.

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