National Sentinel Stroke Audit
Phase I (organisational audit) 2006
Phase II (clinical audit) 2006

Report for England, Wales and Northern Ireland

Prepared on behalf of the Intercollegiate Stroke Working Party

by

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This report is a concise version of a generic format of the trust report which is available by written request to the Stroke Programme, Clinical Effectiveness and Evaluation Unit, Royal College of Physicians 11 St Andrews Place London NW1 4LE.

GLOSSARY

Benchmarking	Measurement of performance against a standard reached by others. For example in national audit this could be the top score or the national average
Carer	Someone (commonly the patient's spouse, a close relative or a friend) who provides ongoing, unpaid support and personal care at home
Carotid Doppler	A non invasive test which uses high frequency sounds waves to determine extent of blood flow through the carotid arteries in the neck. Used in the evaluation of stoke and TIA symptoms
Carotid Endarterectomy	Carotid endarterectomy is a surgical procedure in which a stenosis (narrowing) or ulceration of an atherosclerotic plaque in the carotid artery is removed.
CT scan	A CT scan (computerised tomography) of the head. A CT scan X-rays the body from many angles. The X-ray beams are detected by the scanner and analyzed by a computer. The computer compiles the images into a picture of the body area being scanned. These images can be viewed on a monitor or reproduced as photographs.
Domain	The organisation of stroke care was divided into key areas for summary presentation of results
Inter Quartile Range (IQR)	The IQR is the range between 25th and 75th centile which is equivalent to the middle half of all values
IST	The International Stroke Trial (IST): a randomised trial of aspirin, subcutaneous heparin, both, or neither among 19435 patients with acute ischaemic stroke. International Stroke Trial Collaborative Group
CAST	CAST: randomised placebo-controlled trial of early aspirin use in 20,000 patients with acute ischaemic stroke. CAST (Chinese Acute Stroke Trial) Collaborative Group.
Transient Ischaemic Attack (TIA)	A transient ischaemic attack is less severe than a stroke in that all the symptoms disappear within a day (and often last for less than half an)
Magnetic Resonance Imaging (MRI)	A non-invasive procedure that produces a picture of the inside of the head without exposure to ionising radiation (X rays)
Median	The median is the middle point of a data set; half of the values are below this point, and half are above this point
National Clinical Guidelines For	National evidence based guidelines for stroke care published by the Intercollegiate Working Party

Stroke (2004)	for Stroke second edition 2004 http://www.rcplondon.ac.uk/pubs
National Sentinel Audit	National audit at a specific point in time to identify levels of practice and service provision across the country
National Service Framework for Older People Department of Health England (NSF)	The NSF for older people was published in March 2001. It set national standards and service models of care across health and social services for all older people whether they live at home, in residential care or are being cared for in hospital. http//:www.publications.doh.gov.uk/nsf/olderpeople/index.htm
National Service Framework for Older People in Wales (NSF Wales)	An NSF for Older People in Wales was published in March 2006 http://www.wales.nhs.uk/sites3/home.cfm?orgid=439
Neurovascular Clinic	An outpatient clinic for patients with Transient Ischaemic Attacks or minor stroke for further investigation
Organisational audit	Audit of the service organisation, particularly relevant in stroke due to the evidence supporting organised stroke services.
Organisational Score	The data was analysed using a formula to combine similar questions into an overall score for domains or key areas in the organisation of care. A score of 100 is the optimal score
Secondary prevention	Measures to prevent recurrence of the same illness
Stroke Research Network	A nationally funded organisation to increase participation in stroke research http://www.uksrn.ac.uk/
Stroke Unit Trialists' Collaboration (SUTC)	Stroke Unit Trialists' Collaboration Organised inpatient (stroke unit) care for stroke (Cochrane Review). In: *The Cochrane Library,* Issue 3, 2004. Chichester, UK: John Wiley & Sons, Ltd.
Thrombolysis	The use of drugs to break up a blood clot
Trusts	In the context of the UK's National Health Service (NHS), trusts are organisational units, eg hospital trusts, community trusts, primary care trusts or combinations thereof. In this report it usually refers to hospitals

Definitions of models of care

The NSF for Older People (which applies to England only) set out that all hospitals caring for people with stroke should have 'a specialised stroke service" by April 2004.

An NSF for Older People in Wales has also now been published which requires the development of care pathways incorporating prompt access to specialist acute stroke services in accordance with National Clinical Guidelines by March 2007, and ongoing continuous service improvements.

The definition used for a stroke unit (and used in this audit) is:

Stroke unit - a multidisciplinary team including specialist nursing staff based in a discrete ward which has been designated for stroke patients. This category includes the following sub-divisions:
Acute stroke units that accept patients acutely but discharge early (usually within 7 days). This could include an "intensive" model of care with continuous monitoring and high nurse staffing levels.
Rehabilitation stroke units which accept patients after a delay of usually 7 days or more and focus on rehabilitation
Combined stroke units (ie no separation between acute and rehabilitation beds) that accept patients acutely but also provide rehabilitation for at least several weeks if necessary.

Key characteristics of all stroke units
Five key characteristics were chosen from the Stroke Unit Trialists' Collaboration (SUTC) http://www.update-software.com/abstracts/AB000197.htm and subsequent papers, as markers of stroke unit organisation. The audit has assessed how many of these are in place. The 5 characteristics are:

- Consultant physician with responsibility for stroke
- Formal links with patient and carer organisations
- Multidisciplinary meetings at least weekly to plan patient care
- Provision of information to patients about stroke
- Continuing education programmes for staff

The Department of Health National Performance Indicator on the percentage of patients admitted to a stroke unit uses a minimum of 4/5 of these criteria to define a stroke unit. This is included in the summary results table Chapter Four. For further information:
http://ratings2005.healthcarecommission.org.uk/Trust/Indicator/indicatorDescriptionShort.asp?indicatorId=1221

Criteria for judging quality of acute stroke units

To evaluate specifically the quality of *acute* stroke unit organisation we determined whether the following 6 criteria were met. These characteristics are not all evidence based but were developed using the consensus of an expert working group – the Intercollegiate Stroke Working Party:

- Continuous physiological monitoring (ECG, oximetry, blood pressure)
- Access to scanning within 3 hours of admission
- if not 3 hours, access to 24 hour brain imaging
- Policy for direct admission from A&E
- Specialist ward rounds at least 5 times a week
- Acute stroke protocols/guidelines

Mobile Stroke Team
A multidisciplinary team providing care in a variety of settings. The Department of Health in England has suggested that provision of a mobile stroke team may be acceptable as an alternative to a geographically based stroke unit. However if this model is adopted it is accepted that there should be clear criteria by which to judge whether they reach the standard necessary for the NSF milestone for specialist stroke services. We would suggest that these criteria are that the team should consist of a minimum of a physician responsible for stroke, a specialist nurse and at least two kinds of therapist disciplines. The team should meet to plan stroke patients' care at least once a week.

Early Supported Discharge Teams
The National Clinical Guidelines for Stroke (2004) state that specialist stroke services should be available in the community as part of an integrated system of care to facilitate early supported discharge. There are as yet no definitions as to the constitution of an ideal early supported discharge team, but the research evidence suggests that medical, nursing and therapy input are all desirable and that the team should be a specialist team for stroke and not a group of therapists providing care to a range of different clinical conditions

Useful addresses

Chest, Heart and Stroke Association Scotland www.chss.org.uk

Department of Health stroke strategy
http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/Stroke/fs/en

Different Strokes www.differentstrokes.co.uk

Northern Ireland Chest, Hearth and Stroke Association www.nichsa.com

Stroke Association www.stroke.org.uk

Connect http://www.ukconnect.org/

PRIORITY FINDINGS AND RECOMMENDATIONS FOR ACTION

Stroke clinicians, managers and politicians can feel proud of the advances that have been made over the last ten years - there are few other conditions that have progressed as rapidly. Inpatient specialist care has made enormous progress with both an increase in the proportion of hospitals with a stroke unit (79% in 2004 to 91% in 2006) and an increase in the size of the units in England.

62% of the patients in the audit sample were admitted to a stroke unit at some point during their stay and 54% spent more than 50% of their stay in a stroke unit. This is a significant and welcome improvement over the last two years from 46% and 40% respectively.

Patients managed on a stroke unit had considerably better results for the key indicators than patients looked after in other settings. They were much more likely to have a swallow screen, to have started aspirin within 48 hours, been assessed by therapists within recommended time frames and had rehabilitation goals documented and have a home visit performed before discharge.

Action required: All trusts managing stroke patients should increase the proportion who spend the majority of their hospital stay on a stroke unit to over 80% by the time of the next audit in 2008

The National Clinical Guidelines for Stroke (2004) recommend scanning within 24 hours of the onset of symptoms of stroke to confirm their diagnosis. 42% of all patients achieved this standard which is worse than the 59% achieved in the 2004 audit and unacceptably low, however the question in this round of audit differs from previous rounds in that a much greater proportion of patients were regarded as applicable. The standard has therefore become more stringent. Speed of access to imaging needs to be radically improved.

Action required: By 2008 All patients should have brain imaging within a maximum of 24 hours of admission

Stroke should be treated as a medical emergency. This means raising the profile of stroke amongst the general public and health professionals and the rapid transfer of stroke patients to hospitals able to provide the best quality of specialist acute care including thrombolysis and diagnostics. The rates of thrombolysis for acute ischaemic stroke are amongst the lowest in Western Europe. Only 40 (18%) hospitals saying they offer a service and the total number of patients being thrombolysed (218) is a tiny proportion of those that might benefit and must be an important area for development of services over the next few years. However, getting patients to hospital rapidly is important even if tissue plasminogen activator (tPA) - a medication used to dissolve clots following a stroke in appropriate patients - is not going to be given. Early diagnosis and management on an acute stroke unit are important. It is of concern that only 10% of patients are admitted directly to such a unit. 18% of hospitals provide no specialist acute stroke unit care. While stroke rehabilitation is vital there is good evidence to show that effective acute care can reduce the burden of disability and therefore the pressure on rehabilitation resources. This needs to be addressed through restructuring of acute stroke services and a greater commitment to training of stroke physicians and nurses.

Action required: Every Strategic Health Authority and Region should develop systems by 2008 to ensure that all stroke patients have the opportunity to access high quality acute stroke care including thrombolysis

The late launch of a National Service Framework in Wales in 2006 appears to have handicapped the development of specialist stroke services in Wales, which need urgent attention. Given the evidence for the benefits of stroke units, the very low rate of stroke unit provision and admission is unacceptable. Patients in Wales will be dying or surviving with higher levels of disability than is necessary compared to England and Northern Ireland.

Action required: Wales needs to identify systems to raise the quality of stroke across the whole patient pathway, particularly through the development of stroke units.

Problems remain with stroke patients getting timely access to therapists and social workers. The standards set for the audit should not be too challenging to meet. Yet a third of patients with swallowing disorders have not been assessed by a Speech and Language Therapist within 72 hours of admission or 7 days for those with communication deficits. 29% of patients with motor problems have not seen a physiotherapist within 72 hours and access to occupational therapy and social work is even worse. Not only is this likely to lead to worse patient outcomes but it will almost certainly increase the time that patients spend in hospital.

Action required: There should be a greater than 90% compliance with the standards for assessment by therapists in the National Clinical Guidelines for Stroke by the time of the next audit in 2008.

Many of the problems identified in the audit stem from the problem that the NHS only operates at full strength on Monday to Friday during normal working hours.

Action required: There needs to be a major shift in the attitude towards healthcare that sees the development of services that can respond appropriately at all times including night and weekends.

Overall 29% of patients were catheterised following their stroke. Of these 35% (or about 10% of all stroke admissions) were catheterised because of urinary incontinence.

Action required: Management of patients with incontinence should be a top priority for service developments. By the time of the 2008 audit there should be no patients being catheterised without good reason and all patients should have adequate assessment for the cause of the incontinence and a management plan implemented.

34% of patients with atrial fibrillation were discharged on an anticoagulant. While not all patients in atrial fibrillation will be appropriate for anticoagulation (because of severe stroke, risk of falling and other contraindications) this figure is lower than one would predict for ideal stroke management. Use of anticoagulation has risen since 2001 but is still an underused treatment.

Action required: All patients in atrial fibrillation should be anticoagulated unless there are clearly documented contraindications.

Executive Summary for Phase I Organisation of Stroke Care

Background
The 5th round of the National Sentinel Audit of Stroke on the organisation of care was conducted in April 2006 having taken place on a two-year cycle since 1998.

Aims
The aims of the audit are:
To enable Trusts to benchmark the quality of their stroke services compared to national standards
To identify changes in stroke service organisation and quality of care for stroke patients since the 2004 national sentinel audit
To evaluate the extent to which the National Clinical Guidelines for Stroke have been implemented.
To monitor the progress of stroke care delivery post National Service Framework Older People (Chapter 5 stroke).

No references have been quoted in the report for reasons of space. All relevant evidence is available in the second edition of the National Clinical Guidelines for Stroke (2004). http://www.rcplondon.ac.uk/pubs/brochure.aspx?e=130

Participation
All applicable hospitals that admit patients for stroke in England, Wales, Northern Ireland, Isle of Man and the Channel Islands took part. Participation in this audit contributes to the core standards for Healthcare Commission indicators. The total number of participating sites was 238 with 203 in England, 20 in Wales, 12 in Northern Ireland, and 3 in the Channel Islands. The data were collected between 3rdst April 2006 and 7th May 2006 and represent the organisation of services as at 1st April 2006.

Organisation of the Audit
This audit was funded by the Healthcare Commission and run by the Clinical Effectiveness and Evaluation unit (CEEu) of the Royal College of Physicians London. It was co-ordinated by the CEEu and data were collected within Trusts using a standardised method. Data collection was overseen at a Trust level by a lead clinician for stroke who was responsible for the quality of data supplied. The project was guided by a multidisciplinary steering group responsible for the Stroke Programme - the Intercollegiate Working Party for Stroke (ICWP) http://www.rcplondon.ac.uk/college/ceeu/ceeu_stroke_workingparty.htm. The steering group oversaw the preparation, conduct, analysis and reporting of the audit.

Key findings from Phase I organisational audit

In-patient specialist care has made enormous progress with both an increase in the proportion of hospitals with a stroke unit (79% in 2004 to 91% in 2006) and an increase in the size of the units in England. However they have reduced in size in Northern Ireland and Wales. We should not be satisfied until nearly all patients are managed on high quality stroke units for both their acute care and rehabilitation. It is imperative that stroke units do not improve at the expense of other elements of patient care. The concern remains that patients who are not admitted to a stroke unit are receiving second rate care. The time has come to start addressing the problem that similar services in the community have failed to develop in parallel. There have been no targets or similar imperatives for this to happen and this should be an area that the Department of Health Stroke Strategy should address.

Management of Transient Ischaemic Attack (TIA)

- More neurovascular clinics are operating than in 2004 with slightly shorter waiting times, although only 35% currently achieve the target of seeing, assessing and managing patients within 7 days.
- It is encouraging to see the number of neurovascular clinics is increasing (65% in 2004 to 78% in 2006) with waiting times for appointments falling from a median of 14 days to 12 days.
- Services must continue to improve so that at the very least they achieve the recommendations of the National Clinical Guideline of being seen and a management plan established within a week of the onset of symptoms.

Managing Stroke as a Medical Emergency

- The failure to develop arrangements with paramedic services to transport patients with stroke to hospital urgently, reflects the slow progress that has been made in the development of thrombolysis services in the UK.
- Thrombolysis services for stroke are being introduced very slowly. Only 40 (18%) hospitals saying they offer a service and only 30 having thrombolysed any patients during the last year.
- The total number of patients being thrombolysed (218) is a tiny proportion of those that might benefit and must be an important area for development of services over the next few years.
- However, getting patients to hospital rapidly is important even if tissue plasminogen activator (tPA) - a medication used to dissolve clots following a stroke in appropriate patients - is not going to be given. Early diagnosis and management on an acute stroke unit are important. It is of concern that only 10% of patients are admitted directly to such a unit. 18% of hospitals provide no specialist acute stroke unit care. While stroke rehabilitation is vital there is good evidence to show that effective acute care can reduce the burden of disability and therefore the pressure on rehabilitation resources.
- There are increasing numbers of hospitals with acute stroke units (34% in 2004 to 50% in 2006). The 6 characteristics used by the audit to assess the intensity of care provided in these units are not all evidence based but these data suggest that in some units ‘acute’ is not very acute.

Investigation of Stroke

- Nearly all hospitals now have the facilities to scan the brain and carotid arteries, however access remains difficult for some, particularly out of normal working hours. This is an issue that will need to be resolved if first class stroke services are to be delivered in UK hospitals

Numbers of Stroke Units

- While the desired 100% figure for stroke unit provision has not yet been reached it does now look to be an achievable objective. 94% of stroke units (205/217) had 4 or all of the five features we have used to define quality, compared to 90% in 2004 and 72% in 2002.
- There have been small increases in the size of stroke units since the 2004 audit.
- Across the country on the day of audit there were 6720 patients on site, and there were 5552 stroke unit beds, an overall ratio of 0.83 beds per stroke patient. If this ratio is calculated for each site the site median was 0.89, up from 0.77 in 2004. In 2004 less than 50% of stroke patients spent the majority of their time on a stroke unit suggesting that bed capacity was inadequate. These figures suggest that unless length of stay has fallen significantly there is still likely to be a problem of insufficient stroke unit capacity.

- There is no scientific basis for excluding stroke patients from stroke units as the Stroke Unit Trialists' Collaboration has shown that patients of all ages, stroke severity and type appear to benefit from specialist care. The fact that nearly half of units do still exclude some patients on the basis of these factors is perhaps indicative of the fact that hospitals are not providing sufficient beds to meet the needs of the population

Staffing and Stroke Care

- There remain quite large variations between hospitals in the numbers of professionals employed to deliver stroke care.
- Psychology remains seriously under resourced
- Provision of orthotics and foot health is important for stroke patients, however provision appears scarce.
- It is very encouraging that 97% of hospitals now have a consultant physician responsible for stroke services. The median number of sessions has risen to 5, which is better than in previous audits, but still a long way from the recommendations of the British Association of Stroke Physicians of 2 Whole Time Equivalents (wte) or 22 sessions per district.
- Consultant nurse posts in stroke are still low in number and over a quarter of hospitals have no form of senior stroke nurse specialist

Processes of Stroke Care

- The service has at last achieved 100% of stroke units holding team meetings at least once a week. In most cases they do appear to be truly multidisciplinary although the occasional unit operating without a physician, speech and language therapist or occupational therapist leaves some cause for concern.
- The difficulties in provision of social workers for stroke units remains. There are still a quarter of stroke teams that do not have a designated social worker.
- Provision of psychology services remains diabolical.
- Using standardised measurement of impairments and disability after stroke helps maintain common standards and consistency of treatment. There have been marked improvements in the use of such standardised measures over the last four years (measures for conscious level have increased from 83% in 2002 to 96% in 2006, measures of motor impairment from 59% to 90% over the same period)
- Coordinating the care of professionals is important in the delivery of effective multidisciplinary treatment. The use of joint notes and care pathways is one way that may help the process. Development of the electronic patient pathway should provide the best solution but in the meantime this is an area that requires local initiative.

Early Supported Discharge and Community Stroke Teams

- A lot of progress that still needs to be made in the development of specialist stroke services outside hospitals. As length of stay in hospital falls this will become an increasingly important aspect of stroke care.
- There is now a good evidence base to support early supported discharge teams both in terms of clinical benefit and resource use and yet only 22% of trusts have one.
- One of the common complaints of patients is that they feel abandoned when they leave hospital. The failure to provide specialist community stroke teams may be contributing to this perception. Too few of the 'specialist stroke teams' appear to be truly multidisciplinary. As the number of such teams increase it is going to be important that their quality is monitored and that they are really fit for purpose.

Training and Education

- The number of education programmes for stroke has increased on stroke units.
- Maintaining and developing skills of staff working with stroke patients is essential for the provision of high quality services. This should be a priority for all hospital and primary care trusts. Given that a significant proportion of stroke patients are being managed outside stroke units it is important that training schemes for general medical staff are maintained; this does not seem to be happening.

Patient and Carer Involvement

- Educating and informing patients and carers should be seen as a key role of health professionals managing patients with stroke. Many units do not appear to have the resources to provide this facility especially for patients managed outside stroke units.
- Over two-thirds of units now have a community user group which is a major shift since the last audit (59% in 2004 up to 68% in 2006).
- Improvements have been made in all areas of information provision for stroke patients.
- An increasing number of hospitals do now have formal links with user groups, although this remains the aspect most often missing from the criteria we have set to assess quality of stroke unit organisation.

Research

- Participation in research projects is low. 44% of hospitals are not participating in any stroke related research studies and those that are only contribute to a small number. There is fertile ground for the Stroke Research Network to develop.

Executive Summary for Phase II Clinical Audit

Participation

This 2006 audit relates to patients admitted from 1 April 2006 to 30 June 2006 and takes place exactly 2 years since the last audit of patients admitted 1 April 2004 to 30 June 2004. It follows on (as Phase II) directly from the audit of stroke organisation at 1 April 2006 as conducted in the summer of 2006 (Phase I). A total of 224 sites from 203 Trusts submitted data on a total of 13,625 patients. This represents 100% of acute Trusts admitting stroke patients in England, Wales, Northern Ireland and the Islands. The number of sites differs from the number in the organisational audit due to reconfiguration of hospitals and may span several sites where patients are transferred.

Key findings from Phase II clinical audit

Case Mix

- The case mix of patients included in the 2006 audit was very similar to previous years
- Mortality rates have fallen slightly since 2004

Use of Hospital Beds and Institutionalisation Rates

- Mean length of stay has fallen considerably over the last two cycles of audit from 34 days in 2001, to 25.4 days in 2006. Similar reductions in length of stay are shown for patients dying in hospital, falling from 21.1 days in 2001 to 18.6 days in 2006 and for those discharged alive from 39.5 days to 27.7 days. For an estimated 120,000 stroke patients in the UK annually this would translate into a reduction of about 2800 beds for their care.
- The shorter lengths of stay observed this time are not being achieved at the expense of earlier inappropriate discharge into care homes with no change in the percentage of patients (only 13%) being newly institutionalised after their stroke.
- The proportion of patients with mild stroke (Barthel 15-19) has fallen from 29% in the 2004 audit to 24% in 2006. This suggests that patients are being discharged earlier with residual impairments while in the past they would have remained in hospital to complete their rehabilitation. Given that the organisational audit in 2006 did not show a significant increase in the availability of specialist community rehabilitation teams this is concerning and highlights the need for audit data looking at the longer term outcomes of stroke patients.

Stroke Unit Provision

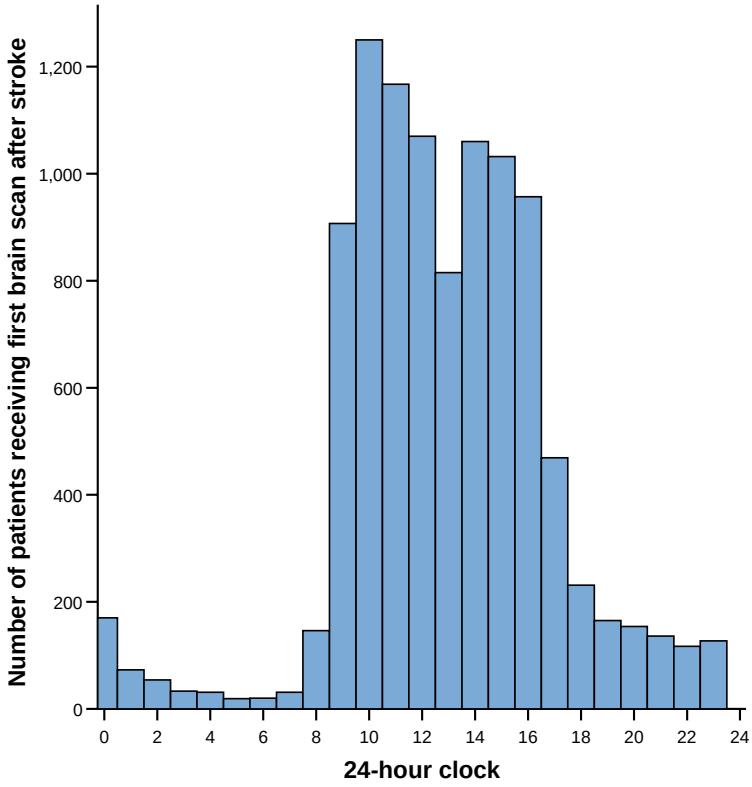
- 62% of the sample was admitted to a stroke unit at some point during their stay and 54% spent more than 50% of their stay in a stroke unit. . This is a significant and welcome improvement over the last two years from 46% and 40% respectively. It reflects the fact that 91% of hospitals now have a stroke unit. There is still however clearly a lack of capacity within these units to manage all appropriate stroke patients.
- 76% of patients with minor stroke, staying in hospital less than 2 days, are not being managed on specialist units. These are often patients at very high risk of stroke recurrence and it is particularly important that they receive expert care and investigation. This is more likely to occur on a stroke unit and improvement of services for these patients should become a priority in the development of stroke services in the UK.
- 78% of patients staying in hospital more than 28 days spend some of their admission on a stroke unit. The objective should be to increase this figure to nearly 100%

- Of the 341,343 bed-days captured in this audit, 195,629 (57%) were spent in a stroke unit.
- Speed of access to stroke unit care is better than in 2004 but needs to be further improved. Only 15% of patients are admitted to a stroke unit on the same day as their stroke and only 12% of patients are being admitted directly to a stroke unit (within 4 hours of arrival in hospital). This compares with 25% who were admitted on the same day in 2004 and 20% in 2001. The opportunities to optimise acute care at the time when ischaemic brain remains potentially salvageable is not being maximised. Direct admission to an acute stroke unit should be the standard that the NHS should be setting.
- For many patients the delay in admission to a stroke unit is totally unacceptable, stretching to days and weeks.
- 54% of the patients spent more than half of their stay on a stroke unit, 33% on a general ward.
- There are a large number of patients whose admission to hospital is delayed. It is likely that this adversely affects outcome and it highlights the need for a public and professional awareness campaign that stroke is a medical emergency and that immediate admission to hospital should be arranged for all cases.
- Of the 7502 patients where time of stroke and time of scan are recorded only about 39% are admitted within 2 hours of stroke. These are the patients who might be appropriate for thrombolysis given that they will need to be assessed clinically and scanned before the 3 hour time window. To increase this percentage professionals and public need to recognise symptoms of stroke, know how to respond and be provided with the facilities for rapid transfer to a stroke thrombolysis centre. The majority of patients with stroke are admitted between 8am and midnight. Provision of a thrombolysis service between these hours will cover 6 out of seven patients.
- Patients managed on a stroke unit had considerably better results for the key indicators than patients looked after in other settings. They were much more likely to have a swallow screen, to have started aspirin within 48 hours, been assessed by therapists within recommended time frames and had rehabilitation goals documented and have a home visit performed before discharge.

Brain Imaging

- Only 42% of patients had brain imaging to confirm their diagnosis within 24 hours of the onset of symptoms. This is unacceptably low, however the question in this round of audit differs from previous rounds in that a much greater proportion of patients were regarded as applicable. The standard has therefore become more stringent. Speed of access to imaging needs to be radically improved.
- Of the patients scanned (6559 with times of stroke and scan known) only 9% were scanned within 3 hours of stroke.
- The delay from stroke to brain scan data suggests that those patients not scanned during daytime hours on the day of admission have to wait until the next working day before the scan is performed.
- The National Clinical Guidelines for Stroke (2004) recommend scanning within 24 hours of stroke. Only 42% of patients achieved this standard which is worse than the 59% achieved in the 2004 audit.

- The histogram below showing the times of day scans are performed suggests that the reason for delays in scanning are not likely to be due to a lack of scanners.



- It is clear that the scanning machines are scarcely used outside normal working hours and there is also spare capacity during the lunch hour. Improving the standards for scanning needs the issues of radiographer and radiologist staffing to be solved, not the provision of more machines.

Comparison between England, Wales and Northern Ireland

- Stroke services in Wales need urgent attention. The very low rate of stroke unit admission is unacceptable. Patients in Wales will be dying or surviving with higher levels of disability than is necessary.

Promotion of continence

- Overall 29% of patients were catheterised following their stroke. Of these 35% (or about 10% of all stroke admissions) were catheterised because of urinary incontinence. While it is clearly appropriate to catheterise patients in urinary retention, where the patient has been admitted with a catheter in situ or where there is a need for accurate fluid balance monitoring, urinary incontinence per se is not usually an acceptable indication. Catheterisation increases the risk of infection; it is an unpleasant experience for patients and prevents any attempt being made to regain continence. The 10% catheterised overall represents a small reduction in catheterisation for incontinence from 12% in 2004, but the figure remains unacceptably high.

- Effective management of urinary incontinence is extremely important for the patients for whom it is a distressing and disabling complication of stroke. That only just over half of patients with incontinence had any evidence of a written plan to promote continence is appalling. This aspect of stroke care should be given the highest priority for service development over the next year.

Documentation of Pathology and Impairments

- Overall there have been improvements in the standards of care for screening of impairments however these are happening at a painfully slow rate. It is disgraceful that only 66% of patients are screened to see if they can swallow safely and that 26% of patients have no record in their notes about whether their visual fields have been affected by the stroke.

Multi-disciplinary Assessment

- Nearly all trusts reported in the 2006 Organisational Audit that they conduct regular multidisciplinary meetings. And yet a quarter of patients with physical impairments have no rehabilitation goals documented in their notes. What purpose do the multidisciplinary meetings have for these patients?

Management/Care Planning

- Problems remain with stroke patients getting timely access to therapists and social workers. The standards set for the audit should not be too challenging to meet. Yet a third of patients with swallowing disorders have not been assessed by a Speech and Language Therapist within 72 hours of admission or 7 days for those with communication deficits. 29% of patients with motor problems have not seen a physiotherapist within 72 hours and access to occupational therapy and social work is even worse. Not only is this likely to lead to worse patient outcomes but it will almost certainly increase the time that patients spend in hospital. Part of the problem is the persistence of policies within the NHS that attempt to provide all 'routine' care between 9 and 5 Mondays to Fridays. The service needs to acknowledge that illness does not recognise days of the week or times of day.
- There have been slow improvements in some of these standards but again the targets set should not be challenging and it is disappointing that so many patients are still not being offered adequate screening and functional assessment. Assessment of nutritional status, mood and cognition should be performed in nearly all patients.
- For the first time a question has been asked about whether and how patients are nourished in the acute phase of stroke. A high percentage – 93% were receiving some form of nutrition by 72 hours.
- The number of home visits prior to discharge home is falling with each cycle of audit. This represents a 6% decrease for patients in whom such a visit was considered to be applicable in 2004.

Communication with Patients and Carers

- Assessment of carer needs is one of the areas of practice that has improved most since the last audit from 43% compliance to 68%. Smaller improvements were seen in the teaching of skills to carers to manage stroke patients at home.
- There has been a small deterioration in the standards assessing discussion with the patient about diagnosis and prognosis. A third of patients had nothing recorded in their notes to indicate that these issues had been raised with them

Primary and Secondary Prevention

- Only 9% of admitted patients were recorded as being current smokers. The majority of whom did have evidence of being advised to stop.
- Exercise after stroke is a valuable as a way of improving physical fitness and losing weight. Less than half of people who had regained the ability to walk (as judged by a mobility score on the Barthel Index of 3) were recorded as having been given advice about exercise.
- Nearly all stroke patients should receive dietary advice, particularly about salt intake, cholesterol and calories. However again only 42% had any documentation to show that this has been provided.
- 72% of patients were on an antihypertensive, an antithrombotic, an antiplatelet or a lipid lowering drug before admission.
- The fact that so many patients are on anti-platelet agents and antihypertensive drugs prior to admission highlights the urgent need for research to ascertain whether these drugs should be stopped, continued or changed following an acute stroke.

Antihypertensive Medication

- 57% of patients were admitted already taking at least one antihypertensive drug. 82% of people with known hypertension were taking antihypertensive drugs.
- 17% of discharged patients had treatment with blood pressure lowering drugs initiated during their admission to hospital, and on discharge 70% of patients were on treatment. Clinical guidelines recommend not starting treatment until two weeks after acute ischaemic stroke so it is likely that the total percentage of stroke patients ending up on antihypertensive treatment will be even higher.

Antithrombotic Treatment

- Of patients with a pre-stroke co-morbidity of atrial fibrillation, 25% were on warfarin before admission. Given the clear evidence that anticoagulation of patients in atrial fibrillation is the most effective way of preventing stroke in these patients, this is a much lower figure than one would have hoped.
- Only 79% of the patients with a previous history of ischaemic heart disease were admitted on any form of antithrombotic medication. This is an unacceptably large failure in the provision of the most basic form of secondary prevention. Correcting this would probably reduce the stroke rate considerably, saving lives and reducing long term disability.
- Only 23% of patients were discharged on the combination of aspirin and dipyridamole MR. Since the collection of this data the ESPRIT trial has been published confirming the previous ESPS 2 study that the combination of aspirin and dipyridamole is superior to aspirin alone at preventing recurrent stroke. The expectation is that the use of the combination will increase between now and the next round of audit.
- The combined use of aspirin and clopidogrel has reduced since the last audit from 4% to 2% in line with the evidence that the combination is inappropriate for stroke prevention.
- 34% of patients with atrial fibrillation were discharged on an anticoagulant. While not all patients in atrial fibrillation will be appropriate for anticoagulation (because of severe stroke, risk of falling and other contraindications) this figure is lower than one would predict for ideal stroke management. Use of anticoagulation has risen since 2001 but is still an underused treatment.
- A key audit standard is commencement of aspirin by 48 hours after stroke. This is based upon two large randomised trials, IST and CAST which showed modest, but definite benefit for early use of aspirin after ischaemic stroke. It is of grave concern that only 71% of patients achieved this standard.

Management of Lipids

- The increased used of statins in primary care is confirmed in the audit. In 2004 22% of patients were admitted on a lipid lowering drug and this has now increased to 33%.
- One third of patients are admitted already taking a statin and 78 % are taking one by discharge. This is a dramatic increase in the use of statins over the last 5 years.
- Surprisingly large numbers of patients with a history of diabetes or ischaemic heart disease were not taking a statin on admission (44% and 47% respectively).

Research

- Only 3% of stroke patients were entered into a research trial. If care for stroke patients is to improve more patients should be entered into research studies. The Stroke Research Network has been set up to address this issue and the evidence from his audit suggests that there is enormous capacity to increase participation in research.

Section 1 Chapter 1 BACKGROUND AND PRESENTATION OF RESULTS

Background to the national sentinel stroke audit

The National Sentinel Audit of Stroke has taken place on a two-year cycle since 1998. The results for organisation of care were initially published separately from the clinical process standards. This report now combines the results of the clinical data collected from October 2006. No references have been quoted in the report for reasons of space. The audit compares the service organisation with standards derived from research evidence for organisation of stroke care delivery set out in the National Clinical Guidelines for Stroke 2004 (website www.rcplondon.ac.uk/pubs/books/stroke/index.htm)

Further information on methods can be obtained from the Royal College of Physicians

Presentation of results

The results for each phase of the audit are presented in separate sections of this report. Chapter 1 in each section introduces the methods. The following chapters provide national results overall and comparisons over time. The final chapter in each section provides named hospital results by region for key indicators. The Islands refers to the Isle of Man, States of Jersey and States of Guernsey. Where comparisons are made between rounds this relates to standards where comparison is possible. The algorithm for calculating the domains and total scores are available on request.

National results are presented as percentages, and site variation is summarised by the median and Inter-Quartile Range (IQR). Ratios of staffing numbers per 10 stroke unit beds are given rather than staffing numbers per se so as to allow an interpretation more relevant to National standards.

Chapter 2 ORGANISATION OF STROKE CARE NATIONALLY AS AT 1 APRIL 2006

All hospitals took part – the second time that 100% participation has been achieved. The total number of participating sites in 2006 was 238: England 203, Wales 20, Northern Ireland 12 and the Islands 3.

Stroke Unit Provision

England, Wales and Northern Ireland have made excellent progress in the provision of stroke units.
Development of acute stroke units is more extensive in England than Wales or Northern Ireland.
Wales has changed little since 2004. Emphasis must now be placed on quality, not just on quantity.
Median bed numbers have increased in England but reduced in Northern Ireland and Wales

Table 1 Stroke Unit Provision in UK hospitals

	England (203)	Wales (20)	N. Ireland (12)	Islands (3)
% of sites with stroke unit 2006 *% of sites with stoke unit 2004*	97% (196) *82%*	45% (9) *45%*	92% (11) *85%*	33% (1) *0%*
Median (IQR) number of stroke beds in stroke units 2006	24 (18 – 31)	20 (15 – 25)	12 (10 – 22)	8 (--)
Median number of stroke beds in stroke units 2004	*20*	*21*	*14*	-
% of stroke units with 4-5 key characteristics*	95%	100%	82%	100%
Ratio: Median (IQR) number of stroke unit beds per stroke inpatient (on site on the day the audit form was completed)	0.9 (0.7 – 1.1)	1.0 (0.5 – 1.3)	0.8 (0.7 – 1.1)	0.7 (--)

* See definitions on page 6 for details

Acute and combined stroke units

Acute stroke units in Wales and Northern Ireland do not appear to be as 'acute' as those in English acute stroke units

Table 2 acute stroke unit provision in UK hospitals

	England (191)*	Wales (20)	N. Ireland (12)	Islands (3)
Number (%) of sites with acute stroke unit	112 (59%)	3 (15%)	3 (25%)	0%
Median (IQR) number of stroke beds in acute stroke units	10 (6-15)	8 (-)	6 (-)	-
% of acute units with 5-6 acute features*	47 (42%)	0 (0%)	1 (33%)	-

***12 hospitals which only treat rehabilitation patients were excluded from this analysis**

Table 3 combined stroke unit provision in UK hospitals

	England* (191)	Wales (20)	N. Ireland (12)	Islands (3)
Number (%) of sites with combined stroke unit	53 (28%)	3 (15%)	7 (58%)	0%
Median (IQR) number of stroke beds in combined stroke units	20 (15 - 24)	15 (-)	11 (-)	-
% of combined stroke units with 5-6 acute features*	16 (30%)	1 (33%)	4 (57%)	-
% of sites with an acute or a combined stroke unit 2006	85%	30%	83%	0%

See definitions on page 6 for details

***12 hospitals which only treat rehabilitation patients were excluded from this analysis**

Whole Time Equivalents (WTE) for staff on stroke units

There are large variations in the numbers of nurses, junior doctors and therapists employed on stroke units that are unlikely to be explained on the basis of case mix alone. Research is needed to identify what the ideal numbers of staff are from both the perspective of clinical and cost effectiveness.

Table 4 Whole time equivalents (WTEs)* for staff in stroke units

	England	Wales	N. Ireland	Islands
Median (IQR) number of qualified nurses/assistants on duty per 10 beds	3.3 (2.9 - 3.7)	3.0 (2.9 - 3.9)	5.0 (3.3 - 7.8)	10.0 (-)
Median (IQR) number of junior doctor sessions per 10 beds	5.0 (3.3 - 7.1)	3.9 (1.7 - 8.4)	4.5 (4.0 - 8.3)	0.0 (-)
Median (IQR) WTE per 10 beds for:				
Clinical Psychology	0.0 (0.0 – 0.1)	0.0 (0.0 – 0.3)	0.0 (0.0 – 0.0)	1.3 (--)
Dietetics	0.1 (0.1 – 0.2)	0.1 (0.0 – 0.4)	0.3 (0.1 – 0.4)	1.3 (--)
Occupational Therapy	1.0 (0.7 – 1.3)	0.8 (0.2 – 0.9)	1.0 (0.3 – 1.4)	3.8 (--)
Physiotherapy	1.3 (0.9 – 1.6)	1.3 (0.6 – 1.8)	1.2 (0.4 – 1.5)	3.8 (--)
Speech & Language Therapy	0.3 (0.2 – 0.6)	0.6 (0.3 – 0.7)	0.3 (0.2 – 0.5)	1.3 (--)
Pharmacists	0.1 (0.0 – 0.2)	0.1 (0.1 – 0.7)	0.1 (0.0 – 0.2)	1.3 (--)
Orthotists	0.0 (0.0 – 0.0)	0.0 (0.0 – 0.0)	0.0 (0.0 – 0.0)	1.3 (--)
Foot health / podiatrists	0.0 (0.0 – 0.0)	0.0 (0.0 – 0.0)	0.0 (0.0 – 0.0)	1.3 (--)

* WTEs are presented as ratios of staff per ten stroke unit beds to allow comparison

Table 5 Percentage of stroke units with social worker attached to the multidisciplinary team

Sites with stroke units	England	Wales	N. Ireland	Islands
% with a named social worker attached to the multi-disciplinary team	73%	56%	100%	100%

Other models of stroke care

As in 2004, comprehensive information was collected on alternative types of specialist service provision for stroke patients

A lot of progress still needs to be made in the development of specialist stroke services outside hospitals. As length of stay in hospital falls this will become an increasingly important aspect of stroke care

Table 6 Percentage of hospitals with other models of stroke unit care

% with:	England	Wales	N. Ireland	Islands
A mobile stroke team	32%	25%	0%	0%
An early supported discharge team	21%	20%	42%	33%
A specialist community stroke team	34%	5%	42%	33%

See definitions on page 6 for details

Specialist medical staff

It is very encouraging that the majority of hospitals have a consultant physician responsible for stroke services. The median number of sessions is a long way from the recommendations of the British Association of Stroke Physicians of 2 WTE per district.

Table 7 Consultant physician provision in UK hospitals

	England		Wales		N. Ireland		Islands	
% of sites with a consultant physician with specialist knowledge of stroke formally recognised as having principal responsibility for stroke services	98%		95%		83%		100%	
Median (IQR) of the number of formal sessions per week of consultant physician time for stroke management (including outpatient clinics)	5	(3-8)	3	(1-4)	3	(3-6)	1	(0-2)

Patients thrombolysed

The number of stroke patients thrombolysed (218) in 12 months is a very small proportion (approximately 0.2%) of the national number of strokes (> 100,000).
One quarter (10) of the 40 sites offering thrombolysis did not thrombolyse any patients in 12 months.

Table 8 patients thrombolysed in UK hospitals

	England	Wales	N. Ireland	Islands
Sites offering thrombolysis	18%	5%	17%	0%
Numbers of patients thrombolysed by sites in last 12 months:				
0 patients	86%	95%	92%	100%
1-3 patients	4%	5%	8%	0%
4-10 patients	5%	0%	0%	0%
11-20 patients	3%	0%	0%	0%
>20 patients	1%	0%	0%	0%

Overall, 218 stroke patients were thrombolysed during this period: 215 in England, 2 in Wales and 1 in Northern Ireland.

Research studies

Nearly half of sites do not participate in any research studies. Only a quarter of sites participate in 3 or more studies.

Table 9 Participation in research in UK hospitals

	England	Wales	N. Ireland	Islands
% of sites with ONE or more research studies	56%	60%	58%	0%
% of sites with THREE or more research studies	24%	10%	25%	0%

Organisation of stroke care by region

Organisational score

A scoring system has been developed to enable trusts to compare their organisation of stroke care with others. The scores range from 0 to 100 with 100 being the optimal score. This score is the average of 10 separate components of organisation - Acute care organisation, Organisation of care, Interdisciplinary Services (Overall Service), Interdisciplinary Services (Stroke Unit), TIA / Neurovascular service, Continuing education in stroke, Team working (Multidisciplinary Records), Team working (Team meetings), Team working (Agreed Assessment Measures), Communication with Patients and Carers. For further details of how the score is calculated contact stroke@rcplondon.ac.uk

Organisation scores by country:

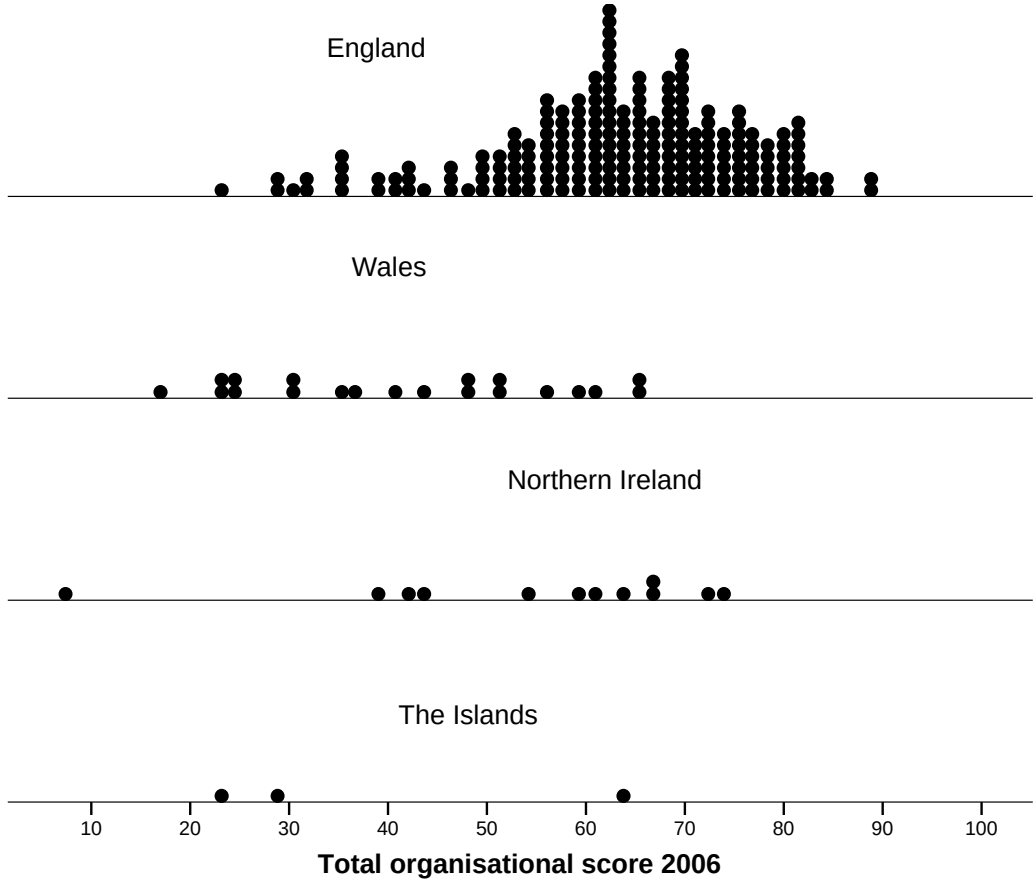


Figure 1 Total organisational score 2006 in UK hospitals

Organisation scores by region (including the proposed new SHA s for England):

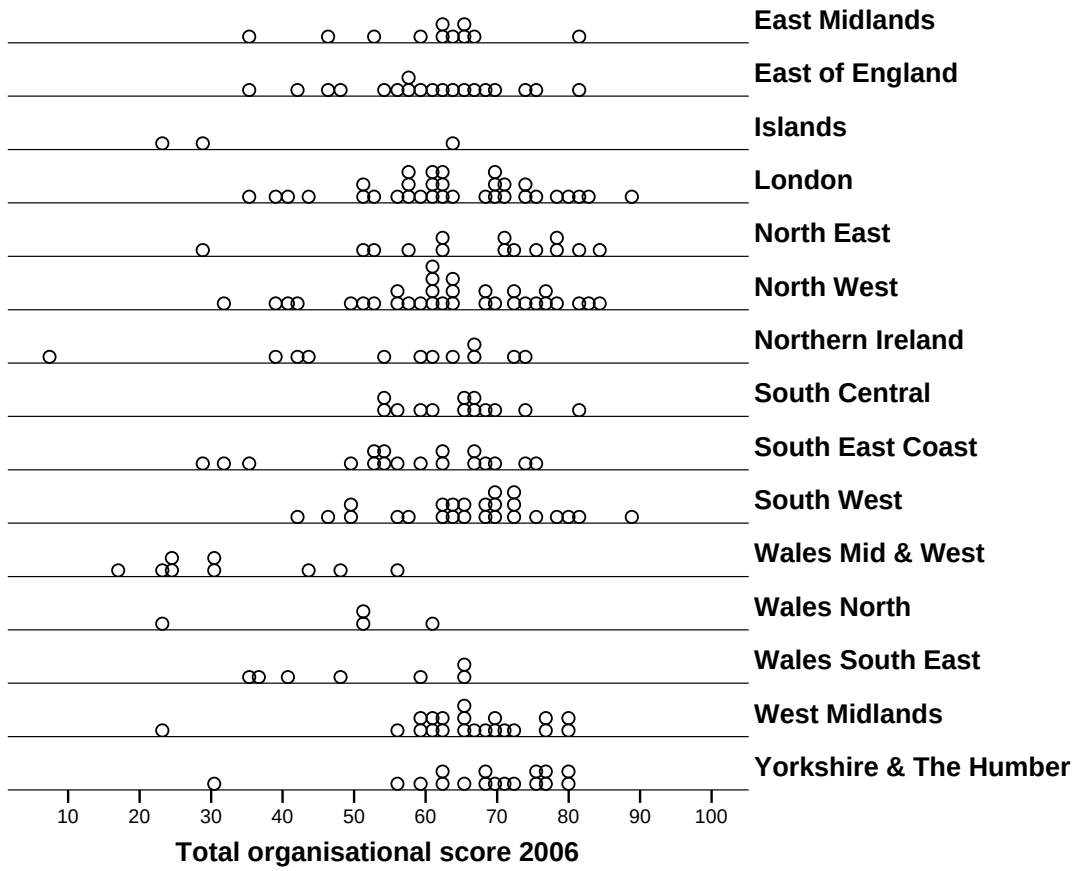


Figure 2 Total organisational scores 2006 by region

Chapter 3 Organisation of Stroke Care by Domains

A scoring system was developed in 2002 to enable trusts to compare their organisation with the national data. The optimal best score was 100 and results were presented according to 9 domains. The system was updated in 2006 and expanded to include Acute and TIA/neurovascular services. There are now 10 domains.

1 Acute Stroke Care
2 Organisation of Care
3 Interdisciplinary Services (Overall Service)
4 Interdisciplinary Services (Stroke Unit)
5 TIA/neurovascular Services
6 Continuing Education in stroke
7 Team working - multidisciplinary Records
8 Team working – team meetings
9 Agreed Assessment Measures
10 Communication with Patients and Carers

Domain 1 – Acute stroke care

Description of domain

This domain includes the presence of either an acute or combined stroke unit, a measure of the quality of these units (eg whether physiological monitoring is present), joint protocols with ambulance services for emergency/rapid transfer to hospitals and whether the Trust offers thrombolysis and if so, the number of patients thrombolysed in the previous six months. Evidence is strong that appropriate patients who receive thrombolysis have better outcomes than those who do not. The drug received a provisional license in Europe two years ago and following careful auditing by the SITS-MOST organisation has now been granted a full licence.
Only 1 in 10 patients are likely to be admitted directly to an acute stroke unit. 8 out of 10 are more likely to be admitted to a Medical assessment unit or admission ward.

Acute and Combined stroke units

We are seeing progressive improvements in the organisation of stroke services with increasing numbers of acute stroke units and improvement in the quality of those units.
The 6 characteristics used by the audit to assess the intensity of care provided in these units are not all evidence based but these data suggest that in some units 'acute' is not very acute.
The organisation of care on units that classified as acute or combined are comparable apart from lower intensity of specialist ward rounds on the combined units.

Table 10 Percentage of hospitals with an acute or combined stroke unit in 2004 and 2006

	2004	2006
% hospitals with an acute stroke unit	34%	50%
% hospitals with a combined stroke unit	16%	26%

Table 11 Quality of acute or combined stroke units measured by acute characteristics

Characteristics of Acute or combined Stroke Unit	Acute stroke unit	Combined stroke unit
a) Continuous physiological monitoring (ECG, oximetry, blood pressure)	57%	54%
b) Access to scanning within 3 hours of admission	48%	41%
c) Access to brain imaging within 24 hours	95%	98%
d) Policy for direct admission from A&E	48%	44%
e) Specialist ward rounds at least 5 times a week	74%	49%
f) Acute stroke protocols/guidelines	97%	98%
5 or all 6 Acute Stroke Unit characteristics	41%	33%

Table 12 Development of features on acute stroke unit between rounds

	2004	2006
Number of features on acute stroke unit		
0 features present	3%	0%
1-4 features present	64%	59%
5-6 features present	33%	41%

Thrombolysis

The failure to develop arrangements with paramedic services to transport patients with stroke to hospital urgently reflects the slow progress that has been made in the development of thrombolysis services in the UK.
Only 18% of sites offer thrombolysis and the median number of patients treated over the last year in these sites is woefully low. However getting patients to hospital rapidly is important even if tPA is not going to be given.
The country has been very slow to introduce thrombolysis services for stroke with only 40 (18%) hospitals saying they offer a service and only 30 having thrombolysed any patients during the last year, a total of 218 patients. This number of patients being thrombolysed is a tiny proportion of those that might benefit and must be an important area for development of services over the next few years.

Table 13 Development of thrombolysis services 2004 to 2006

	2004	2006
% hospitals that have arrangements with local ambulance service for emergency/rapid transfer to hospital for acute stroke over and above the regular system	4%	12%
% hospitals where the Trust offers thrombolysis	NA	18%

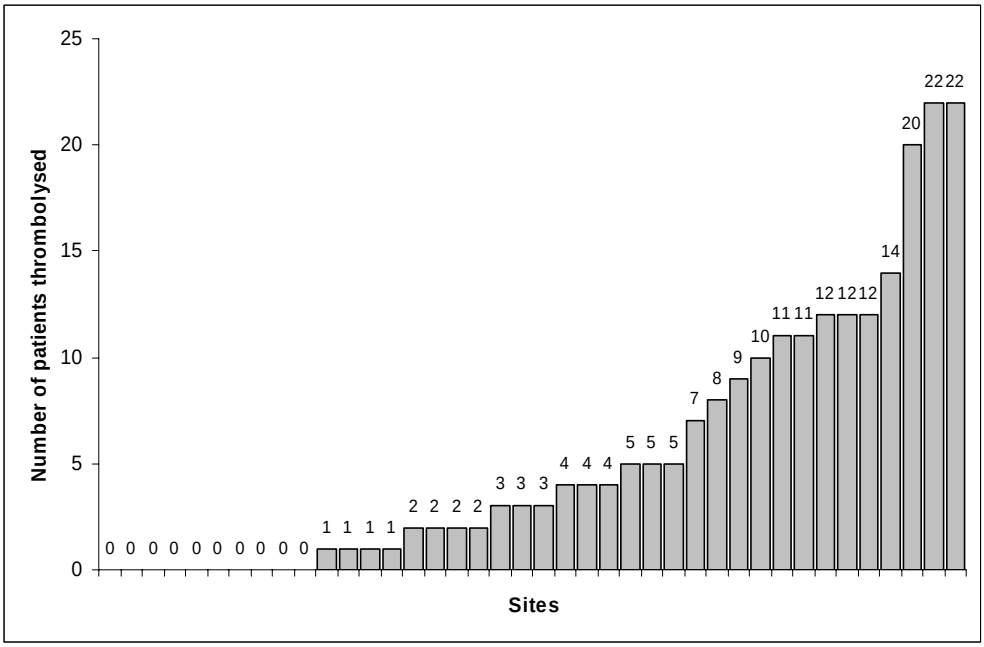


Figure 3 Stroke patients thrombolysed during the past 12 months at those sites who state they offer thrombolysis

Domain 2 Organisation of care

Description of domain

This domain incorporates the formal services for stroke care within both acute and community settings and maps specialist bed capacity for the number of patients with stroke in the trust.

In-patient specialist care has made enormous progress with both an increase in the proportion of hospitals with a stroke unit and an increase in the size of the units; the time has come to start addressing the problem that similar services in the community have failed to develop in parallel. There have been no targets or similar imperatives for this to happen and this should be an area that the Department of Health Stroke Strategy should address.

Table 14 Changes in provision of stroke units and specialist community stroke teams 2002 to 2004

	2002	2004	2006
% with Stroke Unit	73%	79%	91%
Median (IQR) number of stroke beds	20 (14-27)	20 (15-29)	24 (16-30)
Specialist stroke community team in your area for continuing longer-term management	NA	25%	32%

94% of stroke units (205/217) had four or all five features, compared to 90% in 2004 and 72% in 2002. 9 of 11 units with three features were missing formal links with patients and carers and continuing education. 47 of 59 units with four features were missing formal links with patients and carers.

Table 15 Quality of all stroke units according to 5 key characteristics

No. of characteristics	No. of stroke units	Consultant physician	Formal links with patients and carers	Team meetings	Patient information	Continuing education
1	0	*0*	*0*	*0*	*0*	*0*
2	<1%	*0*	*0*	*<1%*	*<1%*	*0*
3	5%	*91%*	*18%*	*100%*	*91%*	*0*
4	27%	*97%*	*20%*	*100%*	*95%*	*88%*
5	67%	*100%*	*100%*	*100%*	*100%*	*100%*

Admission Criteria for Stroke Units

The Stroke Unit Trialists Collaboration (SUTC) data suggest that all patients benefit from specialist stroke unit care regardless of age, sex or stroke severity. Therefore if a hospital has sufficient beds of the appropriate type then there is no justification for selecting patients. 43% of hospitals operated selection criteria compared with 67% of hospitals in 2004.

Other models of stroke care

Development of other models of stroke care needs considerably more attention paid to it. Early supported discharge teams are effective both in terms of clinical benefit and resource use and yet only 22% of trusts have one. One of the common complaints of patients is they feel abandoned when they leave hospital. The failure to provide specialist community stroke teams may be contributing to this perception.
Too few of the 'specialist stroke teams' appear to be truly multidisciplinary. As the number of such teams increase it is going to be important that their quality is monitored and that they are really fit for purpose.

Table 16 Specialist teams for stroke

	% of hospitals with such a team
Mobile Inpatient Stroke Team	29%
Specialist Early Supported Discharge Stroke Team	22%
Specialist Community Stroke Team	32%

Table 17 Composition of specialist stroke teams

Regular members of the teams:	Mobile Stroke Team	Early Supported Discharge Team	Specialist Community Stroke Team
Specialist doctor	74%	29%	19%
Specialist nurse	80%	46%	53%
Social worker	20%	42%	36%
Speech & Language therapist	64%	77%	83%
Physiotherapist	81%	100%	93%
Occupational therapist	60%	96%	92%
Dietitian	39%	44%	36%
Psychologist	4%	19%	28%
Other*	16%	17%	13%
Specialist doctor & nurse & two of the three therapists %YES	44%	19%	11%

Domain 3 – Interdisciplinary Services (overall service)

Description of domain

This domain describes and quantifies the specialist medical care available for participating hospitals with and without a stroke unit. It also includes the ratio of senior doctor sessions to stroke unit beds

Virtually all hospitals have a lead clinician for stroke; however, the number of sessions remains inadequate for the delivery of comprehensive stroke services including prevention, acute, rehabilitation and longer term support services. The British Association of Stroke Physicians recommends 2 whole time equivalents per district.

Table 18 Provision of senior medical staff between 2002 and 2006

	2002	2004	2006
Consultant physician with specialist knowledge of stroke formally recognised as having principal responsibility for stroke services	80%	90%	98%
Number of formal sessions per week of senior doctor time for stroke management:			
% with no consultant sessions	22%	7%	2%
% with no staff grade sessions	64%	68%	61%
% with no clinical assistant sessions	90%	90%	91%

In 2006 the median number of consultant sessions is 5 per week Interquartile range 3 to 7. This has increased from 2004 when the median was 3 and interquartile range 2 to 5.

Domain 4 Interdisciplinary Services (stroke units only)

Description of the domain

The composition of the multidisciplinary team and staffing establishment in the stroke units are described and the ratio of staff to stroke unit beds quantified. Research shows patients with acute stroke should be offered organised inpatient care, which is typically provided by a co-ordinated multidisciplinary team operating within a discrete stroke ward.

There have been small improvements in the composition of multidisciplinary stroke teams over the last four years. This has been particularly evident for speech and language therapy, dietetics and social work although there are still a quarter of stroke teams that do not have a designated social worker.

Table 19 Changes in establishment of multidisciplinary team members on stroke units between 2002 and 2006

	2002	2004	2006
Qualified nurse/care assistants at 10am: Median (IQR)	6 (5-10)	7 (5-10)	7 (6-11)
Staff establishment: % YES			
Clinical Psychology	26%	28%	31%
Dietetics	70%	85%	85%
Occupational Therapy	94%	97%	99.5%
Physiotherapy	95%	99%	99.5%
Speech and Language Therapy	82%	92%	94%
Pharmacy	NA	NA	75%
Orthotics	NA	NA	7%
Foot health	NA	NA	11%
Social Worker attached to the Multidisciplinary Team	63%	64%	74%

Domain 5 TIA Neurovascular services

Description of the domain

This domain includes the provision of services for patients with transient ischaemic attack.

The risk of stroke within the first four weeks after TIA can be as high as 20%. It is therefore vital that patients with TIA are seen urgently, investigated and a management plan put into place. Where significant carotid stenosis is found, carotid endarterectomy should be performed as soon as possible. There is now evidence to suggest that once 12 weeks have passed from the TIA, carotid endarterectomy ceases to be of value. National Clinical Guidelines for Stroke (2004) recommend that patients with TIA are seen in a neurovascular clinic within one week of the onset of symptoms.

It is encouraging to see how the number of neurovascular clinics is increasing with falling waiting times for appointments. We have to continue to improve services so that at the very least they achieve the recommendations of the National Clinical Guidelines of being seen and a management plan established within a week of the symptoms. More neurovascular clinics are operating than in 2004 with slightly shorter waiting times. Only 35% currently achieve the target of seeing, assessing and managing patients within 7 days.

Table 20 Changes in the provision of neurovascular/TIA services between 2004 and 2006

	2004	2006
Neurovascular clinic	65%	78%
Clinics within a 4 week period: Median (IQR)	4 (4-4)	5 (4-8)
Current average waiting time for a clinic appointment: Median (IQR) days	14 (7-28)	12 (7-17)
Service which enables patients to be seen and investigated within (stated number of) days of minor stroke	55% within 14 days	35% within 7 days

Domain 6 Continuing Education and research

Description of the domain

This indicates whether the staff expertise in stroke care is updated through education and training. Regular programmes of education and training are cited as a key feature in randomised stroke unit trials. This year participation in research studies has been included.

The number of education programmes for stroke has increased on stroke units

Table 21 Development of continuing education programmes on stroke units between 2002 and 2006

	Stroke Unit		
	2002	2004	2006
In-house programme for qualified staff	74%	79%	91%
In-house training unqualified staff	64%	82%	88%

Participation in research projects is low. 44% of hospitals are not participating in any stroke related research studies and those that are only contribute to a small number. There is fertile ground for the Stroke Research Network to develop.

Table 22 Participation in research studies

Number of clinical stroke research studies registered with Research and Development Department (on the day you complete this form?)		
Acute studies	% ONE or more	38%
Rehabilitation studies	% ONE or more	29%
Prevention studies	% ONE or more	23%
Other studies	% ONE or more	15%
Total studies (SUM of acute, rehab, prevention & other studies)	% ONE or more	56%

Table 23 Staff in (wte) funded for clinical stroke research studies

How much time (in whole time equivalents (WTE) and however funded) is spent on clinical stroke research studies?	% hospitals with ANY wte
Total, all professionals	43%
Doctor	31%
Nurse	24%
Occupational Therapy	4%
Physiotherapy	9%
Speech & Language Therapy	6%
Psychologist	5%
Dietitian	2%
Other	10%

Domain 7 Multidisciplinary Records

Description of this domain

A range of staff from different disciplines delivers patient care. The use of multidisciplinary records promotes patient centred care, aids communication between members of the team and helps to avoid duplication. The extent to which multidisciplinary records are in place and the use of a care pathway for stroke is recommended in the National Service Framework for older people.

Coordinating the care from professionals is important in the delivery of effective multidisciplinary treatment. The use of joint notes and care pathways is one way that may help the process. Development of the electronic patient pathway should provide the best solution but in the meantime this is an area that requires local initiative.

Table 24 Percentage of hospitals with multidisciplinary records

Single set of patient records for stroke management	71%
Trust has an interdisciplinary care pathway for stroke	66%

Table 25 Progress with provision of care pathways for stroke in hospitals between 2002 and 2006

	2002	2004	2006
Trust has an interdisciplinary care pathway for stroke	40%	53%	66%

Domain 8 Team Working – Team meetings

Description of the domain

This domain reviews the frequency of team meetings for the interchange of information about individual patients and the range of disciplines involved. Weekly team meetings have been identified as one of the significant factors in a co-ordinated stroke service leading to improved clinical outcomes. (SUTC)

100% of stroke units now have multidisciplinary meetings weekly with the vast majority having nurses, physiotherapists, occupational therapists and doctors attending. There remains a problem with insufficient involvement of speech therapy, social work, and dietetics. Clinical psychology provision remains grossly inadequate.

Table 26 Changes in provision of team meetings on stroke units and their composition between 2002 and 2006

	Stroke Unit		
	2002	2004	2006
Team meetings once weekly	82%	96%	100%
Clinical Psychology	13%	17%	18%
Dietetics	37%	47%	61%
Medicine (Senior Doctor)	81%	93%	98%
Nursing	84%	96%	100%
Occupational Therapy	82%	95%	99%
Physiotherapy	83%	96%	100%
Social Work	59%	69%	77%
Speech & Language Therapy	63%	74%	82%
Other	33%	41%	58%

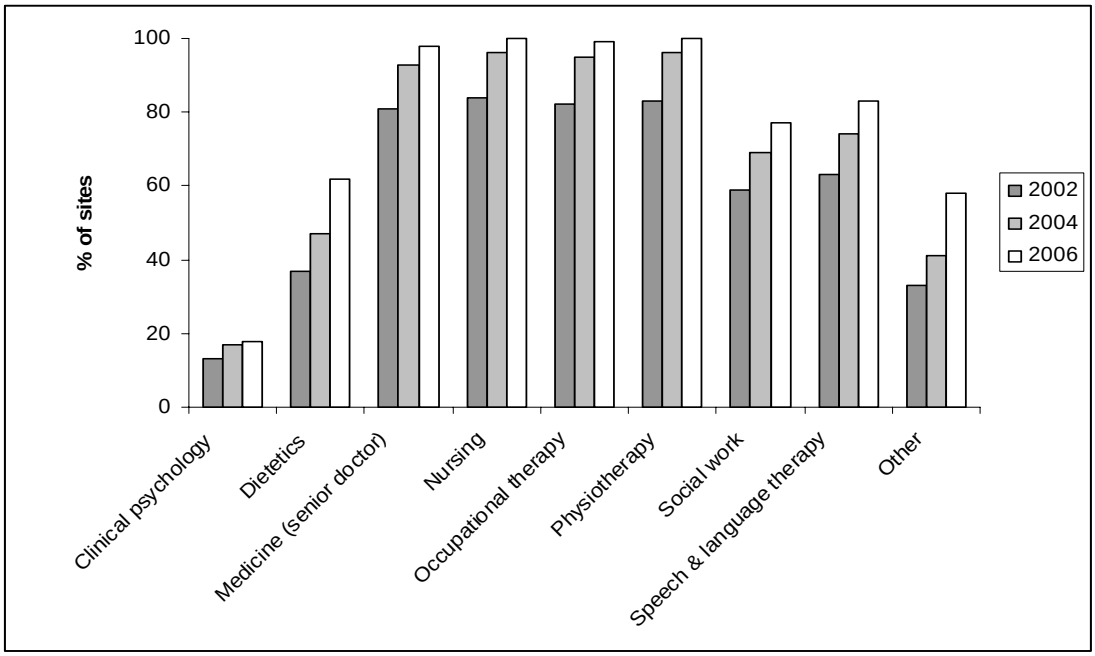


Figure 4 changes in composition of team meetings on stroke units between 2002 and 2006

Domain 9 Agreed Assessment Measures

Description of domain

Measures agreed and used by the whole team can facilitate a shared understanding of the severity of the illness/disability and the patient's progress during rehabilitation. Using standardised measurement of impairments and disability after stroke helps maintain common standards and consistency of treatment.

There have been marked improvements in the use of standardised measures of impairment and disability over the last four years

Table 27 implementation of assessment protocols between 2002 to 2006

Locally agreed assessment protocol for stroke indicating the appropriate use of agreed measures for:	2002	2004	2006
Conscious level	83 %	89 %	96%
Motor impairment	59 %	77 %	90%
Cognitive Function	85 %	90 %	93%
Activities of Daily Living	82 %	85 %	95%

Information was collected for the first time in 2006 protocols for the appropriate use of agreed measures for acute stroke impairment and mood and are found in 35% and 66% of hospitals respectively.

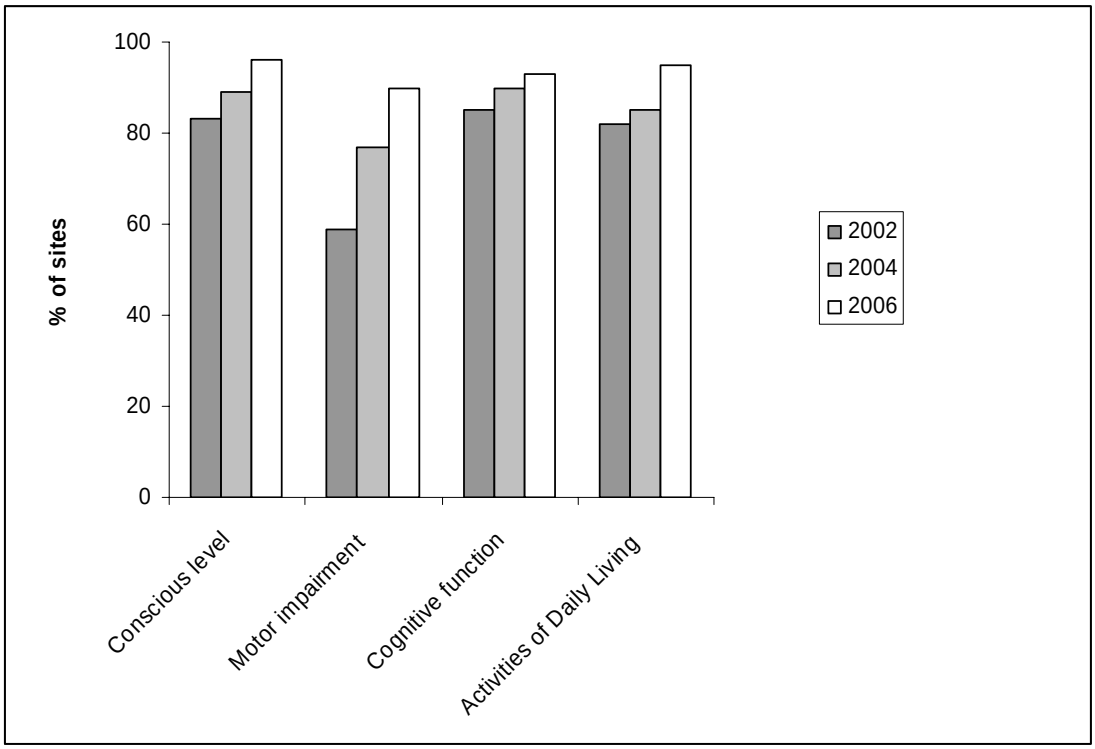


Figure 5 Implementation of stroke protocols between 2002 and 2006

Domain 10 Communication with patients and carers

Description of the domain

This comprehensive domain covers the organisational arrangements for patients to access information and for the organisation to communicate with user groups. The display of patient information including literature, patient versions of guidelines and local agencies helps to promote patients'/carers' understanding and enables shared decision making when treatment options are involved. Educating and informing patients and carers should be seen as a key role of health professionals managing patients with stroke.

Over two-thirds of units now have a community user group which is a major shift since the last audit

Improvements have been made in all areas of information provision for stroke patients. An increasing number of hospitals do now have formal links with user groups.

Table 28 Development of patient information structures between 2002 and 2006

	2002	2004	2006
Does stroke service have formal links with patients and carers organisations for communication on service provision, audit and future plans:	61%	69%	74%
Is there a community user group for stroke:	58%	59%	68%

% of hospitals with the characteristic on their Stroke Unit	2002	2004	2006
Patient access to management plan	62%	66%	73%
Patient information literature displayed in unit on:			
Condition specific literature on stroke	85%	98%	99%
Patient versions of national or local guidelines/ standards	43%	52%	59%
Social Services local Community Care arrangements	58%	71%	82%
The Benefits Agency	56%	72%	76%
Local Voluntary Agencies	70%	76%	94%
How to complain	78%	92%	99%

SCANNING SERVICES

Various questions were asked about the availability of imaging services both in weekdays and at weekends. Inpatient services are summarised below

Nearly all hospitals now have the facilities to scan brain and carotids, however access remains difficult for some, particularly out of normal working hours. This is an issue that will need to be resolved if first class stroke services are to be delivered in UK hospitals

Table 29 Access to CT, MRI and Carotid Dopper imaging

	Computerised Tomography	Magnetic Resonance Image	Carotid Doppler
% YES	100%	97%	97%
Weekdays			
0-4 hours	8%	<1%	4%
5-24 hours	58%	15%	11%
25-48 hours	27%	33%	25%
More than 48 hours	7%	52%	60%
Weekends			
0-4 hours	8%	2%	1%
5-24 hours	18%	3%	0.4%
25-48 hours	40%	9%	6%
More than 48 hours	35%	85%	90%

Chapter 4 National Organisational Audit Results by Region - Summary of key organisational results by hospital in SHA/Country NB STATUS AS AT 1ST APRIL 2006

For interpretation see questionnaire and definitions

Table 30 summary of key organisational results by hospital for stroke unit provision and quality and other models of care

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
EAST MIDLANDS STRATEGIC HEALTH AUTHORITY								
Chesterfield Royal Hospital NHS Foundation Trust	Yes	3	No	None	4	Yes	No	No
Derby Hospitals NHS Foundation Trust	Yes	4	Yes	None	4	Yes	No	No
Kettering General Hospital NHS Trust	None	None	No	None	No Stroke Unit	No	No	No
Northampton General Hospital NHS Trust	Yes	3	Yes	None	5	No	No	No
Nottingham University Hospital NHS Trust	Yes	6	Yes	None	5	Yes	Yes	No
Sherwood Forest Hospitals NHS Trust	Yes	5	Yes	None	4	No	No	No
United Lincolnshire Hospitals NHS Trust (Grantham and District Hospital)	None	None	No	Yes	5	Yes	No	No
United Lincolnshire Hospitals NHS Trust (Lincoln County)	None	None	No	Yes	5	No	No	No
United Lincolnshire Hospitals NHS Trust (Louth County Hospital)	None	None	Yes	None	5	No	No	No
United Lincolnshire Hospitals NHS Trust (Pilgrim Hospital)	None	None	No	Yes	3	No	No	No
University Hospitals of Leicester NHS Trust	None	None	No	Yes	4	No	No	No
EAST OF ENGLAND STRATEGIC HEALTH AUTHORITY								
Basildon & Thurrock University Hospitals NHS Foundation Trust	None	None	Yes	None	5	No	No	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Bedford Hospital NHS Trust	None	None	Yes	None	5	No	Yes	No
Cambridge University Hospitals NHS Foundation Trust	Yes	5	Yes	None	5	Yes	No	Yes
East & North Hertfordshire NHS Trust (Lister Hospital)	None	None	Yes	None	4	No	No	No
East and North Hertfordshire NHS Trust (Queen Elizabeth II Hospital)	None	None	Yes	None	3	No	No	No
Essex Rivers Healthcare NHS Trust	None	None	Yes	Yes	5	Yes	Yes	No
Hinchingbrooke Health Care NHS Trust	None	None	No	Yes	3	No	No	No
Ipswich Hospital NHS Trust	None	None	No	Yes	5	Yes	No	No
James Paget Healthcare NHS Trust	Yes	2	Yes	None	5	No	Yes	No
Luton and Dunstable Hospital NHS Trust	None	None	No	Yes	5	No	No	Yes
Mid Essex Hospital Services NHS Trust	None	None	No	Yes	5	No	No	No
Norfolk & Norwich University Hospital NHS Trust	Yes	3	No	None	4	No	No	No
Peterborough and Stamford Hospitals NHS Foundation Trust	Yes	4	Yes	None	5	Yes	No	Yes
Princess Alexandra Hospital NHS Trust	Yes	3	Yes	Yes	5	No	No	No
Southend Hospital NHS Trust	None	None	Yes	None	5	Yes	No	No
The Queen Elizabeth Hospital King's Lynn NHS Trust	None	None	No	Yes	5	No	No	No
West Hertfordshire Hospitals NHS Trust (Hemel Hempstead Hospital)	None	None	No	Yes	5	No	No	Yes
West Hertfordshire Hospitals NHS Trust (Watford General Hospital)	Yes	6	Yes	None	4	Yes	Yes	No
West Suffolk Hospitals NHS Trust	Yes	4	Yes	None	5	No	No	No
LONDON STRATEGIC HEALTH AUTHORITY								
Barking Havering and Redbridge Hospitals NHS Trust (King George)	Yes	5	Yes	None	5	No	No	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Barking Havering and Redbridge Hospitals NHS Trust (Oldchurch)	Yes	4	Yes	None	5	No	Yes	No
Barnet and Chase Farm Hospitals NHS Trust (Barnet Hospital)	Yes	4	Yes	None	4	Yes	Yes	Yes
Barnet and Chase Farm Hospitals NHS Trust (Chase Farm Hospital)	Yes	4	Yes	None	5	Yes	Yes	No
Barts and The London NHS Trust jointly with Tower Hamlets PCT	Yes	6	Yes	None	5	No	Yes	Yes
Bromley Hospitals NHS Trust	None	None	Yes	None	5	No	No	No
Chelsea and Westminster Healthcare NHS Trust	None	None	No	Yes	5	Yes	Yes	No
Ealing Hospital NHS Trust	Yes	2	No	None	3	Yes	No	No
Epsom and St Helier University Hospitals NHS Trust (Epsom Hospital)	None	None	No	Yes	4	Yes	Yes	No
Epsom and St Helier University Hospitals NHS Trust (St Helier Hospital)	Yes	3	Yes	None	4	Yes	No	Yes
Guy's & St Thomas' Hospital NHS Foundation Trust	Yes	6	Yes	None	5	No	No	No
Hammersmith Hospitals NHS Trust (Charing Cross)	Yes	6	Yes	None	5	No	No	No
Hammersmith Hospitals NHS Trust (Hammersmith)	None	None	No	None	No Stroke Unit	Yes	No	No
Havering Primary Care Trust	None	None	Yes	None	4	Yes	Yes	No
Hillingdon Hospital NHS Trust	None	None	No	Yes	4	No	No	No
Homerton University Hospital NHS Foundation Trust	None	None	Yes	None	4	Yes	Yes	No
King's College Hospital NHS Trust	Yes	6	Yes	None	5	Yes	No	No
Kingston Hospital NHS Trust	Yes	3	Yes	None	5	No	No	No
Lewisham Hospital NHS Trust	Yes	4	Yes	None	5	Yes	No	No
Mayday Healthcare NHS Trust	None	None	Yes	None	4	No	No	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Newham University Hospital NHS Trust	Yes	4	Yes	None	5	Yes	Yes	No
North Middlesex University Hospital NHS Trust - Jointly with Haringey PCT	None	None	Yes	Yes	4	Yes	No	No
North West London Hospitals NHS Trust (Central Middlesex Hospital including Willesden Community hospital (Brent PCT))	Yes	4	No	None	5	Yes	Yes	Yes
North West London Hospitals NHS Trust (Northwick Park Hospital)	None	None	No	Yes	4	Yes	No	No
Queen Elizabeth Hospital NHS Trust	None	None	No	Yes	5	No	No	No
Queen Mary's Sidcup NHS Trust	None	None	Yes	None	5	No	No	No
Royal Free Hampstead NHS Trust	None	None	No	Yes	4	Yes	No	No
St George's Healthcare NHS Trust	Yes	5	Yes	None	5	No	No	No
St Mary's NHS Trust	None	None	No	Yes	5	No	Yes	No
University College London Hospitals NHS Foundation Trust	None	None	No	Yes	5	Yes	Yes	No
West Middlesex University Hospital NHS Trust	None	None	No	Yes	4	Yes	No	No
Whipps Cross University Hospital NHS Trust	Yes	5	Yes	None	4	No	No	No
Whittington Hospital NHS Trust	Yes	5	Yes	None	4	No	Yes	No
NORTH EAST STRATEGIC HEALTH AUTHORITY								
City Hospitals Sunderland NHS Foundation Trust	Yes	6	Yes	None	5	Yes	No	No
County Durham and Darlington Acute Hospitals NHS Trust (Bishop Auckland)	None	None	No	Yes	4	No	Yes	No
County Durham and Darlington Acute Hospitals NHS Trust (Darlington Memorial)	None	None	Yes	None	3	No	Yes	Yes
County Durham and Darlington Acute	None	None	No	Yes	4	No	No	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Hospitals NHS Trust (University Hospital North Durham)								
Gateshead Health NHS Foundation Trust	Yes	6	Yes	None	5	No	No	Yes
Newcastle upon Tyne Hospitals NHS Trust	Yes	6	Yes	None	5	No	Yes	Yes
North Tees and Hartlepool NHS Trust (North Tees Hospital)	None	None	Yes	None	3	Yes	Yes	Yes
North Tees and Hartlepool NHS Trust (University Hospital of Hartlepool)	None	None	Yes	None	4	No	No	Yes
Northumbria Healthcare NHS Trust (Hexham General Hospital)	None	None	No	Yes	5	No	Yes	No
Northumbria Healthcare NHS Trust (North Tyneside District General Hospital)	Yes	5	Yes	None	5	No	Yes	Yes
Northumbria Healthcare NHS Trust (Wansbeck General Hospital)	Yes	5	Yes	None	5	No	Yes	No
South Tees Hospitals NHS Trust (The James Cook University Hospital)	None	None	No	Yes	5	No	Yes	Yes
South Tees Hospitals Trust in collaboration with Hambleton and Richmond PCT	Yes	5	No	None	4	No	No	No
South Tyneside NHS Foundation Trust	Yes	6	Yes	None	5	No	Yes	No
NORTH WEST STRATEGIC HEALTH AUTHORITY								
Aintree Hospitals NHS Trust	Yes	6	Yes	None	5	No	No	No
Blackpool, Fylde & Wyre Hospitals NHS Trust	Yes	5	Yes	None	4	No	No	No
Bolton Hospitals NHS Trust	None	None	Yes	None	5	No	No	No
Central Manchester and Manchester Children's University Hospital NHS Trust	Yes	5	Yes	None	5	Yes	Yes	Yes
Countess of Chester Hospital NHS	Yes	3	Yes	None	5	Yes	Yes	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Foundation Trust								
East Cheshire NHS Trust	Yes	4	Yes	None	5	Yes	No	No
East Lancashire Hospitals NHS Trust (Blackburn Hyndburn & Ribble Valley)	Yes	3	Yes	None	4	No	No	No
East Lancashire Hospitals NHS Trust (Burnley Health Care NHS Trust)	None	None	No	Yes	5	No	No	Yes
Lancashire Teaching Hospitals NHS Foundation Trust	Yes	2	Yes	None	5	Yes	No	No
Lancashire Teaching Hospitals NHS Foundation Trust (Chorley and South Ribble)	None	None	Yes	None	5	No	No	No
Mid Cheshire Hospitals NHS Trust	Yes	6	Yes	None	5	No	No	No
Morecambe Bay Hospitals NHS Trust (Furness General Hospital)	Yes	2	Yes	None	4	No	No	No
Morecambe Bay Hospitals NHS Trust (Royal Lancaster Infirmary)	None	None	Yes	None	4	No	No	No
Morecambe Bay Hospitals NHS Trust (Westmorland General Hospital)	Yes	4	No	None	5	No	No	No
North Cheshire Hospitals NHS Trust (Halton General Hospital)	None	None	No	Yes	5	No	No	No
North Cheshire Hospitals NHS Trust (Warrington Hospital)	Yes	6	Yes	None	5	Yes	Yes	No
North Cumbria Acute Hospitals NHS Trust (Cumberland Infirmary)	None	None	Yes	Yes	5	No	No	No
North Cumbria Acute Hospitals NHS Trust (West Cumberland Hospital)	Yes	6	Yes	None	5	No	No	No
Pennine Acute Hospitals NHS Trust (Fairfield General Hospital)	Yes	4	Yes	None	5	Yes	No	No
Pennine Acute Hospitals NHS Trust (North Manchester General)	Yes	4	Yes	None	5	Yes	Yes	No
Pennine Acute Hospitals NHS Trust (Rochdale Infirmary)	Yes	3	Yes	None	5	Yes	Yes	Yes

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Pennine Acute Hospitals NHS Trust (Royal Oldham Hospital)	Yes	6	Yes	None	5	No	Yes	No
Royal Liverpool & Broadgreen University Hospitals NHS Trust	Yes	5	Yes	None	5	Yes	No	Yes
Salford Royal Hospitals NHS Trust	Yes	6	Yes	None	5	No	Yes	No
South Manchester University Hospitals NHS Trust	Yes	4	Yes	None	5	No	No	No
Southport and Ormskirk Hospital NHS Trust	Yes	6	Yes	None	5	Yes	Yes	No
St Helens & Knowsley Hospitals NHS Trust	Yes	4	Yes	None	4	No	No	No
Stockport NHS Foundation Trust	Yes	3	Yes	None	5	Yes	No	Yes
Tameside and Glossop Acute Services	None	None	Yes	None	5	No	No	No
Trafford Healthcare NHS Trust	None	None	No	None	No Stroke Unit	Yes	Yes	Yes
Wirral Hospital NHS Trust	Yes	6	Yes	None	5	Yes	No	No
Wrightington, Wigan and Leigh NHS Trust	Yes	2	Yes	None	4	Yes	No	No
SOUTH CENTRAL STRATEGIC HEALTH AUTHORITY								
Buckinghamshire Hospitals NHS Trust (Amersham & Wycombe Hospitals)	None	None	No	Yes	4	No	No	No
Buckinghamshire Hospitals NHS Trust (Stoke Mandeville Hospital)	None	None	No	Yes	5	Yes	Yes	No
East Hampshire Primary Care Trust jointly with Portsmouth Hospitals NHS Trust	Yes	4	Yes	None	5	Yes	No	Yes
Heatherwood & Wexham Park Hospitals	None	None	No	Yes	5	No	No	No
Isle of Wight Healthcare NHS Trust	Yes	2	Yes	None	5	No	No	No
Milford Stroke Unit (New Forest PCT)	None	None	Yes	None	5	No	No	No
Milton Keynes General NHS Trust	None	None	Yes	None	4	No	No	Yes

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
North Hampshire Hospitals NHS Trust	Yes	4	Yes	None	5	No	No	No
Oxford Radcliffe Hospitals NHS Trust	Yes	6	Yes	None	5	No	No	No
Royal Berkshire & Battle Hospitals NHS Trust	Yes	4	Yes	None	5	No	No	No
Southampton University Hospitals NHS Trust (Southampton General Hospital)	Yes	2	No	None	4	No	No	No
Tannersbrook Stroke Unit (Southampton City PCT)	None	None	Yes	None	5	No	No	No
Winchester and Eastleigh Healthcare NHS Trust	None	None	No	Yes	5	Yes	No	No
SOUTH EAST COAST STRATEGIC HEALTH AUTHORITY								
Ashford and St Peter's Hospital NHS Trust	Yes	3	Yes	None	4	No	Yes	No
Brighton & Sussex University Hospitals NHS Trust (Brighton)	None	None	No	Yes	4	No	Yes	No
Brighton & Sussex University Hospitals NHS Trust (Mid-Sussex)	None	None	No	Yes	5	No	No	No
Dartford & Gravesham NHS Trust	None	None	No	Yes	5	Yes	Yes	No
Dartford, Gravesham & Swanley Primary Care Trust	None	None	No	None	No Stroke Unit	No	Yes	No
East Kent Hospitals NHS Trust (Ashford, William Harvey Hospital)	None	None	No	Yes	5	No	Yes	Yes
East Kent Hospitals NHS Trust (Kent & Canterbury Hospital)	Yes	6	Yes	None	4	No	No	No
East Kent Hospitals NHS Trust (Queen Elizabeth Queen Mother (Margate) Hospital)	None	None	No	Yes	4	Yes	No	No
East Sussex Hospitals NHS Trust (Conquest Hospital)	None	None	No	Yes	5	Yes	Yes	No
East Sussex Hospitals NHS Trust (Eastbourne Hospital)	Yes	5	Yes	None	5	No	Yes	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Frimley Park Hospitals NHS Foundation Trust	None	None	No	Yes	4	No	No	No
Maidstone and Tunbridge Wells NHS Trust (Kent and Sussex)	None	None	Yes	None	3	No	Yes	Yes
Maidstone and Tunbridge Wells NHS Trust (Maidstone Hospital)	None	None	No	None	No Stroke Unit	No	No	No
Medway Maritime Hospital, Medway PCT & Swale PCT	Yes	5	Yes	None	5	Yes	Yes	Yes
Royal Surrey County Hospital NHS Trust	None	None	No	Yes	4	Yes	No	Yes
Royal West Sussex Trust	Yes	6	Yes	None	5	No	No	No
Surrey & Sussex Healthcare NHS Trust	Yes	4	Yes	None	3	Yes	Yes	Yes
Worthing & Southlands Hospitals NHS Trust	Yes	4	Yes	None	5	No	Yes	No
SOUTH WEST STRATEGIC HEALTH AUTHORITY								
Bath & North East Somerset Primary Care Trust	None	None	No	None	No Stroke Unit	Yes	No	No
East Devon Primary Care Trust	None	None	Yes	None	5	No	No	No
Exeter Primary Care Trust	None	None	Yes	None	4	No	No	No
Gloucestershire Hospitals NHS Foundation Trust (Cheltenham General Hospital)	Yes	4	Yes	None	5	No	Yes	No
Gloucestershire Hospitals NHS Foundation Trust (Gloucestershire Royal Hospital)	None	None	No	Yes	5	No	Yes	No
Kennet, North and West Wiltshire PCT Stroke Unit	None	None	Yes	None	5	No	No	Yes
Mendip PCT (Shepton Mallet Hospital)	None	None	Yes	None	5	No	Yes	Yes
Mid Devon Primary Care Trust	None	None	Yes	None	5	No	No	No
North Bristol NHS Trust	Yes	6	Yes	None	5	Yes	Yes	No
Northern Devon Healthcare NHS Trust	None	None	No	Yes	5	No	Yes	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Plymouth Hospitals NHS Trust	Yes	5	No	None	4	No	No	No
Plymouth Primary Care Trust	None	None	Yes	None	5	No	No	No
Poole Hospital NHS Trust	Yes	4	Yes	None	5	No	No	No
Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust	Yes	3	Yes	None	4	Yes	Yes	No
Royal Cornwall Hospitals Trust	Yes	4	Yes	None	4	No	No	Yes
Royal Devon & Exeter NHS Foundation Trust	Yes	6	Yes	None	5	No	Yes	No
Royal United Hospital Bath NHS Trust	Yes	4	No	None	5	Yes	No	No
Salisbury Health Care NHS Trust	None	None	Yes	None	5	No	Yes	No
South Devon (including South Devon Healthcare NHS Trust and Teignbridge, Torbay and South Hams and West Devon PCTs)	Yes	3	Yes	None	5	Yes	Yes	No
Swindon & Marlborough NHS Trust (in collaboration with Swindon PCT)	None	None	Yes	None	4	No	No	Yes
Taunton & Somerset NHS Trust	None	None	No	Yes	4	No	No	No
United Bristol Healthcare NHS Trust	Yes	3	Yes	None	5	No	No	No
West Dorset General Hospitals NHS Trust	Yes	5	Yes	None	5	Yes	No	No
Weston Area Health Trust	Yes	3	Yes	None	3	No	No	No
Yeovil District Hospital NHS Foundation Trust	None	None	No	Yes	4	No	Yes	No
WEST MIDLANDS STRATEGIC HEALTH AUTHORITY								
Burton Hospitals NHS Trust	None	None	No	None	No Stroke Unit	Yes	No	No
Dudley Group of Hospitals NHS Trust	Yes	3	Yes	None	5	No	Yes	No
George Eliot Hospital NHS Trust	None	None	No	Yes	5	No	No	No
Good Hope Hospital NHS Trust	Yes	3	Yes	None	5	No	Yes	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Heart of England NHS Foundation Trust	Yes	6	Yes	Yes	5	Yes	No	Yes
Hereford Hospitals NHS Trust	Yes	4	No	None	5	No	No	No
Mid Staffordshire General Hospitals NHS Trust	Yes	3	Yes	None	5	Yes	No	No
Royal Wolverhampton Hospitals NHS Trust jointly with Wolverhampton Health Care NHS Trust	Yes	5	Yes	None	5	No	No	No
Sandwell and West Birmingham Hospitals NHS Trust (City Hospital)	Yes	4	Yes	None	4	No	Yes	No
Sandwell and West Birmingham Hospitals NHS Trust (Sandwell District Hospital)	Yes	3	Yes	None	4	No	Yes	No
Shrewsbury & Telford Hospital NHS Trust	Yes	2	Yes	Yes	5	No	No	No
South Birmingham Primary Care Trust	None	None	Yes	None	5	No	No	No
South Warwickshire General Hospitals NHS Trust	Yes	4	Yes	None	5	No	Yes	Yes
South Worcestershire Primary Care Trust	None	None	Yes	None	5	No	No	No
University Hospital Birmingham NHS Foundation Trust	Yes	5	No	None	5	No	No	No
University Hospital of North Staffordshire NHS Trust & North Staffordshire Combined Healthcare NHS Trust Combined	None	None	Yes	Yes	5	No	No	No
University Hospitals Coventry and Warwickshire (St Cross Hospital Rugby)	Yes	3	No	None	5	No	No	No
University Hospitals Coventry and Warwickshire (Walsgrave Hospital)	Yes	4	No	None	5	Yes	No	No
Walsall Hospitals NHS Trust	Yes	5	Yes	None	5	No	Yes	Yes
Worcestershire Acute Hospitals NHS	Yes	4	Yes	None	5	No	No	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Trust (Alexandra Hospital Redditch)								
Worcestershire Acute Hospitals NHS Trust (Worcester Royal Hospital)	Yes	5	Yes	None	5	No	No	No
YORKSHIRE AND THE HUMBER STRATEGIC HEALTH AUTHORITY								
Airedale NHS Trust	None	None	No	Yes	5	No	No	No
Barnsley Hospital NHS Foundation Trust	Yes	3	Yes	None	5	No	No	Yes
Bradford Teaching Hospitals NHS Foundation Trust	Yes	3	Yes	None	5	No	No	Yes
Calderdale & Huddersfield NHS Trust	Yes	4	Yes	None	5	Yes	No	No
Doncaster & Bassetlaw Hospitals NHS Foundation Trust (Bassetlaw Hospital)	None	None	No	Yes	5	Yes	Yes	Yes
Doncaster & Bassetlaw Hospitals NHS Foundation Trust (Doncaster Royal Infirmary & Montagu Hospital)	Yes	2	Yes	None	4	No	Yes	No
Hambleton and Richmondshire PCT (Rutson Rehabilitation Unit)	None	None	Yes	None	5	No	No	Yes
Harrogate and District NHS Foundation Trust	None	None	Yes	None	4	No	No	No
Hull and East Yorkshire Hospitals NHS Trust	Yes	6	Yes	None	5	No	Yes	No
Mid Yorkshire Hospitals NHS Trust	Yes	1	Yes	None	5	No	No	No
Northern Lincolnshire and Goole Hospitals NHS Trust (Diana Princess of Wales Grimsby)	Yes	4	Yes	None	5	No	No	No
Northern Lincolnshire and Goole Hospitals NHS Trust (Scunthorpe General)	Yes	3	Yes	None	4	No	No	No
Scarborough and North East Yorks Health Care NHS Trust	None	None	No	Yes	5	No	No	No
Sheffield Teaching Hospitals NHS Foundation Trust	Yes	2	Yes	None	5	No	No	Yes

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
The Leeds Teaching Hospitals NHS Trust	Yes	5	Yes	None	5	No	No	Yes
The Rotherham NHS Foundation Trust	None	None	No	Yes	5	No	No	Yes
York Health Services NHS Trust	Yes	6	Yes	None	4	No	Yes	No
NORTHERN IRELAND								
Belfast City Hospital Health & Social Services Trust	None	None	No	Yes	4	No	No	Yes
Down Lisburn Health and Social Services Trust	None	None	No	Yes	5	No	Yes	No
Mater Hospital Belfast Health & Social Services Trust	None	None	No	Yes	5	No	Yes	Yes
Royal Group of Hospitals and Dental Health & Social Services Trust	Yes	4	Yes	None	3	No	Yes	No
Ulster Community & Hospitals Trust	None	None	No	Yes	5	No	Yes	Yes
Causeway Health & Social Services Trust	None	None	No	None	No Stroke Unit	No	No	No
United Hospitals Health & Social Services Trust	Yes	3	Yes	None	2	No	No	No
Craigavon Area Hospital Group Trust	Yes	6	Yes	None	5	No	No	Yes
Newry & Mourne Health & Social Services Trust	None	None	No	Yes	4	No	Yes	Yes
Altnagelvin Hospitals Health & Social Services Trust	None	None	No	Yes	4	No	No	No
Sperrin Lakeland Health and Social Care NHS Trust (Erne Hospital)	None	None	No	Yes	5	No	No	No
Sperrin Lakeland Health and Social Care NHS Trust (Tyrone County Hospital)	None	None	Yes	None	5	No	No	No
WALES								
Bro Morgannwg NHS Trust (Neath Port Talbot Hospital)	None	None	No	None	No Stroke Unit	No	No	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
Bro Morgannwg NHS Trust (Princess of Wales Hospital)	None	None	No	None	No Stroke Unit	No	No	No
Carmarthenshire NHS Trust (Prince Philip Hospital)	None	None	No	None	No Stroke Unit	No	No	No
Carmarthenshire NHS Trust (West Wales General)	None	None	No	None	No Stroke Unit	No	No	No
Ceredigion & Mid-Wales NHS Trust	None	None	No	Yes	4	No	No	No
Pembrokeshire & Derwen NHS Trust	Yes	3	Yes	None	5	No	No	No
Powys Local Health Board	None	None	No	None	No Stroke Unit	No	No	No
Swansea NHS Trust (Morriston Hospital)	None	None	No	None	No Stroke Unit	Yes	No	No
Swansea NHS Trust (Singleton Hospital)	None	None	No	None	No Stroke Unit	No	No	Yes
Conwy & Denbighshire NHS Trust	Yes	3	Yes	None	4	Yes	No	No
North East Wales NHS Trust	None	None	Yes	None	4	No	No	No
North West Wales NHS Trust (Bangor Hospital)	None	None	No	None	No Stroke Unit	Yes	No	Yes
North West Wales NHS Trust (Llandudno Hospital)	None	None	No	None	No Stroke Unit	No	No	No
Cardiff and Vale NHS Trust (Llandough Hospital)	None	None	No	Yes	4	No	No	No
Cardiff and Vale NHS Trust (University Hospital Wales)	None	None	Yes	None	5	No	No	No
Gwent Healthcare NHS Trust (Caerphilly District Miner's Hospital)	None	None	No	None	No Stroke Unit	No	No	No
Gwent Healthcare NHS Trust (Nevill Hall Hospital)	None	None	No	Yes	5	Yes	No	No
Gwent Healthcare NHS Trust (St Woolos Hospital (Royal Gwent))	Yes	1	No	None	5	Yes	No	No

SITE	Acute Stroke Unit	Number of Acute Stroke Unit beds	Rehabilitation Stroke Unit	Combined Stroke Unit	Number of key Stroke Unit features	Mobile stroke team	Specialist Community Stroke Team	Early Supported Discharge Team
North Glamorgan NHS Trust	None	None	No	None	No Stroke Unit	No	No	Yes
Pontypridd & Rhondda NHS Trust	None	None	Yes	None	5	No	Yes	Yes
THE ISLANDS								
Isle of Man Department of Health and Social Security	None	None	Yes	None	4	No	No	No
States of Guernsey Health & Social Services	None	None	No	None	No Stroke Unit	No	No	No
States of Jersey Health & Social Services	None	None	No	None	No Stroke Unit	No	Yes	Yes

Summary of key organisational results by hospital in SHA/Country

This table includes average estimated waiting times for scan, whether the trust has a neurovascular/TIA clinic and involvement with patients. The total organisational score is an aggregated score across all domains. The best organised 25% of hospitals are in the upper quartile designated by the symbol ✔, the least well organised hospitals for stroke care are in the lower quartile designated with the symbol ✘, the middle half lie between the two designated by the diamond ◆.

Table 31 Summary of key organisational results by hospital including waiting times for scan, presence of neurovascular/TIA clinic and involvement with patients.

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
EAST MIDLANDS STRATEGIC HEALTH AUTHORITY									
Chesterfield Royal Hospital NHS Foundation Trust	5-24 hrs	5-24 hrs	5-24 hrs	0-4 hrs	Yes	No	Yes	No	✘
Derby Hospitals NHS Foundation Trust	5-24 hrs	5-24 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
Kettering General Hospital NHS Trust	25-48 hrs	> 48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	✘
Northampton General Hospital NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	◆
Nottingham University Hospital NHS Trust	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	✔
Sherwood Forest Hospitals NHS Trust	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	No	No	◆
United Lincolnshire Hospitals NHS Trust (Grantham and District Hospital)	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	No	Yes	Yes	No	◆
United Lincolnshire Hospitals NHS Trust (Lincoln County)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆
United Lincolnshire Hospitals NHS Trust (Louth County Hospital)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	◆
United Lincolnshire Hospitals NHS Trust (Pilgrim Hospital)	5-24 hrs	25-48 hrs	25-48 hrs	25-48 hrs	Yes	No	Yes	No	✘

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
University Hospitals of Leicester NHS Trust	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
EAST OF ENGLAND STRATEGIC HEALTH AUTHORITY									
Basildon & Thurrock University Hospitals NHS Foundation Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	No	No	
Bedford Hospital NHS Trust	5-24 hrs	> 48 hrs	5-24 hrs	> 48 hrs	Yes	Yes	No	No	
Cambridge University Hospitals NHS Foundation Trust	25-48 hrs	> 48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
East & North Hertfordshire NHS Trust (Lister Hospital)	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
East and North Hertfordshire NHS Trust (Queen Elizabeth II Hospital)	5-24 hrs	0-4 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Essex Rivers Healthcare NHS Trust	5-24 hrs	> 48 hrs	5-24 hrs	> 48 hrs	Yes	No	Yes	Yes	
Hinchingbrooke Health Care NHS Trust	25-48 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	No	No	
Ipswich Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	25-48 hrs	Yes	Yes	Yes	Yes	
James Paget Healthcare NHS Trust	5-24 hrs	5-24 hrs	5-24 hrs	> 48 hrs	No	Yes	Yes	No	
Luton and Dunstable Hospital NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Mid Essex Hospital Services NHS Trust	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
Norfolk & Norwich University Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	
Peterborough and Stamford Hospitals NHS Foundation Trust	25-48 hrs	25-48 hrs	25-48 hrs	25-48 hrs	Yes	No	Yes	No	
Princess Alexandra Hospital NHS Trust	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
Southend Hospital NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
The Queen Elizabeth Hospital King's Lynn NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
West Hertfordshire Hospitals NHS Trust (Hemel Hempstead Hospital)	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
West Hertfordshire Hospitals NHS Trust (Watford General Hospital)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	No	
West Suffolk Hospitals NHS Trust	5-24 hrs	> 48 hrs	25-48 hrs	> 48 hrs	No	No	Yes	Yes	
LONDON STRATEGIC HEALTH AUTHORITY									
Barking Havering and Redbridge Hospitals NHS Trust (King George)	5-24 hrs	5-24 hrs	5-24 hrs	5-24 hrs	Yes	Yes	Yes	Yes	
Barking Havering and Redbridge Hospitals NHS Trust (Oldchurch)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	No	No	Yes	No	
Barnet and Chase Farm Hospitals NHS Trust (Barnet Hospital)	5-24 hrs	5-24 hrs	5-24 hrs	25-48 hrs	Yes	Yes	Yes	No	
Barnet and Chase Farm Hospitals NHS Trust (Chase Farm Hospital)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Barts and The London NHS Trust jointly with Tower Hamlets PCT	0-4 hrs	0-4 hrs	25-48 hrs	25-48 hrs	No	Yes	Yes	Yes	
Bromley Hospitals NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	No	No	Yes	Yes	
Chelsea and Westminster Healthcare NHS Trust	0-4 hrs	0-4 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Ealing Hospital NHS Trust	25-48 hrs	25-48 hrs	> 48 hrs	> 48 hrs	No	No	No	No	
Epsom and St Helier University Hospitals NHS Trust (Epsom Hospital)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
Epsom and St Helier University Hospitals NHS Trust (St Helier Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Guy's & St Thomas' Hospital NHS Foundation Trust	0-4 hrs	0-4 hrs	5-24 hrs	5-24 hrs	Yes	Yes	Yes	Yes	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
Hammersmith Hospitals NHS Trust (Charing Cross)	0-4 hrs	5-24 hrs	5-24 hrs	25-48 hrs	Yes	Yes	Yes	No	✓
Hammersmith Hospitals NHS Trust (Hammersmith)	0-4 hrs	0-4 hrs	5-24 hrs	5-24 hrs	No	Yes	Yes	No	✗
Havering Primary Care Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	◆
Hillingdon Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	◆
Homerton University Hospital NHS Foundation Trust	25-48 hrs	> 48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	✗
King's College Hospital NHS Trust	0-4 hrs	0-4 hrs	5-24 hrs	25-48 hrs	Yes	Yes	Yes	Yes	✓
Kingston Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	◆
Lewisham Hospital NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆
Mayday Healthcare NHS Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	✗
Newham University Hospital NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
North Middlesex University Hospital NHS Trust - Jointly with Haringey PCT	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
North West London Hospitals NHS Trust (Central Middlesex Hospital including Willesden Community hospital (Brent PCT))	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	✓
North West London Hospitals NHS Trust (Northwick Park Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆
Queen Elizabeth Hospital NHS Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	✗
Queen Mary's Sidcup NHS Trust	5-24 hrs	25-48 hrs	5-24 hrs	> 48 hrs	No	No	No	No	◆
Royal Free Hampstead NHS Trust	5-24 hrs	25-48 hrs	0-4 hrs	0-4 hrs	Yes	Yes	Yes	No	◆

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
St George's Healthcare NHS Trust	0-4 hrs	5-24 hrs	5-24 hrs	25-48 hrs	Yes	No	No	No	✓
St Mary's NHS Trust	0-4 hrs	0-4 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
University College London Hospitals NHS Foundation Trust	0-4 hrs	0-4 hrs	> 48 hrs	0-4 hrs	Yes	No	Yes	Yes	✓
West Middlesex University Hospital NHS Trust	5-24 hrs	5-24 hrs	25-48 hrs	> 48 hrs	No	No	Yes	Yes	◆
Whipps Cross University Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	No	No	Yes	No	◆
Whittington Hospital NHS Trust	5-24 hrs	5-24 hrs	25-48 hrs	25-48 hrs	Yes	No	Yes	Yes	✓
NORTH EAST STRATEGIC HEALTH AUTHORITY									
City Hospitals Sunderland NHS Foundation Trust	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	◆
County Durham and Darlington Acute Hospitals NHS Trust (Bishop Auckland)	5-24 hrs	25-48 hrs	5-24 hrs	25-48 hrs	Yes	Yes	No	No	◆
County Durham and Darlington Acute Hospitals NHS Trust (Darlington Memorial)	5-24 hrs	5-24 hrs	5-24 hrs	> 48 hrs	Yes	No	Yes	No	✗
County Durham and Darlington Acute Hospitals NHS Trust (University Hospital North Durham)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	No	Yes	✗
Gateshead Health NHS Foundation Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	✓
Newcastle upon Tyne Hospitals NHS Trust	0-4 hrs	5-24 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
North Tees and Hartlepool NHS Trust (North Tees Hospital)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	No	No	✗
North Tees and Hartlepool NHS Trust (University Hospital of Hartlepool)	5-24 hrs	5-24 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	◆
Northumbria Healthcare NHS Trust (Hexham General Hospital)	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	✓

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
Northumbria Healthcare NHS Trust (North Tyneside District General Hospital)	25-48 hrs	> 48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	✓
Northumbria Healthcare NHS Trust (Wansbeck General Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	✓
South Tees Hospitals NHS Trust (The James Cook University Hospital)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	✓
South Tees Hospitals Trust in collaboration with Hambleton and Richmond PCT	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	◆
South Tyneside NHS Foundation Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	✓
NORTH WEST STRATEGIC HEALTH AUTHORITY									
Aintree Hospitals NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	No	✓
Blackpool, Fylde & Wyre Hospitals NHS Trust	25-48 hrs	25-48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	Yes	✗
Bolton Hospitals NHS Trust	25-48 hrs	> 48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
Central Manchester and Manchester Children's University Hospital NHS Trust	0-4 hrs	0-4 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	✓
Countess of Chester Hospital NHS Foundation Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	◆
East Cheshire NHS Trust	5-24 hrs	25-48 hrs	5-24 hrs	> 48 hrs	No	No	Yes	Yes	◆
East Lancashire Hospitals NHS Trust (Blackburn Hyndburn & Ribble Valley)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	✗
East Lancashire Hospitals NHS Trust (Burnley Health Care NHS Trust)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆
Lancashire Teaching Hospitals NHS Foundation Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
Lancashire Teaching Hospitals NHS Foundation Trust (Chorley and South Ribble)	25-48 hrs	> 48 hrs	25-48 hrs	> 48 hrs	No	No	No	Yes	
Mid Cheshire Hospitals NHS Trust	5-24 hrs	5-24 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	
Morecambe Bay Hospitals NHS Trust (Furness General Hospital)	25-48 hrs	25-48 hrs	No MRI	No MRI	Yes	Yes	No	No	
Morecambe Bay Hospitals NHS Trust (Royal Lancaster Infirmary)	25-48 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	No	No	
Morecambe Bay Hospitals NHS Trust (Westmorland General Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	No	No	
North Cheshire Hospitals NHS Trust (Halton General Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
North Cheshire Hospitals NHS Trust (Warrington Hospital)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
North Cumbria Acute Hospitals NHS Trust (Cumberland Infirmary)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	
North Cumbria Acute Hospitals NHS Trust (West Cumberland Hospital)	0-4 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
Pennine Acute Hospitals NHS Trust (Fairfield General Hospital)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Pennine Acute Hospitals NHS Trust (North Manchester General)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Pennine Acute Hospitals NHS Trust (Rochdale Infirmary)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
Pennine Acute Hospitals NHS Trust (Royal Oldham Hospital)	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Royal Liverpool & Broadgreen University Hospitals NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	No	No	
Salford Royal Hospitals NHS Trust	0-4 hrs	5-24 hrs	25-48 hrs	> 48 hrs	Yes	No	No	No	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
South Manchester University Hospitals NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Southport and Ormskirk Hospital NHS Trust	25-48 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
St Helens & Knowsley Hospitals NHS Trust	5-24 hrs	25-48 hrs	5-24 hrs	> 48 hrs	Yes	No	No	Yes	
Stockport NHS Foundation Trust	25-48 hrs	> 48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	
Tameside and Glossop Acute Services	5-24 hrs	> 48 hrs	5-24 hrs	> 48 hrs	Yes	No	Yes	Yes	
Trafford Healthcare NHS Trust	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Wirral Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	No	No	Yes	No	
Wrightington, Wigan and Leigh NHS Trust	25-48 hrs	> 48 hrs	5-24 hrs	> 48 hrs	Yes	No	No	No	
SOUTH CENTRAL STRATEGIC HEALTH AUTHORITY									
Buckinghamshire Hospitals NHS Trust (Amersham & Wycombe Hospitals)	5-24 hrs	> 48 hrs	5-24 hrs	> 48 hrs	Yes	No	Yes	No	
Buckinghamshire Hospitals NHS Trust (Stoke Mandeville Hospital)	25-48 hrs	25-48 hrs	25-48 hrs	25-48 hrs	Yes	No	Yes	No	
East Hampshire Primary Care Trust jointly with Portsmouth Hospitals NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Heatherwood & Wexham Park Hospitals	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Isle of Wight Healthcare NHS Trust	5-24 hrs	> 48 hrs	5-24 hrs	> 48 hrs	Yes	No	Yes	Yes	
Milford Stroke Unit (New Forest PCT)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Milton Keynes General NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
North Hampshire Hospitals NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Oxford Radcliffe Hospitals NHS Trust	0-4 hrs	25-48 hrs	5-24 hrs	25-48 hrs	Yes	Yes	Yes	Yes	
Royal Berkshire & Battle Hospitals NHS Trust	5-24 hrs	5-24 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
Southampton University Hospitals NHS Trust (Southampton General Hospital)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Tannersbrook Stroke Unit (Southampton City PCT)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Winchester and Eastleigh Healthcare NHS Trust	25-48 hrs	> 48 hrs	25-48 hrs	25-48 hrs	Yes	No	Yes	Yes	
SOUTH EAST COAST STRATEGIC HEALTH AUTHORITY									
Ashford and St Peter's Hospital NHS Trust	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Brighton & Sussex University Hospitals NHS Trust (Brighton)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	No	No	No	No	
Brighton & Sussex University Hospitals NHS Trust (Mid-Sussex)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	No	No	No	No	
Dartford & Gravesham NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Dartford, Gravesham & Swanley Primary Care Trust	No CT	No CT	No MRI	No MRI	No	No	No	No	
East Kent Hospitals NHS Trust (Ashford, William Harvey Hospital)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
East Kent Hospitals NHS Trust (Kent & Canterbury Hospital)	5-24 hrs	25-48 hrs	5-24 hrs	25-48 hrs	Yes	Yes	No	Yes	
East Kent Hospitals NHS Trust (Queen Elizabeth Queen Mother (Margate) Hospital)	5-24 hrs	25-48 hrs	5-24 hrs	> 48 hrs	Yes	No	No	No	
East Sussex Hospitals NHS Trust (Conquest Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
East Sussex Hospitals NHS Trust (Eastbourne Hospital)	5-24 hrs	> 48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Frimley Park Hospitals NHS Foundation Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Maidstone and Tunbridge Wells NHS Trust (Kent and Sussex)	5-24 hrs	0-4 hrs	25-48 hrs	> 48 hrs	No	No	Yes	No	
Maidstone and Tunbridge Wells NHS Trust (Maidstone Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Medway Maritime Hospital, Medway PCT & Swale PCT	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
Royal Surrey County Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Royal West Sussex Trust	5-24 hrs	25-48 hrs	5-24 hrs	> 48 hrs	Yes	Yes	Yes	No	
Surrey & Sussex Healthcare NHS Trust	25-48 hrs	0-4 hrs	25-48 hrs	> 48 hrs	Yes	No	No	No	
Worthing & Southlands Hospitals NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
SOUTH WEST STRATEGIC HEALTH AUTHORITY									
Bath & North East Somerset Primary Care Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	Yes	
East Devon Primary Care Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	Yes	Yes	Yes	
Exeter Primary Care Trust	No CT	No CT	No MRI	No MRI	No	No	Yes	No	
Gloucestershire Hospitals NHS Foundation Trust (Cheltenham General Hospital)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Gloucestershire Hospitals NHS Foundation Trust (Gloucestershire Royal Hospital)	25-48 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
Kennet, North and West Wiltshire PCT Stroke Unit	25-48 hrs	25-48 hrs	25-48 hrs	25-48 hrs	No	No	Yes	Yes	
Mendip PCT (Shepton Mallet Hospital)	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
Mid Devon Primary Care Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	Yes	Yes	Yes	
North Bristol NHS Trust	5-24 hrs	5-24 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Northern Devon Healthcare NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Plymouth Hospitals NHS Trust	5-24 hrs	> 48 hrs	5-24 hrs	> 48 hrs	Yes	Yes	Yes	No	
Plymouth Primary Care Trust	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
Poole Hospital NHS Trust	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust	5-24 hrs	5-24 hrs	25-48 hrs	25-48 hrs	Yes	Yes	Yes	Yes	
Royal Cornwall Hospitals Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Royal Devon & Exeter NHS Foundation Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	
Royal United Hospital Bath NHS Trust	5-24 hrs	5-24 hrs	5-24 hrs	5-24 hrs	No	No	Yes	Yes	
Salisbury Health Care NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	No	
South Devon (including South Devon Healthcare NHS Trust and Teignbridge, Torbay and South Hams and West Devon PCTs)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
Swindon & Marlborough NHS Trust (in collaboration with Swindon PCT)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Taunton & Somerset NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	
United Bristol Healthcare NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
West Dorset General Hospitals NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
Weston Area Health Trust	5-24 hrs	25-48 hrs	No MRI	No MRI	Yes	No	No	No	✗
Yeovil District Hospital NHS Foundation Trust	5-24 hrs	5-24 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
WEST MIDLANDS STRATEGIC HEALTH AUTHORITY									
Burton Hospitals NHS Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	✗
Dudley Group of Hospitals NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆
George Eliot Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	◆
Good Hope Hospital NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	◆
Heart of England NHS Foundation Trust	5-24 hrs	25-48 hrs	5-24 hrs	> 48 hrs	Yes	No	Yes	No	✓
Hereford Hospitals NHS Trust	25-48 hrs	> 48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	◆
Mid Staffordshire General Hospitals NHS Trust	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	✓
Royal Wolverhampton Hospitals NHS Trust jointly with Wolverhampton Health Care NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
Sandwell and West Birmingham Hospitals NHS Trust (City Hospital)	5-24 hrs	0-4 hrs	> 48 hrs	> 48 hrs	Yes	No	No	No	◆
Sandwell and West Birmingham Hospitals NHS Trust (Sandwell District Hospital)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
Shrewsbury & Telford Hospital NHS Trust	25-48 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
South Birmingham Primary Care Trust	25-48 hrs	25-48 hrs	25-48 hrs	25-48 hrs	No	No	Yes	Yes	◆

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
South Warwickshire General Hospitals NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆
South Worcestershire Primary Care Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	◆
University Hospital Birmingham NHS Foundation Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	✓
University Hospital of North Staffordshire NHS Trust & North Staffordshire Combined Healthcare NHS Trust Combined	25-48 hrs	25-48 hrs	25-48 hrs	25-48 hrs	Yes	No	Yes	No	◆
University Hospitals Coventry and Warwickshire (St Cross Hospital Rugby)	> 48 hrs	5-24 hrs	> 48 hrs	5-24 hrs	Yes	No	Yes	No	◆
University Hospitals Coventry and Warwickshire (Walsgrave Hospital)	5-24 hrs	0-4 hrs	> 48 hrs	0-4 hrs	Yes	No	Yes	No	✓
Walsall Hospitals NHS Trust	5-24 hrs	5-24 hrs	5-24 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
Worcestershire Acute Hospitals NHS Trust (Alexandra Hospital Redditch)	5-24 hrs	25-48 hrs	5-24 hrs	25-48 hrs	Yes	No	Yes	No	◆
Worcestershire Acute Hospitals NHS Trust (Worcester Royal Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆
YORKSHIRE AND THE HUMBER STRATEGIC HEALTH AUTHORITY									
Airedale NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
Barnsley Hospital NHS Foundation Trust	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
Bradford Teaching Hospitals NHS Foundation Trust	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
Calderdale & Huddersfield NHS Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
Doncaster & Bassetlaw Hospitals NHS Foundation Trust (Bassetlaw Hospital)	0-4 hrs	0-4 hrs	5-24 hrs	25-48 hrs	Yes	Yes	Yes	No	✓
Doncaster & Bassetlaw Hospitals NHS	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
Foundation Trust (Doncaster Royal Infirmary & Montagu Hospital)									
Hambleton and Richmondshire PCT (Rutson Rehabilitation Unit)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	✓
Harrogate and District NHS Foundation Trust	5-24 hrs	0-4 hrs	25-48 hrs	5-24 hrs	No	No	Yes	No	✗
Hull and East Yorkshire Hospitals NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	Yes	Yes	✓
Mid Yorkshire Hospitals NHS Trust (Pinderfields Hospital)	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	Yes	◆
Northern Lincolnshire and Goole Hospitals NHS Trust (Diana Princess of Wales Grimsby)	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	✓
Northern Lincolnshire and Goole Hospitals NHS Trust (Scunthorpe General)	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	◆
Scarborough and North East Yorks Health Care NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	◆
Sheffield Teaching Hospitals NHS Foundation Trust	25-48 hrs	25-48 hrs	> 48 hrs	0-4 hrs	Yes	Yes	Yes	Yes	✓
The Leeds Teaching Hospitals NHS Trust	25-48 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	◆
The Rotherham NHS Foundation Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	◆
York Health Services NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	◆
NORTHERN IRELAND									
Belfast City Hospital Health & Social Services Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	Yes	No	Yes	◆
Down Lisburn Health and Social Services Trust	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	✓

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
Mater Hospital Belfast Health & Social Services Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
Royal Group of Hospitals and Dental Health & Social Services Trust	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Ulster Community & Hospitals Trust	25-48 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Causeway Health & Social Services Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
United Hospitals Health & Social Services Trust	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	No	No	
Craigavon Area Hospital Group Trust	25-48 hrs	25-48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Newry & Mourne Health & Social Services Trust	5-24 hrs	> 48 hrs	No MRI	No MRI	No	No	Yes	Yes	
Altnagelvin Hospitals Health & Social Services Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	No	
Sperrin Lakeland Health and Social Care NHS Trust (Erne Hospital)	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	No	Yes	Yes	No	
Sperrin Lakeland Health and Social Care NHS Trust (Tyrone County Hospital)	0-4 hrs	5-24 hrs	No MRI	No MRI	No	No	No	No	
Bro Morgannwg NHS Trust (Neath Port Talbot Hospital)	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
Bro Morgannwg NHS Trust (Princess of Wales Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Carmarthenshire NHS Trust (Prince Philip Hospital)	0-4 hrs	0-4 hrs	> 48 hrs	> 48 hrs	No	No	No	No	
Carmarthenshire NHS Trust (West Wales General)	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	No	No	No	No	
Ceredigion & Mid-Wales NHS Trust	5-24 hrs	5-24 hrs	> 48 hrs	> 48 hrs	No	No	Yes	Yes	
Pembrokeshire & Derwen NHS Trust	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	No	No	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
Powys Local Health Board	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Swansea NHS Trust (Morriston Hospital)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
Swansea NHS Trust (Singleton Hospital)	5-24 hrs	25-48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
Conwy & Denbighshire NHS Trust	5-24 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	Yes	Yes	No	
North East Wales NHS Trust	25-48 hrs	25-48 hrs	25-48 hrs	25-48 hrs	Yes	No	Yes	No	
North West Wales NHS Trust (Bangor Hospital)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	No	Yes	Yes	No	
North West Wales NHS Trust (Llandudno Hospital)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
Cardiff and Vale NHS Trust (Llandough Hospital)	25-48 hrs	> 48 hrs	No MRI	No MRI	No	No	Yes	No	
Cardiff and Vale NHS Trust (University Hospital Wales)	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	No	No	
Gwent Healthcare NHS Trust (Caerphilly District Miner's Hospital)	> 48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	
Gwent Healthcare NHS Trust (Nevill Hall Hospital)	5-24 hrs	25-48 hrs	25-48 hrs	> 48 hrs	Yes	No	Yes	Yes	
Gwent Healthcare NHS Trust (St Woolos Hospital (Royal Gwent))	25-48 hrs	5-24 hrs	> 48 hrs	> 48 hrs	No	No	Yes	No	
North Glamorgan NHS Trust	25-48 hrs	25-48 hrs	No MRI	No MRI	No	Yes	Yes	Yes	
Pontypridd & Rhondda NHS Trust	25-48 hrs	> 48 hrs	> 48 hrs	> 48 hrs	Yes	No	Yes	No	

SITE	CT scan average waiting time weekdays	CT scan average waiting time weekends	MRI scan average waiting time weekdays	MRI scan average waiting time weekends	Neurovascular/ TIA Clinic	TIA patients seen and investigated within 7 days	Patient/carer views sought on service	Report been produced within 12m analysing patient views	OVERALL POSITION
ISLANDS									
States of Guernsey Health & Social Services	0-4 hrs	0-4 hrs	> 48 hrs	> 48 hrs	No	Yes	No	No	
States of Jersey Health & Social Services	5-24 hrs	5-24 hrs	5-24 hrs	5-24 hrs	No	No	Yes	No	
Isle of Man Department of Health and Social Security	5-24 hrs	> 48 hrs	5-24 hrs	> 48 hrs	No	No	Yes	No	

Section 2 Results for the process of stroke care audit

Chapter 1- Background and Methods for Phase II Data Collection and Presentation of Results

Evidence-based
The results from this clinical audit are based on information obtained retrospectively from patient records. They compare delivery of care with standards derived from systematically retrieved and critically appraised research evidence and agreed by experts in all disciplines involved in the management of stroke. The strength of evidence is outlined in National Clinical Guidelines for Stroke 2004 second edition Intercollegiate Stroke Working Party Royal College of Physicians (http://www.rcplondon.ac.uk/pubs/books/stroke/index.htm)

1.1 METHODS

Key indicators of Stroke care
Following the third round of audit in 2002 a minimum dataset was selected to best represent the total clinical process for each hospital. The final selection of 11 key indicators involved both clinical reasoning and statistical considerations.

The 11 key standards are as follows:

- More than 50% of stay on a stroke unit
- Screened for swallowing disorders within first 24 hours of admission
- Brain scan within 24 hours of stroke
- Commenced aspirin by 48 hours after stroke
- Physiotherapy assessment within first 72 hours of admission
- Assessment by an Occupational Therapist within 7 days of admission
- Weighed at least once during admission
- Mood assessed by discharge
- On antithrombotic therapy by discharge
- Rehabilitation goals agreed by the multi-disciplinary team
- Home visit performed before discharge

As in 2004 within this report we have added one further key item:

- Treated in a stroke unit during their stay

Site compliance rates for each key standard and an average compliance across standards will be released to the Department of Health strategic health authorities and the public. Rates will also be used for comparative purposes within this report.

The benefits of having a stroke unit are demonstrated by research. One indicator therefore refers to patients spending most of their stay on a stroke unit. The chosen indicators represent important facets of care and together cover a broad spectrum of care. It is argued that this set of indicators is valid in its own right in terms of face and content validity. Validity is enhanced by its broad agreement with the total process score as has been seen in successive rounds of the audit.

Standards in the audit
The full proforma of questions is shown in Appendix 2 and many questions are the same as in the 2004 audit. Approximately one third of questions have been removed from this audit round to balance the effort of auditors in collecting good quality data and representativeness of the sample. The working party have selected those which are judged to be particularly good indicators, based on their ability to discriminate the quality of care and their statistical reliability, as well as their perceived clinical value in

stroke. This is not to deny the value to clinical care of the items removed. This allows an assessment of change over time, a high priority for hospitals. As standards changed and new areas were considered, the Intercollegiate Working Party agreed some additional questions for Stroke. These link to the National Clinical Guidelines for Stroke. The new questions were piloted during December 2005.

NO, BUT…answers: The diversity of effects from a stroke creates difficulties for clinical management and for determining overall standards of care. For example if someone is unconscious after their stroke it would not be possible to test their walking or speech difficulties within the time frames normally required. The audit therefore designated specified circumstances where standards would not be applicable. All results in this report refer to the compliance with standards after excluding the non applicable patients for each question. The full wording of questions can be found in Appendix 2.

Definition of a 'site'
Lead clinicians were asked to collect data on the basis of a unified service within a Trust. For most Trusts the 'site' was the Trust. For some Trusts there were several 'sites' each offering a distinct service. A few other 'sites' were combinations of Trusts. There are some differences in configuration between the organisational audit (Phase I conducted in April 2006) and the clinical audit (Phase II).

Recruitment
The 224 sites that participated in the previous round of the audit were kept informed of the proposed timetable for the fifth round. Changes in Trust configuration and the details of lead clinician and audit co-ordinator were updated regularly. All the eligible Trusts that participated in 2004 were enrolled again. In all data on 13,625 cases were received from 224 sites, within 203 Trusts.

Selection criteria for the cohort
Patients who were admitted between 1 April 2006 and 30 June 2006 were included. Sites were instructed to obtain a minimum of 20 and a maximum of 80 consecutive admissions with a primary diagnosis of stroke (ICD10 codes I61, I63 or I64). To ensure that the indicators were based on a sufficiently large number of applicable patients hospitals were asked to obtain data on all admissions within the time period or 80 if they had admitted more than 80.

Data collection tool
A web-based tool was used to collect data from sites. This web tool included context specific online help including definitions and clarifications. Security and confidentiality was maintained by the use of site codes. Sites accessed the proforma using unique identifiers and passwords and data could be saved during as well as at the end of an input session.

Formal data collection began on 2 October 2006 for cases admitted from 1 April 2006 and each participating Trust was provided with an appropriate login and password and help booklets. However the web tool went live on August 1st 2006 to accommodate the increased sample size. A telephone and email helpdesk was provided by the CEEu to answer any individual queries. The final record was submitted on 6th December 2006.

Data reliability
Sites were asked to re-audit their first 5 cases, using a different auditor. 143 sites submitted 624 cases. Because this audit again used web-based data entry data completeness was again very high. Problems in finding data (typically one auditor

found information about a batch of patients whilst the other did not) were low. The levels of agreement for categorical data were generally very good with the majority of questions having kappa values of 0.81 and higher (kappa median 0.82, Inter-Quartile range 0.73-0.90, n=125 questions).

- For questions unchanged from the previous audit reliability: kappa median 0.82, Inter-Quartile range 0.74-0.91, n=69 questions.
- For questions amended from the previous round of audit, reliability: kappa median 0.87, Inter-Quartile range 0.76-0.92, n=28 questions.
- For questions new to this round of audit: kappa median 0.78 Inter-Quartile range 0.66-0.85, n=28 questions.

Kappa levels were generally higher for patient characteristic and medication (sections 1, 2 and 6 of the proforma had the majority of kappa scores in the range 0.81-1.0) than for standards, which require a greater degree of scrutiny of case-notes (sections 3, 4, 5, 7 of the proforma had the majority of kappa scores in the range 0.61-0.80). Further details can be found in Appendix 3.

Presentation of results

Wherever possible the audit question numbers have been added within tables of results to facilitate reference to the full wording of questions in the audit tool in Appendix 2.

A total of 34 duplicate cases were found and excluded from the dataset.

Chapter 2 - Key National Results 2006 and Compared with Previous Rounds

This section summarises changes in stroke care between the fourth round of the audit in 2004 and this round in 2006 (and where applicable 2001). The data have been summarised according to performance on key indicators (as described in the methods) and by domains of care. The former comprise a minimum dataset and the latter enables hospitals to identify broad areas of care (domains) on which to focus improvements.

2.1 Overall results for key process indicators in 2006 compared to 2004 and 2001

- Provision of stroke unit care has improved significantly over the last five years, both as measured by the proportion of hospitals with a stroke unit (94% nationally) and in terms of the proportions of patients accessing them, which has improved dramatically since 2004 rising to 62% of all admissions. The proportion of patients managed on a stroke unit for the majority of their stay has doubled since 2001.
- Access to physiotherapy and occupational therapy has also improved somewhat, although not proportionally as much.
- Performance in the other key indicators was less impressive, not showing as much change as expected given the rise in stroke unit care. This raises the possibility that although more stroke beds are available they are not being resourced appropriately.

Table 1 Percentage compliance with key indicators all hospitals 2001 to 2006

	Table gives % compliance with each indicator for applicable patients	National 2006	National 2004	National 2001
	Patients	13625	8697	8200
Q1.7	Treated in a stroke unit during their stay	62	46	36
Q1.9	More than 50% of stay on a stroke unit	54	40	27
Q3.1	Screened for swallowing disorders within first 24 hours of admission	66	63	64
Q1.2iii	Brain scan within 24 hours of stroke*	42	59	58
Q3.3	Commenced aspirin by 48 hours after stroke	71	68	65
Q3.5	Physiotherapy assessment within first 72 hours of admission	71	63	59
Q4.2	Assessment by an Occupational Therapist within 7 days of admission	68	57	51
Q5.1	Weighed at least once during admission	57	52	49
Q5.3	Mood assessed by discharge	55	47	52
Q6.3	On antithrombotic therapy by discharge	100	95	91
Q5.5	Rehabilitation goals agreed by the multi-disciplinary team	76	68	61
Q7.4	Home visit performed before discharge	63	69	73
	Average for 12 indicators	65	61	57

*The question for 2006 differs from previously in that a much greater proportion of patients were regarded as applicable. The standard has therefore become more stringent.

2.2 Site variation for key process indicators in 2006 (n=224 sites)

There was considerable variability between sites in compliance for all but one of these key indicators. The box-plot below shows median, inter-quartile range and outlier site scores.

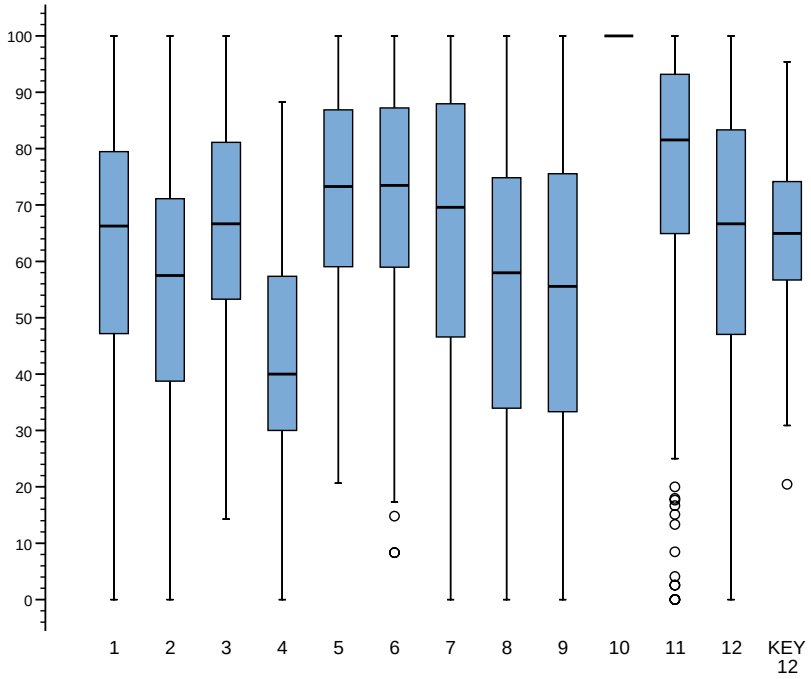


Figure 1 Variation between hospitals for key clinical indicators

Table 2 Percentage compliance with key indicators all hospitals median and interquartile range

		Table gives % compliance with each indicator, for applicable patients	ALL 224 sites		
			25% sites score below	Median score	25% of sites score above
1	Q1.7	Treated in a stroke unit during their stay	47	66	80
2	Q1.9	More than 50% of stay on a stroke unit	39	58	71
3	Q3.1	Screened for swallowing disorders within first 24 hours of admission	53	67	81
4	Q1.2iii	Brain scan within 24 hours of stroke	30	40	57
5	Q3.3	Commenced aspirin by 48 hours after stroke	59	73	87
6	Q3.5	Physiotherapy assessment within first 72 hours of admission	59	73	87
7	Q4.2	Assessment by an Occupational Therapist within 7 days of admission	47	70	88
8	Q5.1	Weighed at least once during admission	34	58	75
9	Q5.3	Mood assessed by discharge	33	56	76
10	Q6.3	On antithrombotic therapy by discharge	All sites scored 100%		
11	Q5.5	Rehabilitation goals agreed by the multi-disciplinary team	65	82	93
12	Q7.4	Home visit performed before discharge	47	67	84
KEY12		Average for 12 indicators for 2006	57	65	74

2.3 Site variation for change in key process indicator score in 2004 compared to 2006

There is reasonable correlation between performance 2 years ago and performance in this audit (Spearman 0.50, P<0.001). Sites with better results in 2006 tended to be the ones with better results in 2004.

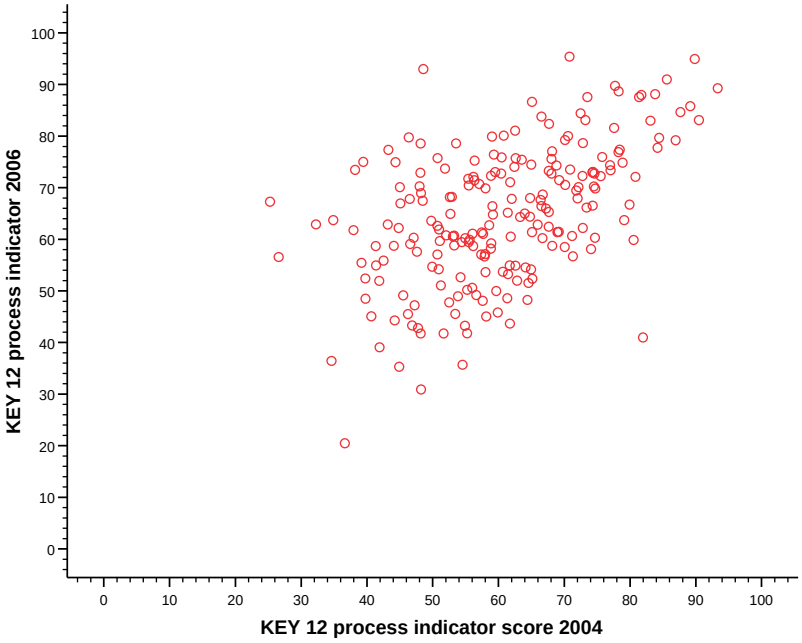


Figure 2 Change in key clinical indicator scores 2004-2006 for each hospital

2.4 Site variation for key process indicator score in 2006 compared to organisational score in 2006

There is reasonable correlation between the 12 key indicators and the performance in the 2006 organisational audit (Spearman 0.56, P<0.001). Sites with better process results in 2006 tended to be the ones with better organisation scores.

Figure 3 Variation between hospitals for key clinical indicator score in 2006 and organisational score in 2006

2.5 Site variation for process domain and total scores in 2006 (n=224 sites)

The total number of standards of care was divided up into domains as in earlier audit rounds. Process domain scores were obtained as the simple average of compliance rates to standards within domains. The total process score was a simple average of domains scores. Standards within domains and the names of domains have been changed for the 2006 because the dataset was reduced. As with the 12 key indicator score, also shown below, there is considerable site variation in the process domain and total scores.

The box-plot shows median, inter-quartile range and outlier site scores.

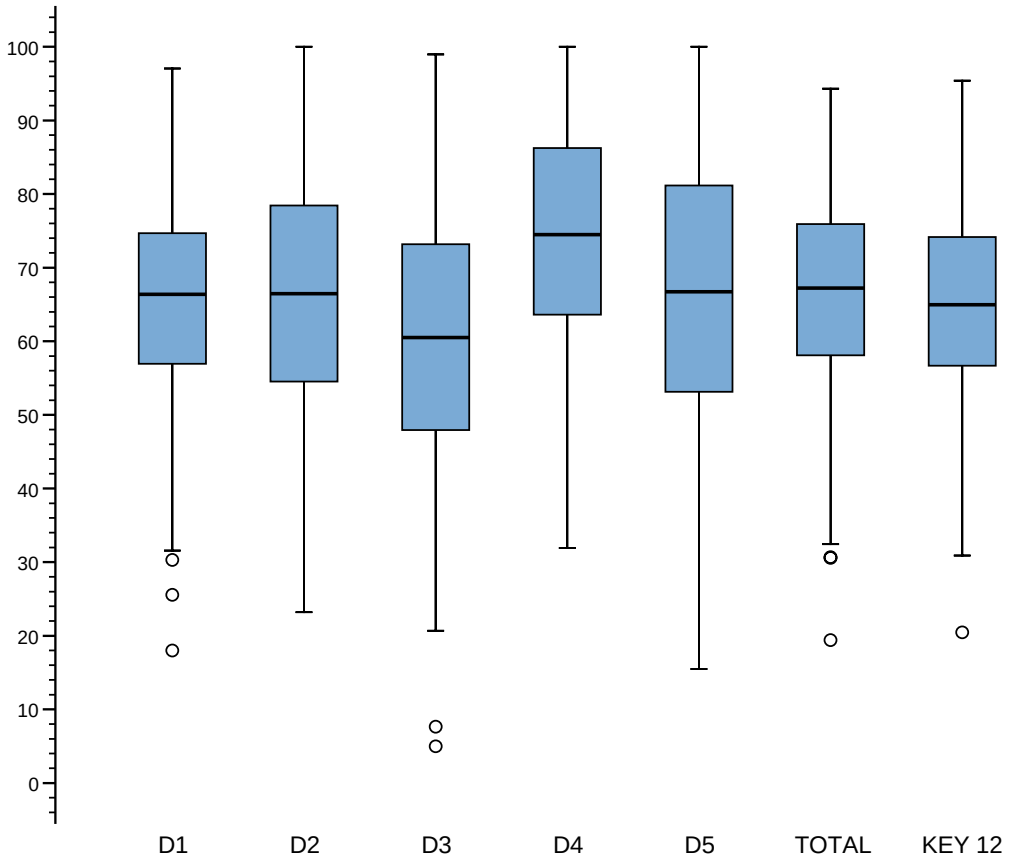


Figure 4 Variation between hospitals clinical Domain Scores & Key 12 indicator score

Table 3 Median and Interquartile range of clinical domain scores and Key 12 indicator score

2006 Process of care Domains	SITE VARIATION	ALL sites		
		25% sites score below	Median score	25% of sites score above
D1	Initial patient assessment (4 standards)	57	66	75
D2	Multidisciplinary assessment (5)	54	66	79
D3	Screening & Functional assessment (3)	48	61	73
D4	Care planning (3)	64	74	86
D5	Communication with patients and carers (5)	53	67	81
Total	(D1+D2+D3+D4+D5)/5	58	67	76
KEY12	Items as described earlier	57	65	74

2.6 Site variation for process total and key process indicator scores in 2006

The 12 key process indicators are an strong correlate of performance overall (Spearman 0.88, P<0.001, n=224), providing reassurance that the data available to the Healthcare Commission and the public are a fair representation of overall performance using all the standards measured in this audit.

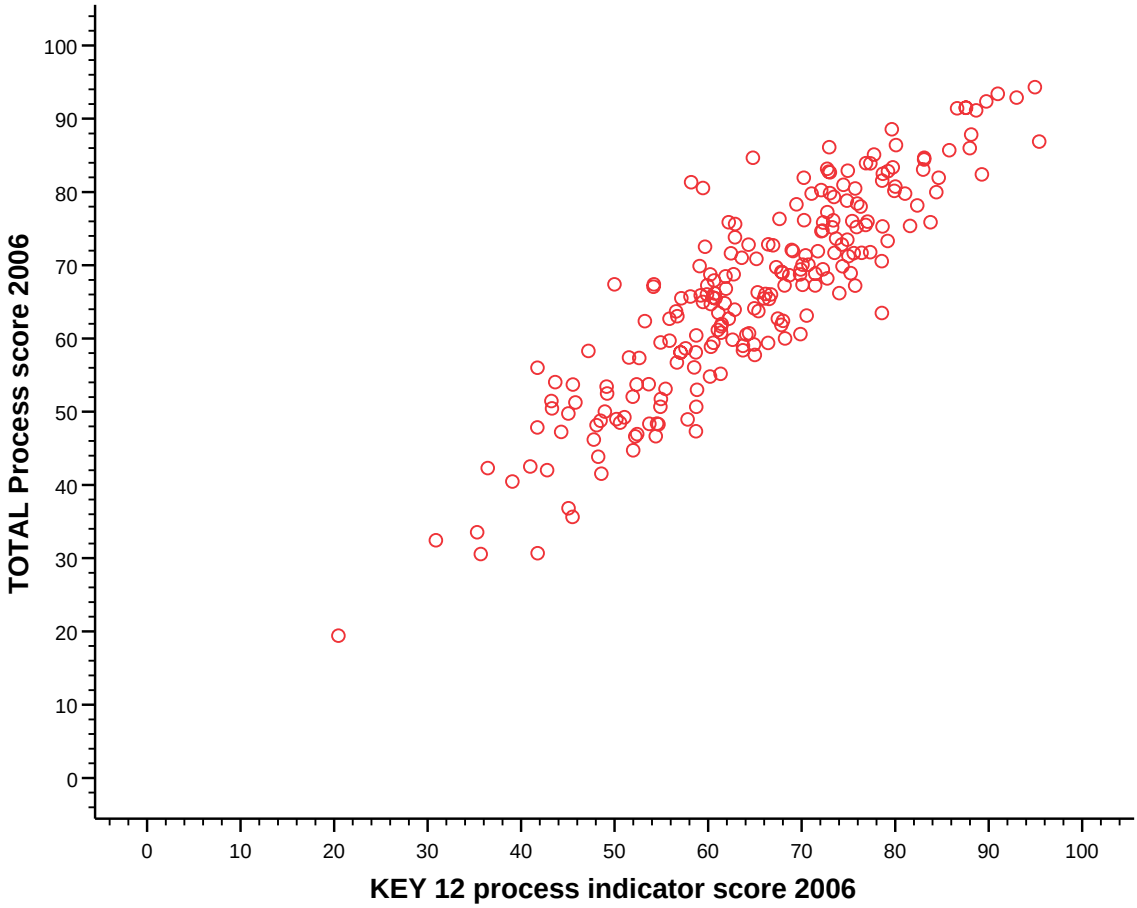


Figure 5 Correlation between key indicator score and total score 2006 for all hospitals

2.7 Compliance with standards for patients admitted to a stroke unit compared to those not admitted to a stroke unit

		Table gives % compliance with each indicator, for applicable patients 2006	ALL 224 sites % Patients admitted to stroke unit (8383)	ALL 224 sites % Patients **not** admitted to a stroke unit (5242)
3	Q3.1	Screened for swallowing disorders within first 24 hours of admission	73	53
4	Q1.12iii	Brain scan within 24 hours of stroke	45	38
5	Q3.3	Commenced aspirin by 48 hours after stroke	74	66
6	Q3.5	Physiotherapy assessment within first 72 hours of admission	78	56
7	Q4.2	Assessment by an Occupational Therapist within 7 days of admission	74	51
8	Q5.1	Weighed at least once during admission	66	37
9	Q5.3	Mood assessed by discharge	64	36
10	Q6.3	On antithrombotic therapy by discharge	100	100
11	Q5.5	Rehabilitation goals agreed by the multi-disciplinary team	86	50
12	Q7.4	Home visit performed before discharge	73	36

Getting patients to stroke units quickly facilitates acute care and multidisciplinary assessment. Ten of the twelve key indicators of care (admission to a stroke unit and majority of stay in a stroke unit were omitted as they - by definition - would be different in each group) were investigated to see if there was greater compliance for patients who were admitted to a stroke unit. Patients managed on a stroke unit had considerably better results than those who were not.

2.8 Applicability and Compliance by standard in 2006 compared to previous rounds

Table 4 Summary of applicability and compliance for all standards 2001-2006 and change between round 4 and round 5

	% applicable			% compliance			
Standards	**2006**	2004	2001	**2006**	2004	2001	Change 04-06
Aspirin within 48 hours of stroke	**73**	67	66	**71**	68	65	+3
On an antithrombotic by discharge	**86**	66	63	**100**	95	91	+5
% admitted to a stroke unit during their stay	**100**	100	100	**62**	46	36	+16
% spending >50% of stay in a stroke unit	**100**	100	100	**54**	40	27	+14
(D1) Initial assessment							
Screen swallowing disorders	**79**	79	79	**66**	63	64	+3
Visual Fields	**70**	67	67	**74**	65	63	+9
Sensory testing	**70**	68	68	**81**	73	69	+8
Brain scan carried out within 24 hours of stroke	**99**	70	60	**42**	59	58	N/A
(D2) Multidisciplinary assessment							
Swallowing assessed by Speech and Language Therapist within 72 hours of admission	**47**	50	53	**67**	65	62	+2
Patient assessed by Physiotherapist within 72 hours of admission	**83**	82	81	**71**	63	59	+8
Initial assessment of communication problems by speech and language therapist within 7 days of admission	**46**	47	50	**69**	68	64	+1
Patient assessed by Occupational therapist within 7 days of admission	**65**	65	64	**68**	57	51	+11
Social work assessment within 7 days of referral	**42**	47	46	**56**	53	45	+3
(D3) Screening and Functional Assessment							
Patient weighed at least once during admission	**84**	83	82	**57**	52	49	+5
Evidence patient's mood has been assessed	**81**	80	80	**55**	47	52	+8
Cognitive status assessed	**80**	80	Not asked	**71**	65	Not asked	+6
(D4) Care planning							
Written evidence that rehabilitation goals agreed by multidisciplinary team	**68**	67	68	**76**	68	61	+8
Plan to promote urinary continence?	**31**	28	36	**54**	58	63	-4
Receiving nutrition within 72 hours	**87**	Not asked	Not asked	**93**	Not asked	Not asked	N/A
(D5) Communication: Patients and carers							
Discussion with patient about diagnosis	**65**	66	70	**69**	70	63	-1
Discussion with patient about prognosis	**64**	66		**59**	63		-4
Discussion with patient about therapy goals	**Not asked**	64	69	**Not asked**	65	60	N/A
Carer needs for support assessed separately	**50**	59	62	**68**	43	41	+25
Skills taught to care for patient at home	**23**	24	25	**71**	63	60	+8
Home visit performed	**28**	31	32	**63**	69	73	-6

*The question for 2006 differs from previously in that a much greater proportion of patients were regarded as applicable. The standard has therefore become more stringent.

Chapter 3 Key national results 2006 for England, Wales and Northern Ireland and In comparison with 2004 and 2001

3.1 Clinico-demographic results 2006

The three sites (67 patients) in the Channel Islands and Isle of Man are not shown in this section. This selection of results indicates a similar mix of audit patients for England, Wales, Northern Ireland and the Islands.

Table 6 Comparison of patient characteristics in England, Wales and Northern Ireland Clinical Audit 2006

Comparisons by country	National	England	Wales	N Ireland
Sites (Patients)	230 (13625)	196 (12231)	19 (925)	12 (402)
Gender -% male	48	48	49	48
Worst level of consciousness in first week - % Fully conscious	62	62	64	64
Worst level of consciousness in first week - % Unconscious	14	15	10	13
% newly institutionalised on discharge	12	13	7	7
% discharged Barthel score of 20	39	39	45	40
% discharged Barthel scores of <10	22	22	16	30
Mean (SD) Age	75 (13)	75 (13)	75 (12)	74 (13)
Median (IQR) age	78 (68-85)	78 (68-85)	77 (69-84)	75 (66-84)
Mean (median) LOS to discharge or death	25 (14)	25 (14)	29 (13)	27 (14)
Mean (median) LOS to discharge	28 (15)	27 (15)	30 (13)	28 (15)
Mean (median) LOS to death	19 (10)	18 (9)	25 (11)	22 (14)

3.2 Overall results for key process indicators in 2006

In terms of overall score the lack of an NSF including stroke standards in Wales until 2006 appears to have severely handicapped the development of their specialist stroke services and compliance with standards. The provision of stroke unit care was highest in Northern Ireland but there were disappointing results regarding home visits before discharge.

Table 7 Comparison of compliance with each of key clinical indicators between England, Wales, Northern Ireland 2006

	Table gives % compliance with each indicator, for applicable patients	National	England	Wales	N Ireland
	Sites	230	196	19	12
Q1.7	Treated in a stroke unit during their stay	62	64	28	73
Q1.9	More than 50% of stay on a stroke unit	54	56	22	60
Q3.1	Screened for swallowing disorders within first 24 hours of admission	66	67	55	62
Q1.2iii	Brain scan within 24 hours of stroke	42	43	38	40
Q3.3	Commenced aspirin by 48 hours after stroke	71	71	76	68
Q3.5	Physiotherapy assessment within first 72 hours of admission	71	72	54	74
Q4.2	Assessment by an Occupational Therapist within 7 days of admission	68	69	50	73
Q5.1	Weighed at least once during admission	57	57	54	50
Q5.3	Mood assessed by discharge	55	54	53	77
Q6.3	On antithrombotic therapy by discharge	100	100	100	100
Q5.5	Rehabilitation goals agreed by the multi-disciplinary team	76	76	70	88
Q7.4	Home visit performed before discharge	63	64	53	50
	Average for 12 indicators for 2006	65	66	54	68

3.3 Site variation for key process indicator score in 2006 (n=224 sites)

The site variation box-plot below shows median, inter-quartile range and outlier site scores by country. This confirms the overall message of broad similarity between countries, and the slightly worse set of scores for Wales reflects its relative lack of stroke unit provision.

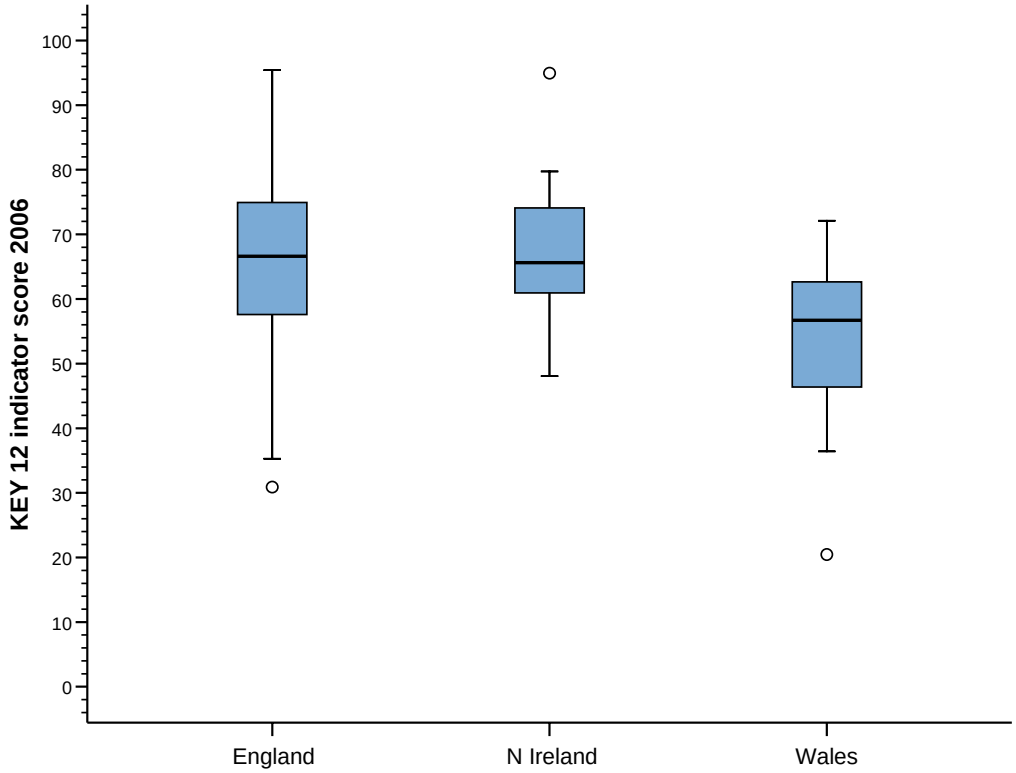


Figure 6 Comparison of median and IQR 12 key clinical indicator score compliance between England, Wales and Northern Ireland 2006

3.4 Site variation for process domain and total scores in 2006 (n=224 sites)

Domain scores were obtained as the simple average of compliance rates to all standards within each domain. The total process score was a simple average of domain scores. As with the 12 key indicator score, the results show similarity between country and considerable site variation within country.

Table 8 Comparison of median and IQR for Domain scores in England, Wales and Northern Ireland 2006

2006 Process of care	SITE VARIATION – table gives median (IQR) scores	National (224 sites)	England (190 sites)	Wales (19 sites)	N Ireland (12 sites)
D1	Initial patient assessment	66 (57-75)	67 (58-76)	59 (47-74)	66 (55-73)
D2	Multidisciplinary assessment	66 (54-79)	67 (54-79)	56 (48-70)	77 (60-82)
D3	Screening & Functional assessment	61 (48-73)	60 (48-73)	59 (42-79)	68 (61-79)
D4	Care planning	74 (64-86)	74 (64-86)	76 (58-88)	84 (78-89)
D5	Communication with patients & carers	67 (53-81)	67 (54-81)	64 (51-88)	70 (53-82)
Total	(D1+D2+D3+D4+D5)/5	67 (58-76)	67 (58-76)	63 (50-76)	73 (66-76)
KEY12	Key 12 items as described earlier	65 (57-74)	67 (57-75)	57 (46-63)	66 (61-75)

3.5 Comparison of results in England from 2001-6

England has improved over the last five years in all the 12 standards apart from access to home visits but given the improvement in speed of access to occupational therapists, deterioration in home visiting is difficult to explain. The change in the level of brain scanning must be interpreted in the light of the change in the way this question was asked.

Table 9 Comparison of change in key indicator score for hospitals in England between 2001, 2004 and 2006

	Table gives % compliance with each indicator, for applicable patients	England 2006	England 2004	England 2001
	Patients	12231	7619	7238
Q1.7	Treated in a stroke unit during their stay	64	47	36
Q1.9	More than 50% of stay on a stroke unit	56	41	27
Q3.1	Screened for swallowing disorders within first 24 hours of admission	67	64	64
Q1.2iii	Brain scan within 24 hours of stroke*	43	59	57
Q3.3	Commenced aspirin by 48 hours after stroke	71	68	64
Q3.5	Physiotherapy assessment within first 72 hours of admission	72	65	59
Q4.2	Assessment by an Occupational Therapist within 7 days of admission	69	57	49
Q5.1	Weighed at least once during admission	57	52	48
Q5.3	Mood assessed by discharge	54	46	50
Q6.3	On antithrombotic therapy by discharge	100	95	91
Q5.5	Rehabilitation goals agreed by the multi-disciplinary team	76	69	61
Q7.4	Home visit performed before discharge	64	70	73
	Average for 12 indicators	66	61	57

3.6 Comparison of results in Wales from 2001-6

The late launch of a National Service Framework including stroke standards in Wales appears to have handicapped the development of specialist stroke services in Wales.

Table 10 Comparison of change in key indicator score for hospitals in Wales 2001- 2006

	Table gives % compliance with each indicator, for applicable patients	Wales 2006	Wales 2004	Wales 2001
	Patients	925	667	530
Q1.7	Treated in a stroke unit during their stay	28	28	22
Q1.9	More than 50% of stay on a stroke unit	22	23	17
Q3.1	Screened for swallowing disorders within first 24 hours of admission	55	51	60
Q1.2iii	Brain scan within 24 hours of stroke*	38	62	60
Q3.3	Commenced aspirin by 48 hours after stroke	76	73	72
Q3.5	Physiotherapy assessment within first 72 hours of admission	54	49	58
Q4.2	Assessment by an Occupational Therapist within 7 days of admission	50	55	62
Q5.1	Weighed at least once during admission	54	51	56
Q5.3	Mood assessed by discharge	53	47	52
Q6.3	On antithrombotic therapy by discharge	100	97	91
Q5.5	Rehabilitation goals agreed by the multi-disciplinary team	70	67	58
Q7.4	Home visit performed before discharge	53	69	80
	Average for 12 indicators	54	56	57

*The question for 2006 differs from previously in that a much greater proportion of patients were regarded as applicable. The standard has therefore become more stringent.

3.7 Comparison of results in Northern Ireland from 2001-6

Northern Ireland has consistently out-performed England and Wales in the stroke audits since the first round in 1998. However the results this time show a disappointing failure to improve on 2001 levels in some of the key measures particularly in areas of commencing aspirin within 48 hours of stroke and home visit.

Table 11 Comparison of change in key indicator score for hospitals in Northern Ireland between 2001, 2004 and 2006

	Table gives % compliance with each indicator, for applicable patients	N Ireland 2006	N Ireland 2004	N Ireland 2001
	Patients	402	350	372
Q1.7	Treated in a stroke unit during their stay	73	62	57
Q1.9	More than 50% of stay on a stroke unit	60	55	46
Q3.1	Screened for swallowing disorders within 24 hrs of admission	62	66	66
Q1.2iii	Brain scan within 24 hours of stroke*	40	59	59
Q3.3	Commenced aspirin by 48 hours after stroke	68	63	74
Q3.5	Physiotherapy assessment within first 72 hours of admission	74	59	66
Q4.2	Assessment by an Occupational Therapist within 7 days of admission	73	67	67
Q5.1	Weighed at least once during admission	50	49	50
Q5.3	Mood assessed by discharge	77	53	74
Q6.3	On antithrombotic therapy by discharge	100	98	91
Q5.5	Rehabilitation goals agreed by the multi-disciplinary team	88	58	63
Q7.4	Home visit performed before discharge	50	50	68
	Average for 12 indicators	68	62	65

*The question for 2006 differs from previously in that a much greater proportion of patients were regarded as applicable. The standard has therefore become more stringent.

3.8 Site variation for key process indicator score in 2006 compared to 2004

Overall standards of care appear only to have improved since 2004 for England and Northern Ireland.

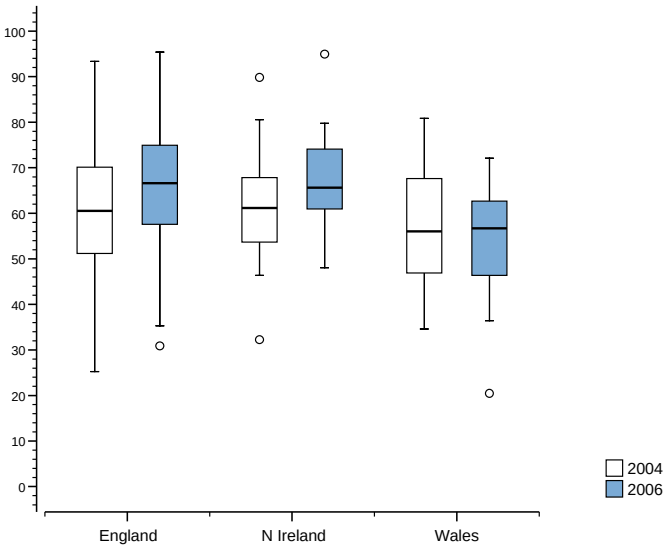


Figure 7 Changes in mean, median, IQR total scores for each hospital in England, Wales and Northern Ireland between 2004 and 2006

Chapter 4 the 12 key indicators national results 2006 for all hospitals regionally

The compliance with 12 key indicators for all hospitals grouped by Region

This section of the report describes the performance of each of the 224 participating hospitals for the 12 key indicators. The 12 indicators each represent an important aspect of care and together provide a summary of hospital performance. The national compliance rate for each standard and the percentage of patients for whom the standard applied can be found in section 2.8

Interpretation of this section of the report

This section of the report should be read in context as part of a full report on the clinical phase of the fourth round of the National Sentinel Stroke audit. In particular:

- The background to selection of the indicators appears in the introduction section
- The methods used to obtain the data (retrospective casenote review) are described on within the methods section
- The selection criteria (all patients admitted between 1st April and 30th June 2006) are outlined in further detail in the methods section
- The full wording of the questions is in Appendix 1

Table 12 presents the key indicator compliance results for each of the participating hospitals in alphabetical order by region. The actual number of cases analysed per hospital is shown in the first column (number in brackets). The Key 12 indicator score is stated for each hospital in 2006 and, where it is possible to directly compare the results for the key 12 in 2004. If there has been a change in configuration between this time, N/A is given

Table 13 presents the compliance for each key indicator by SHA or region.

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The report is presented by country and then in alphabetical order of Strategic Health Authority (if applicable) and Trust name.

KEY CLINICAL AUDIT INDICATORS FOR ALL HOSPITALS REGIONALLY

Table 12 Key clinical audit indicator scores for all hospitals in the 2006 audit

Trust name (site name)	Number of cases in the audit	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
ENGLAND															
EAST MIDLANDS SHA															
Chesterfield Royal Hospital NHS Foundation Trust	62	56	55	81	44	57	67	43	34	14	100	63	30	54	58
Derby Hospitals NHS Foundation Trust	80	45	43	46	33	76	56	64	73	56	100	44	50	57	51
Kettering General Hospital NHS Trust	80	0	0	31	73	69	38	24	19	3	100	8	6	31	55
Northampton General Hospital NHS Trust	56	39	32	44	63	72	67	81	32	83	100	75	93	65	61
Nottingham University Hospital NHS Trust	146	70	68	72	28	84	69	77	74	62	100	88	38	69	N/A
Sherwood Forest Hospitals NHS Trust	76	51	30	58	36	66	48	25	23	83	100	55	53	52	65
United Lincolnshire Hospitals NHS Trust (Grantham and District Hospital)	28	39	29	54	39	43	95	83	55	70	100	100	100	67	25
United Lincolnshire Hospitals NHS Trust (Lincoln County)	40	60	58	50	25	28	68	76	69	59	100	95	45	61	58
United Lincolnshire Hospitals NHS Trust (Louth County Hospital)	20	80	80	89	11	86	94	100	32	29	100	93	100	74	65
United Lincolnshire Hospitals NHS Trust (Pilgrim Hospital)	69	46	36	47	22	69	50	47	66	56	100	63	22	52	42
University Hospitals of Leicester NHS Trust	68	78	76	68	57	64	85	66	79	39	100	96	64	73	60
EAST MIDLANDS SHA overall	**725**	***51***	***46***	***57***	***40***	***69***	***62***	***59***	***53***	***51***	***100***	***66***	***45***	***58***	***56***
EAST OF ENGLAND SHA															
Basildon & Thurrock University Hospitals NHS Foundation Trust	66	35	32	42	30	42	56	39	60	78	100	51	60	52	63
Bedford Hospital NHS Trust	51	35	33	72	24	56	87	94	53	16	100	86	73	61	53
Cambridge University Hospitals NHS Foundation Trust	73	81	75	84	70	96	95	98	75	69	100	92	25	80	71

Trust name (site name)	Number of cases in the audit	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
East & North Hertfordshire NHS Trust (Lister Hospital)	53	40	34	73	43	55	65	29	62	27	100	45	40	51	51
East and North Hertfordshire NHS Trust (Queen Elizabeth II Hospital)	50	24	14	61	42	60	43	8	53	16	100	50	60	44	44
Essex Rivers Healthcare NHS Trust	74	59	53	46	34	40	57	53	79	50	100	69	69	59	59
Hinchingbrooke Health Care NHS Trust	46	22	20	73	22	67	74	43	85	33	100	92	80	59	47
Ipswich Hospital NHS Trust	80	63	60	86	11	60	59	65	60	57	100	100	58	65	53
James Paget University Hospitals NHS Foundation Trust	80	55	48	23	15	41	63	63	71	77	100	63	72	58	48
Luton and Dunstable Hospital NHS Foundation Trust	78	59	50	69	47	56	65	52	96	15	100	69	75	63	59
Mid Essex Hospital Services NHS Trust	80	85	83	69	38	70	81	91	84	50	100	92	100	79	54
Norfolk & Norwich University Hospital NHS Trust	80	65	39	53	18	68	73	53	31	53	100	71	58	57	58
Peterborough and Stamford Hospitals NHS Foundation Trust	80	69	65	75	34	40	72	92	82	15	100	84	38	64	79
Princess Alexandra Hospital NHS Trust	66	76	71	67	53	51	76	69	86	67	100	94	63	73	75
Southend University Hospital NHS Foundation Trust	71	32	31	93	39	83	82	96	31	72	100	73	71	67	45
The Queen Elizabeth Hospital King's Lynn NHS Trust	58	74	69	57	29	59	74	86	71	64	100	73	70	69	48
West Hertfordshire Hospitals NHS Trust (Hemel Hempstead Hospital)	55	93	89	72	38	88	96	95	27	50	100	95	100	79	48
West Hertfordshire Hospitals NHS Trust (Watford General Hospital)	71	82	79	98	76	98	98	100	56	66	100	98	100	88	81
West Suffolk Hospitals NHS Trust	73	68	60	50	40	93	43	30	52	61	100	78	63	61	69
EAST OF ENGLAND SHA overall		***60***	***54***	***67***	***37***	***65***	***71***	***69***	***65***	***50***	***100***	***79***	***62***	***65***	***59***

Trust name (site name)	Number of cases in the audit	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
LONDON SHA															
Barking Havering and Redbridge Hospitals NHS Trust (King George)	45	16	16	95	60	83	77	69	58	50	100	58	47	61	52
Barking, Havering & Redbridge Hospitals NHS Trust (Oldchurch & Harold Wood hospitals in collaboration with Havering PCT)	81	27	26	87	65	86	72	78	55	55	100	68	59	65	N/A
Barnet and Chase Farm Hospitals NHS Trust (Barnet Hospital), Barnet PCT and Finchley Memorial Hospital	59	81	71	68	51	94	96	98	90	78	100	91	93	84	72
Barnet and Chase Farm Hospitals NHS Trust (Chase Farm Hospital)	62	73	68	74	81	91	88	87	68	54	100	96	79	80	59
Barts and The London NHS Trust jointly with Tower Hamlets PCT	51	96	88	88	65	95	78	100	86	81	100	100	100	90	78
Bromley Hospitals NHS Trust	76	37	34	47	25	89	28	22	48	56	100	85	36	51	56
Chelsea and Westminster Hospital NHS Foundation Trust	49	86	78	79	84	95	98	97	70	76	100	95	100	88	82
Ealing Hospital NHS Trust	62	69	58	92	52	91	83	42	100	15	100	4	91	66	67
Epsom and St Helier University Hospitals NHS Trust (Epsom Hospital)	62	58	53	51	20	64	17	10	72	20	100	35	40	45	41
Epsom and St Helier University Hospitals NHS Trust (St Helier Hospital)	59	73	69	78	22	96	49	68	69	76	100	72	86	71	69
Guy's & St Thomas' Hospital NHS Foundation Trust	79	95	92	94	82	95	97	87	74	90	100	98	87	91	86
Hammersmith Hospitals NHS Trust	79	59	44	55	54	86	76	68	96	56	100	69	75	70	N/A
Hillingdon Hospital NHS Trust	54	78	67	31	61	90	88	88	84	20	100	79	62	71	70
Homerton University Hospital NHS Foundation Trust	39	72	72	63	64	90	78	47	82	68	100	77	95	76	68
King's College Hospital NHS Trust	64	78	72	79	79	98	75	94	53	56	100	74	67	77	68
Kingston Hospital NHS Trust	40	58	55	55	43	81	64	87	44	35	100	75	45	62	38
Lewisham Hospital NHS Trust	79	82	82	73	63	89	91	55	60	27	100	98	81	75	56
Mayday Healthcare NHS Trust	46	46	41	40	30	82	53	68	34	64	100	86	78	60	67

Trust name (site name)	Number of cases in the audit	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
Newham University Hospital NHS Trust	57	72	53	83	67	100	66	80	56	24	100	71	77	71	57
North Middlesex University Hospital NHS Trust - Jointly with Haringey PCT	47	53	47	69	70	94	67	84	76	31	100	81	42	68	47
North West London Hospitals NHS Trust (Central Middlesex Hospital including Willesden Community hospital (Brent PCT))	43	81	70	55	65	82	90	94	58	37	100	76	100	76	51
North West London Hospitals NHS Trust (Northwick Park Hospital)	64	50	50	82	36	91	85	91	55	20	100	63	93	68	72
Queen Elizabeth Hospital NHS Trust	38	68	61	57	45	63	70	57	17	0	100	33	85	55	64
Queen Mary's Sidcup NHS Trust	33	42	39	45	39	82	57	30	26	25	100	62	35	49	61
Royal Free Hampstead NHS Trust	45	87	80	92	58	100	91	100	83	80	100	100	100	89	93
St George's Healthcare NHS Trust	71	99	66	92	63	92	82	95	99	95	100	100	75	88	84
St Mary's NHS Trust	51	82	76	86	80	97	93	78	96	86	100	100	54	86	89
University College London Hospitals NHS Foundation Trust	30	87	87	59	83	100	85	100	69	80	100	96	50	83	83
West Middlesex University Hospital NHS Trust	52	54	40	59	77	85	49	52	44	52	100	72	100	65	68
Whipps Cross University Hospital NHS Trust	72	53	47	64	56	95	64	82	46	87	100	68	78	70	45
Whittington Hospital NHS Trust	38	79	71	86	50	81	88	88	76	57	100	94	92	80	61
LONDON SHA overall		***67***	***60***	***72***	***58***	***89***	***74***	***75***	***68***	***55***	***100***	***77***	***73***	***72***	***66***
NORTH EAST SHA															
City Hospitals Sunderland NHS Foundation Trust	79	87	77	49	42	62	41	49	28	23	100	87	77	60	55
County Durham and Darlington Acute Hospitals NHS Trust (Bishop Auckland)	49	80	76	77	39	93	79	85	90	83	100	94	94	82	68
County Durham and Darlington Acute Hospitals NHS Trust (Darlington Memorial)	62	15	11	67	27	49	70	45	47	24	100	25	38	43	55

Trust name (site name)	Number of cases in the audit	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
County Durham and Darlington Acute Hospitals NHS Trust (University Hospital North Durham)	72	67	53	56	21	73	35	31	60	53	100	26	30	50	55
Gateshead Health NHS Foundation Trust	69	68	58	47	22	50	44	34	30	20	100	63	43	48	64
Newcastle upon Tyne Hospitals NHS Foundation Trust	76	93	91	81	65	76	84	54	46	43	100	87	71	74	77
North Tees and Hartlepool NHS Trust (North Tees Hospital)	79	42	41	71	29	53	88	58	61	50	100	83	79	63	66
North Tees and Hartlepool NHS Trust (University Hospital of Hartlepool)	51	33	29	79	60	73	74	69	3	58	100	75	71	60	75
Northumbria Healthcare NHS Trust (Hexham General Hospital)	77	94	92	86	33	81	93	66	72	82	100	88	65	79	87
Northumbria Healthcare NHS Trust (North Tyneside District General Hospital)	80	90	90	84	51	77	91	92	78	78	100	95	78	84	67
Northumbria Healthcare NHS Trust (Wansbeck General Hospital)	76	87	84	71	32	56	89	45	44	51	100	83	50	66	67
South Tees Hospitals NHS Trust (The James Cook University Hospital)	73	89	85	82	68	83	86	98	38	81	100	100	95	84	73
South Tees Hospitals Trust in collaboration with Hambleton and Richmond PCT	24	83	67	56	54	80	57	46	67	86	100	93	86	73	48
South Tyneside NHS Foundation Trust	80	66	64	67	31	58	64	25	93	54	100	76	76	64	65
NORTH EAST SHA overall		***72***	***67***	***70***	***40***	***67***	***72***	***58***	***54***	***53***	***100***	***78***	***67***	***67***	***66***
NORTH WEST SHA															
Aintree Hospitals NHS Foundation Trust	80	94	56	97	48	98	99	85	9	77	100	98	20	73	77
Blackpool, Fylde & Wyre Hospitals NHS Trust	80	59	41	28	32	64	36	3	52	16	100	17	54	42	55
Bolton Hospitals NHS Trust	67	51	51	59	46	63	65	45	65	63	100	60	56	60	47
Central Manchester and Manchester Children's University Hospital NHS Trust	58	79	64	84	50	87	77	91	85	63	100	93	70	79	73
Countess of Chester Hospital NHS Foundation Trust	78	71	59	78	40	56	74	98	70	57	100	90	53	70	55

Trust name (site name)	Number of cases in the audit	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
East Cheshire NHS Trust	68	74	59	89	31	38	59	34	53	56	100	76	69	61	65
East Lancashire Hospitals NHS Trust (Blackburn Hyndburn & Ribble Valley)	67	30	25	74	34	67	56	78	67	43	100	87	55	60	51
East Lancashire Hospitals NHS Trust (Burnley Health Care NHS Trust)	74	58	54	38	30	35	45	24	48	33	100	72	44	48	40
Lancashire Teaching Hospitals NHS Foundation Trust (Royal Preston Hospital)	57	30	18	58	29	57	34	23	30	46	100	65	52	45	58
Lancashire Teaching Hospitals NHS Foundation Trust (Chorley and South Ribble)	57	2	0	31	33	41	31	35	2	10	100	18	67	31	48
Mid Cheshire Hospitals NHS Trust	64	66	64	93	56	92	98	93	88	88	100	100	100	87	65
Morecambe Bay Hospitals NHS Trust (Furness General Hospital)	33	91	52	69	50	83	89	83	75	25	100	81	60	71	56
Morecambe Bay Hospitals NHS Trust (Royal Lancaster Infirmary)	50	48	44	53	18	78	54	30	11	49	100	88	58	53	54
Morecambe Bay Hospitals NHS Trust (Westmorland General Hospital)	36	86	61	90	8	90	68	84	76	76	100	78	80	75	79
North Cheshire Hospitals NHS Trust	102	87	83	61	38	59	88	70	52	78	100	94	89	75	N/A
North Cumbria Acute Hospitals NHS Trust (Cumberland Infirmary)	66	53	14	87	66	70	73	85	70	68	100	100	67	71	62
North Cumbria Acute Hospitals NHS Trust (West Cumberland Hospital)	46	54	37	67	65	52	51	43	47	41	100	96	79	61	56
Pennine Acute Hospitals NHS Trust (Fairfield General Hospital)	50	96	88	88	69	100	93	97	93	98	100	100	94	93	49
Pennine Acute Hospitals NHS Trust (North Manchester General)	61	80	44	79	35	88	81	70	64	63	100	98	96	75	39
Pennine Acute Hospitals NHS Trust (Rochdale Infirmary)	32	69	66	84	81	86	18	81	70	70	100	93	65	73	38
Pennine Acute Hospitals NHS Trust (Royal Oldham Hospital)	57	74	70	59	40	35	80	16	62	41	100	73	29	57	27

Trust name (site name)	Number of cases in the audit	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
Royal Liverpool & Broadgreen University Hospitals NHS Trust	79	76	59	60	34	56	73	85	55	42	100	82	75	66	59
Salford Royal NHS Foundation Trust	81	84	81	86	64	78	92	97	78	83	100	44	85	81	63
South Manchester University Hospitals NHS Trust	80	98	90	77	66	72	67	46	88	99	100	94	100	83	90
Southport and Ormskirk Hospital NHS Trust	80	53	48	60	28	68	90	96	31	83	100	96	90	70	75
St Helens & Knowsley Hospitals NHS Trust	80	75	73	53	33	74	64	88	24	63	100	100	69	68	65
Stockport NHS Foundation Trust	79	61	58	47	35	61	69	89	38	38	100	89	95	65	64
Tameside and Glossop Acute Services	52	40	37	32	25	22	8	22	71	55	100	62	26	42	52
Trafford Healthcare NHS Trust	32	0	0	52	38	42	21	70	59	12	100	43	77	43	48
Wirral Hospital NHS Trust	80	56	50	80	41	44	64	68	64	58	100	90	57	64	63
Wrightington, Wigan and Leigh NHS Trust	73	53	44	62	22	68	78	42	38	63	100	79	71	60	56
NORTH WEST SHA overall		***64***	***53***	***67***	***41***	***65***	***67***	***66***	***55***	***59***	***100***	***80***	***68***	***66***	***58***
SOUTH CENTRAL SHA															
Buckinghamshire Hospitals NHS Trust (Amersham & Wycombe Hospitals)	66	68	59	55	32	56	82	60	82	30	100	48	55	61	53
Buckinghamshire Hospitals NHS Trust (Stoke Mandeville Hospital)	36	58	47	86	39	58	41	67	58	59	100	35	56	59	41
East Hampshire Primary Care Trust jointly with Portsmouth Hospitals NHS Trust	78	64	54	60	31	47	81	42	39	57	100	84	68	61	71
Heatherwood & Wexham Park Hospitals	50	90	86	68	43	90	88	93	2	37	100	37	65	67	74
Isle of Wight Healthcare NHS Trust	77	45	44	77	55	53	94	67	71	78	100	93	88	72	56
Milton Keynes General NHS Trust	44	66	61	84	70	95	86	94	79	30	100	70	70	75	64
North Hampshire Hospitals NHS Trust	35	80	60	61	29	80	72	45	76	16	100	95	88	67	80
Oxford Radcliffe Hospitals NHS Trust	80	44	39	52	63	92	62	81	22	67	100	93	29	62	N/A

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All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
Royal Berkshire NHS Foundation Trust	80	74	51	95	44	67	91	95	87	32	100	89	100	77	78
Southampton University Hospitals NHS Trust (Southampton General Hospital)	80	54	50	41	39	74	62	51	73	64	100	79	61	62	45
Winchester and Eastleigh Healthcare NHS Trust	60	85	75	96	42	94	96	97	81	84	100	100	100	88	74
SOUTH CENTRAL SHA overall		***64***	***55***	***71***	***44***	***73***	***79***	***74***	***61***	***51***	***100***	***78***	***66***	***68***	***63***
SOUTH EAST COAST SHA															
Ashford and St Peter's Hospital NHS Trust	73	44	33	31	70	87	75	45	31	16	100	37	58	52	N/A
Brighton & Sussex University Hospitals NHS Trust (Brighton)	77	100	100	96	77	98	95	98	84	90	100	85	40	89	78
Brighton & Sussex University Hospitals NHS Trust (Mid Sussex)	40	80	75	58	60	66	75	58	70	37	100	78	36	66	73
Dartford & Gravesham NHS Trust	79	67	59	51	28	33	81	46	67	32	100	72	48	57	57
East Kent Hospitals NHS Trust (William Harvey Hospital Ashford)	68	65	62	48	24	69	72	66	59	26	100	73	40	59	56
East Kent Hospitals NHS Trust (Kent & Canterbury Hospital)	62	50	47	44	48	66	75	88	25	20	100	80	29	56	43
East Kent Hospitals NHS Trust (Queen Elizabeth Queen Mother Hospital, Margate)	65	60	54	58	59	52	66	81	29	26	100	62	57	59	44
East Sussex Hospitals NHS Trust (Conquest Hospital)	79	62	53	70	20	39	78	86	91	80	100	94	70	70	48
East Sussex Hospitals NHS Trust (Eastbourne Hospital)	53	85	77	45	51	61	79	22	96	38	100	3	80	61	57
Frimley Park Hospitals NHS Foundation Trust	69	61	51	77	58	67	89	68	53	73	100	82	100	73	68
Maidstone and Tunbridge Wells NHS Trust (Kent and Sussex)	58	24	2	41	54	63	57	9	35	21	100	18	0	35	45
Maidstone and Tunbridge Wells NHS Trust (Maidstone Hospital)	35	3	3	57	31	62	54	65	28	59	100	20	43	44	62

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All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
Medway Maritime Hospital, Medway PCT & Swale PCT	80	50	45	51	20	21	66	36	61	35	100	91	64	53	61
Royal Surrey County Hospital NHS Trust	75	79	68	73	58	86	86	83	22	72	100	94	63	74	71
Royal West Sussex Trust	78	77	73	68	60	63	47	95	87	82	100	100	25	73	74
Surrey & Sussex Healthcare NHS Trust	79	51	49	78	19	47	63	62	27	34	100	52	69	54	51
Worthing & Southlands Hospitals NHS Trust	80	83	69	87	15	82	82	31	88	26	100	100	100	72	55
SOUTH EAST COAST SHA overall		***63***	***56***	***61***	***43***	***62***	***74***	***64***	***57***	***46***	***100***	***72***	***46***	***62***	***58***
SOUTH WEST SHA															
Gloucestershire Hospitals NHS Foundation Trust (Cheltenham General Hospital)	80	65	41	88	20	87	71	98	56	90	100	95	100	76	76
Gloucestershire Hospitals NHS Foundation Trust (Gloucestershire Royal Hospital)	80	44	36	82	23	89	65	86	40	97	100	80	100	70	72
North Bristol NHS Trust	38	84	84	59	81	94	80	65	59	41	100	96	78	77	N/A
Northern Devon Healthcare NHS Trust	4	INSUFFICIENT CASES TO REPORT													
Plymouth Hospitals NHS Trust	26	77	73	48	62	95	83	62	0	17	100	32	9	55	50
Plymouth Primary Care Trust	32	81	0	71	N/A	89	94	44	97	100	100	100	100	80	84
Poole Hospital NHS Trust	68	75	71	76	31	81	87	61	54	46	100	78	79	70	58
Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust	78	68	42	81	29	98	96	100	28	98	100	100	35	73	74
Royal Cornwall Hospitals Trust	80	34	21	49	16	65	38	49	28	18	100	76	55	46	60
Royal Devon & Exeter NHS Foundation Trust	80	63	56	78	30	59	54	70	65	76	100	87	47	65	N/A
Royal United Hospital Bath NHS Trust	28	50	39	59	50	100	68	68	27	59	100	74	57	63	51
Salisbury Health Care NHS Trust	59	54	51	93	39	97	93	100	41	72	100	93	100	78	84
South Devon (including South Devon Healthcare NHS Trust &Teignbridge, Torbay and South Hams & W. Devon PCTs)	79	81	78	88	61	89	85	97	65	83	100	90	100	85	88

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All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
Swindon & Marlborough NHS Trust (with Swindon PCT)	80	19	16	61	34	66	29	35	18	42	100	25	56	42	48
Taunton & Somerset NHS Trust	80	66	59	58	49	71	71	88	65	72	100	83	29	67	48
United Bristol Healthcare NHS Trust	77	83	75	80	64	71	73	67	77	67	100	84	68	76	63
West Dorset General Hospitals NHS Trust	73	75	71	82	27	74	88	89	48	45	100	73	65	70	75
Weston Area Health Trust	80	70	59	59	40	58	68	61	75	98	100	80	50	68	53
Yeovil District Hospital NHS Foundation Trust	68	90	81	64	60	83	97	93	34	88	100	81	58	77	43
SOUTH WEST SHA overall		***64***	***53***	***72***	***39***	***79***	***73***	***77***	***50***	***70***	***100***	***80***	***66***	***69***	***65***
WEST MIDLANDS SHA															
Burton Hospitals NHS Trust	80	45	38	45	30	81	80	94	13	76	100	80	61	62	51
Dudley Group of Hospitals NHS Trust	77	86	66	74	24	81	77	79	57	69	100	66	39	68	53
George Eliot Hospital NHS Trust	72	64	63	93	44	77	96	88	72	74	100	82	44	75	44
Good Hope Hospital NHS Trust	76	70	58	48	51	61	80	49	4	25	100	84	29	55	63
Heart of England NHS Foundation Trust	79	65	61	83	38	65	90	76	74	63	100	87	75	73	59
Hereford Hospitals NHS Trust	60	38	33	57	38	44	85	24	22	17	100	73	15	45	46
Mid Staffordshire General Hospitals NHS Trust	70	66	34	65	37	76	54	50	25	26	100	53	80	55	39
Royal Wolverhampton Hospitals NHS Trust jointly with Wolverhampton Health Care NHS Trust	80	69	66	89	58	80	72	78	79	75	100	84	100	79	70
Sandwell and West Birmingham Hospitals NHS Trust (City Hospital)	67	70	45	46	34	48	74	55	13	55	100	88	75	59	68
Sandwell and West Birmingham Hospitals NHS Trust (Sandwell District Hospital)	71	86	83	69	26	73	90	96	76	54	100	89	74	76	59
Shrewsbury & Telford Hospital NHS Trust	80	74	63	23	33	61	41	77	37	16	100	53	75	54	N/A
South Birmingham PCT with University Birmingham NHS Foundation Trust	70	77	67	52	28	71	76	79	70	16	100	15	42	58	N/A

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All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
South Warwickshire General Hospitals NHS Trust	51	73	67	65	47	90	91	89	29	41	100	76	46	68	62
South Worcestershire PCT	8	100	88	14	N/A	57	71	71	100	25	100	100	88	74	62
University Hospital of North Staffordshire NHS Trust & North Staffordshire Combined Healthcare NHS Trust Combined	80	91	73	81	40	32	76	90	75	68	100	90	100	76	N/A
University Hospitals Coventry and Warwickshire (St Cross Hospital Rugby)	21	67	67	86	5	38	71	67	38	44	100	62	60	59	70
University Hospitals Coventry and Warwickshire (Walsgrave Hospital)	80	58	48	52	35	67	27	36	25	43	100	75	25	49	46
Walsall Hospitals NHS Trust	79	73	67	55	33	69	65	50	61	44	100	78	69	64	35
Worcestershire Acute Hospitals NHS Trust (Alexandra Hospital Redditch)	48	31	25	67	54	65	50	85	5	17	100	91	--	54	61
Worcestershire Acute Hospitals NHS Trust (Worcester Royal Hospital)	79	70	32	38	56	60	76	53	6	32	100	94	43	55	62
WEST MIDLANDS SHA overall		***68***	***56***	***62***	***39***	***66***	***72***	***69***	***42***	***46***	***100***	***76***	***60***	***63***	***62***
YORKSHIRE AND THE HUMBER															
Airedale NHS Trust	47	45	40	59	40	69	26	26	63	20	100	36	50	48	52
Barnsley Hospital NHS Foundation Trust	59	58	37	88	22	26	88	35	30	43	100	43	80	54	65
Bradford Teaching Hospitals NHS Foundation Trust	60	90	77	91	51	87	94	19	31	54	100	87	86	72	76
Calderdale & Huddersfield NHS Foundation Trust	80	89	79	82	41	73	74	90	55	77	100	93	92	79	N/A
Doncaster & Bassetlaw Hospitals NHS Foundation Trust (Bassetlaw Hospital)	48	65	65	54	38	82	85	100	97	34	100	100	54	73	68
Doncaster & Bassetlaw Hospitals NHS Foundation Trust (Doncaster Royal Infirmary & Montagu Hospital)	80	73	71	82	19	97	93	91	95	68	100	75	81	79	N/A
Hambleton & Richmondshire PCT (Rutson Rehabilitation Unit)	20	100	95	100	N/A	94	90	100	90	80	100	100	100	95	71
Harrogate and District NHS Foundation Trust	52	46	40	67	56	89	93	97	57	45	100	100	19	67	54

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All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
Hull and East Yorkshire Hospitals NHS Trust	80	76	71	82	53	69	72	89	73	82	100	97	64	77	78
Mid Yorkshire Hospitals NHS Trust	178	25	23	67	25	65	70	74	52	55	100	56	58	56	N/A
Northern Lincolnshire and Goole Hospitals NHS Trust (Diana Princess of Wales Grimsby)	60	60	58	61	47	48	27	29	27	58	100	65	50	52	40
Northern Lincolnshire and Goole Hospitals NHS Trust (Scunthorpe General)	43	51	40	48	53	81	68	47	43	38	100	65	26	55	41
Scarborough and North East Yorks Health Care NHS Trust	77	44	29	52	32	56	65	43	27	58	100	71	42	52	65
Sheffield Teaching Hospitals NHS Foundation Trust	80	76	71	70	63	80	72	75	67	59	100	73	79	74	52
The Leeds Teaching Hospitals NHS Trust	71	73	72	80	68	77	70	54	73	46	100	70	85	72	73
The Rotherham NHS Foundation Trust	80	85	76	77	44	65	89	94	96	82	100	87	85	82	78
York Health Services NHS Trust	75	72	65	77	43	40	88	72	37	18	100	0	94	59	53
YORKSHIRE & THE HUMBER SHA overall		***63***	***56***	***72***	***42***	***69***	***75***	***68***	***59***	***56***	***100***	***71***	***67***	***67***	***62***
NORTHERN IRELAND															
Altnagelvin Hospitals Health & Social Services Trust	20	60	55	64	40	64	100	0	27	33	100	0	33	48	58
Belfast City Hospital Health & Social Services Trust	57	81	65	66	44	83	85	87	47	93	100	92	26	72	59
Causeway Health & Social Services Trust	23	0	0	62	41	88	86	85	53	60	100	90	63	61	62
Craigavon Area Hospital Group Trust	68	90	51	63	41	58	74	59	68	89	100	100	32	69	67
Down Lisburn Health and Social Services Trust	15	73	60	100	29	50	80	75	90	100	100	100	100	80	46
Mater Hospital Belfast Health & Social Services Trust	38	71	66	52	18	35	56	88	26	84	100	92	67	63	32
Newry & Mourne Health & Social Services Trust	40	95	85	57	58	83	82	85	32	94	100	92	46	76	60
Royal Group of Hospitals and Dental Health & Social Services Trust	23	65	61	60	13	69	88	60	53	50	100	71	29	60	81
Sperrin Lakeland Health and Social Care NHS Trust (Erne	18	100	100	100	88	100	94	100	88	94	100	100	75	95	90

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All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
Hospital)															
Sperrin Lakeland Health and Social Care NHS Trust (Tyrone County Hospital)	13	69	62	82	46	78	8	50	58	50	100	50	83	61	69
Ulster Community & Hospitals Trust	50	70	68	34	34	70	70	88	60	53	100	97	67	68	66
United Hospitals Health & Social Services Trust	37	54	49	64	35	41	63	85	23	69	100	80	100	64	50
NORTHERN IRELAND overall		***73***	***60***	***62***	***40***	***68***	***74***	***73***	***50***	***77***	***100***	***88***	***50***	***68***	***62***
WALES															
Bro Morgannwg NHS Trust (Neath Port Talbot Hospital)	43	2	2	35	65	69	37	59	30	15	100	13	40	39	42
Bro Morgannwg NHS Trust (Princess of Wales Hospital)	45	0	0	63	47	50	42	73	49	35	100	84	24	47	47
Cardiff and Vale NHS Trust (Llandough Hospital)	64	50	42	35	23	76	39	30	52	37	100	43	60	49	54
Cardiff and Vale NHS Trust (University Hospital Wales)	76	29	25	38	37	75	39	17	52	33	100	46	55	46	53
Carmarthenshire NHS Trust (Prince Philip Hospital)	50	0	0	43	58	63	21	58	27	76	100	95	60	50	60
Carmarthenshire NHS Trust (West Wales General)	40	0	0	17	63	83	15	13	19	4	100	65	60	36	35
Ceredigion & Mid-Wales NHS Trust	20	0	0	88	30	83	63	57	41	29	100	29	0	43	47
Conwy & Denbighshire NHS Trust	54	63	43	60	33	82	53	89	45	22	100	57	33	57	71
Gwent Healthcare NHS Trust (Nevill Hall Hospital)	53	75	74	76	28	78	68	81	62	57	100	67	100	72	81
Gwent Healthcare NHS Trust (St Woolos, Royal Gwent and Caerphilly & District Miner's Hospitals)	69	87	61	26	33	72	44	70	44	77	100	83	71	64	N/A
North East Wales NHS Trust	48	50	48	72	54	86	77	67	82	77	100	89	32	69	72
North Glamorgan NHS Trust	49	0	0	24	27	39	20	13	13	0	100	3	8	20	37
North West Wales NHS Trust (Bangor Hospital)	76	0	0	81	24	97	100	71	52	93	100	100	60	65	59
North West Wales NHS Trust (Llandudno Hospital)	11	0	0	60	0	100	100	100	10	70	100	100	--	58	59
Pembrokeshire & Derwen NHS Trust	45	67	40	62	56	94	51	15	54	43	100	91	77	62	68

Trust name (site name)	Number of cases in the audit	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites) overall		**62**	**54**	**66**	**42**	**71**	**71**	**68**	**57**	**55**	**100**	**76**	**63**	**65**	**61**
Pontypridd & Rhondda NHS Trust	78	15	13	80	27	88	50	42	93	65	100	88	93	63	43
Powys Local Health Board	29	17	0	70	0	88	67	70	79	92	100	84	79	62	73
Swansea NHS Trust (Morriston Hospital)	51	0	0	71	35	56	94	18	98	83	100	100	57	59	55
Swansea NHS Trust (Singleton Hospital)	24	0	0	47	42	86	59	78	32	38	100	42	67	49	57
WALES overall		***28***	***22***	***55***	***38***	***76***	***54***	***50***	***54***	***53***	***100***	***70***	***53***	***54***	***56***
ISLANDS															
Isle of Man Department of Health and Social Security	19	21	16	17	58	56	25	70	90	11	100	0	29	41	82
States of Guernsey Health & Social Services	20	0	0	67	55	82	83	69	88	50	100	36	67	58	74
States of Jersey Health & Social Services	28	0	0	88	64	75	59	47	48	74	100	72	58	57	58
ISLANDS overall		***6***	***4***	***65***	***60***	***73***	***63***	***61***	***69***	***54***	***100***	***46***	***52***	***54***	***72***

TABLE 13 TOTAL KEY INDICATOR SCORE FOR CLINICAL AUDIT - ALL HOSPITALS IN EACH STRATEGIC HEALTH AUTHORITY AND REGION

Trust name (site name)	Patients treated in a Stroke Unit	Patients treated for >50% of stay in Stroke Unit	Screening for swallowing disorders < 24 hours after admission	Brain scan within 24 hours	Aspirin by 48 hours after stroke	Physiotherapist assessment within 72 hours of admission	OT assessment within 7 days of admission	Patient weighed during admission	Patient's mood assessed by discharge	Patient on antithrombotic therapy by discharge	Rehabilitation goals agreed by the multi-disciplinary team	Home visit performed before discharge	2006 key 12 indicator score	2004 key 12 indicator score
All Hospitals (sites)	62	54	66	42	71	71	68	57	55	100	76	63	65	61
EAST MIDLANDS SHA	51	46	57	40	69	62	59	53	51	100	66	45	58	56
EAST OF ENGLAND SHA	60	54	67	37	65	71	69	65	50	100	79	62	65	59
LONDON SHA	67	60	72	58	89	74	75	68	55	100	77	73	72	66
NORTH EAST SHA	72	67	70	40	67	72	58	54	53	100	78	67	67	66
NORTH WEST SHA	64	53	67	41	65	67	66	55	59	100	80	68	66	58
SOUTH CENTRAL SHA	64	55	71	44	73	79	74	61	51	100	78	66	68	63
SOUTH EAST COAST SHA	63	56	61	43	62	74	64	57	46	100	72	46	62	58
SOUTH WEST SHA	64	53	72	39	79	73	77	50	70	100	80	66	69	65
WEST MIDLANDS SHA	68	56	62	39	66	72	69	42	46	100	76	60	63	62
YORKSHIRE & THE HUMBER SHA	63	56	72	42	69	75	68	59	56	100	71	67	67	62
NORTHERN IRELAND	73	60	62	40	68	74	73	50	77	100	88	50	68	62
WALES	28	22	55	38	76	54	50	54	53	100	70	53	54	56
ISLANDS	6	4	65	60	73	63	61	69	54	100	46	52	54	72

Conclusions

Conclusions

Stroke clinicians, managers and politicians can feel proud of the advances that have been made over the last ten years - there are few other conditions that have progressed as rapidly. However there are still many areas of care that need to be improved and some hospitals that have failed to recognise that their stroke patients need 21st century management.

Appendix 1 Questionnaire used for data collection phase I (organisational audit)

ROYAL COLLEGE OF PHYSICIANS

NATIONAL SENTINEL STROKE AUDIT 2006

ORGANISATIONAL AUDIT PROFORMA

This proforma should describe your stroke services as at 1st April 2006. Please complete all questions. Clarification is available online against each question and also in the Help Booklet provided. In some cases you will either be directed to a later question or a response will not be apply based on answers to key questions. Data should be submitted to the Royal College of Physicians via the website.

Final Deadline 2nd May 2006.

Helpline: telephone 0207 9351174 ext 335 email calvin.down@rcplondon.ac.uk

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SECTION 1 ACUTE PRESENTATION

SITE CODE: ☐

1.1 **Auditor Discipline: (tick all that apply)**

Doctor ☐ Manager ☐ Nurse ☐ Therapist ☐ Other ☐ (please specify)…….

TRUST CASELOAD

1.2 How many patients with stroke are there in the Trust/hospital site? [ ]

(please estimate the number of patients with stroke in the Trust/hospital on the day this form is completed)

PRESENTATION AT HOSPITAL

1.3 Are there arrangements with the local ambulance service for emergency/rapid transfer to hospital for stroke patients with acute stroke over and above the regular system? Yes ○ No ○

1.4 Which ward is a patient with acute stroke most likely to be admitted to first? (select one option)

Medical Assessment Unit/Admission ward	○
General medical ward/Care of the Elderly	○
Acute stroke unit	○
Stroke unit (other)	○
Other	○

If other please specify …….

1.5 Do you offer thrombolysis for appropriate stroke patients at your site? Yes ○ No ○

If yes, how many patients have you thrombolysed in your site during the past 12 months? _____

SECTION 2 STROKE UNIT MODELS

ORGANISATION OF CARE

Stroke Unit Yes No

2.1 Does the trust have a specialist stroke unit or units? ○ ○

Definition: a specialist multidisciplinary team including staff based in a discrete ward which has been designated for stroke patients.

If Yes

2.2 What is the total number of specialist stroke unit beds? [ ]

(Total should equal the sum of the number of beds for Questions 2.3, 2.6 & 2.9)

If No go straight to question 4.1

TYPE OF STROKE UNIT

Answer the following questions according to the type(s) of unit(s). Before answering these questions see the definitions for each type of model in the help booklet.

ACUTE STROKE BEDS

Definition: Patients are accepted acutely but discharged or transferred early (usually within 7 days)

2.3 Number of beds designated for acute stroke care [ ]

(If you do not have a unit of this type answer 0)

2.4 Which of the following features does this unit provide? (Tick all that apply)

a. continuous physiological monitoring (ECG, oximetry, blood pressure) ○
b. access to scanning within 3 hours of admission ○
c if no access to scanning within 3 hours
is there access to 24 hour brain imaging? ○
d. a policy for direct admission from A&E/front door ○
e. specialist ward rounds at least 5 times a week ○
f. acute stroke protocols/guidelines ○

2.5 How many of the following *nursing* staff are there usually on duty at 10.00 in the morning (on a normal week-day) on the acute stroke unit?
(Enter 0 if no staff of that grade)

a. Qualified nurses [ ]
b. Care assistants [ ]

REHABILITATION STROKE BEDS

Definition: accepts patients after a delay of usually 7 days or more and has a focus on rehabilitation

2.6 Number of beds designated for stroke rehabilitation [ ]
(If you do not have a unit of this type answer 0)

2.7 How many of the following *nursing* staff are there usually on duty at 10.00 in the morning (on a normal week-day) on the rehabilitation stroke unit?
(Enter 0 if no staff of that grade)

a. Qualified nurses [ ]
b. Care assistants [ ]

2.8 If you have both acute and rehabilitation stroke units are they on the same ward? Yes ○ No ○

COMBINED STROKE BEDS

Definition: No separation between acute and rehabilitation beds. Accepts patients acutely but also provides rehabilitation for at least several weeks if necessary.

2.9 Number of beds if combined stroke unit [ ]
(If you do not have a unit of this type answer 0)

2.10 Which of the following features does this unit provide? (Tick all that apply)

a. continuous physiological monitoring (ECG, oximetry, blood pressure) ○
b. access to scanning within 3 hours of admission ○
c if no access to scanning within 3 hours
is there access to 24 hour brain imaging? ○
d. a policy for direct admission from A&E/front door ○
e. specialist ward rounds at least 5 times a week ○
f. acute stroke protocols/guidelines ○

2.11 How many of the following *nursing* staff are there usually on duty at 10.00 in the morning (on a normal week-day) on the combined stroke unit?
(Enter 0 if no staff of that grade)

a. Qualified nurses [ ]
b. Care assistants [ ]

SECTION 3 ALL STROKE UNITS

ALL STROKE UNITS

3.1 If you have a stroke unit/stroke units, are there named Social Workers attached to the multi-disciplinary team? Yes ○ No ○

3.2 Do(es) your stroke unit(s) operate admission criteria? Yes ○ No ○

If Yes,

3.2i Which of the following criteria apply? (tick all that apply)

	Acute SU	Rehab SU	Combined SU
a) None	☐	☐	☐
b) Age related	☐	☐	☐
c) Stroke severity	☐	☐	☐
d) Pre existing dementia	☐	☐	☐
e) Other	☐	☐	☐
If other please specify	[ ]	[ ]	[ ]

3.3 What is the total establishment of whole time equivalents (WTEs) of the following professionals for all your stroke unit beds?
(Enter 0 if no establishment)

i. Clinical Psychology [ ] WTE
ii. Dietetics [ ] WTE
iii. Occupational Therapy [ ] WTE
iv. Physiotherapy [ ] WTE
v. Speech & Language Therapy [ ] WTE
vi. Pharmacy [ ] WTE
vii. Orthotics [ ] WTE
viii. Foot health/Podiatry [ ] WTE

3.4 How many sessions of junior doctor time are there per week in total for all stroke unit beds?

[ ] Sessions

SECTION 4 OTHER STROKE CARE MODELS

MOBILE IN-PATIENT STROKE TEAM

Definition – a multidisciplinary team providing inpatient specialist stroke care outside a stroke unit setting

4.1i Do you have a mobile in-patient stroke team? Yes ○ No ○

IF NO, go to question 4.2

IF YES, 4.1 ii Which of the following are regular members of the team? (Tick all that apply)

- ☐ Specialist doctor
- ☐ Specialist nurse
- ☐ Social worker
- ☐ Speech and language therapist
- ☐ Physiotherapist
- ☐ Occupational therapist
- ☐ Dietitian
- ☐ Psychologist
- ☐ Other (please specify)…….

4.1 iii How many "ward rounds" are conducted per week? [ ]

4.1 iv How many patients has the team seen in the last week? [ ]

4.2 Do you have access to a stroke specialist early supported discharge team? Yes ○ No ○

IF NO go to 4.3

IF YES, 4.2i Which of the following are regular members of the team? (Tick all that apply)

- ☐ Specialist doctor
- ☐ Specialist nurse
- ☐ Social worker
- ☐ Speech and language therapist
- ☐ Physiotherapist
- ☐ Occupational therapist
- ☐ Dietitian
- ☐ Psychologist
- ☐ Other (please specify)…….

4.2ii How many patients has the team seen in the last week? [ ]

4.3. Is there a specialist community stroke team in your area for continuing longer term management? Yes ○ No ○

IF No go to 5.1

IF YES, 4.3i Which of the following are regular members of the team? (Tick all that apply)

- ☐ Specialist doctor
- ☐ Specialist nurse
- ☐ Social worker
- ☐ Speech and language therapist
- ☐ Physiotherapist
- ☐ Occupational therapist
- ☐ Dietitian
- ☐ Psychologist
- ☐ Other (please specify)…….

4.3ii How many patients has the team seen in the last week? [ ]

SECTION 5 IMAGING, TIA/NEUROVASCULAR SERVICE

IMAGING

Are you able to obtain the following for your stroke inpatients?

[*If yes for any of 5.2 – 5.4 you must tick one of a) – d) for both Weekdays and Weekends

5.1 CT scanning Yes ○ No ○

If yes, what is the current average waiting time for both weekdays and weekends?

	Weekdays	Weekends
a) 0-4 hours	○	○
b) 5-24 hours	○	○
c) 25-48 hours	○	○
d) More than 48 hours	○	○

5.2 MRI scanning Yes ○ No ○

If yes, what is the current average waiting time for both weekdays and weekends?

	Weekdays	Weekends
a) 0-4 hours	○	○
b) 5-24 hours	○	○
c) 25-48 hours	○	○
d) More than 48 hours	○	○

5.3 Carotid Doppler Yes ○ No ○

If yes, what is the current average waiting time for both weekdays and weekends?

	Weekdays	Weekends
a) 0-4 hours	○	○
b) 5-24 hours	○	○
c) 25-48 hours	○	○
d) More than 48 hours	○	○

TIA/NEUROVASCULAR SERVICE

		Yes	No
5.4	Do you have a neurovascular clinic?	○	○

If YES,

5.5	How many clinics within a 4 week period?	[ ]	
5.6	How many new patients were seen during the past 4 weeks?	[ ]	
5.7	What is the current average waiting time for an appointment?	[ ]	days

5.8 Do you have a service which enables the majority of patients referred with TIA to be seen and investigated within 7 days of minor stroke or TIA? Yes ○ No ○

SECTION 6 SPECIALIST ROLES

MEDICAL STAFF

6.1 Is there a consultant physician with specialist knowledge of stroke who is formally recognised as having principal responsibility for stroke services? Yes ○ No ○

6.2 How many formal sessions are there per week of senior doctor time for the management of stroke (including Outpatient Clinics):

a) Consultant [ ] sessions per week
b) Non consultant career grade [ ] sessions per week
c) Staff grade [ ] sessions per week
d) Clinical Assistant [ ] sessions per week

OTHER STROKE SPECIALIST ROLES

6.3 How many whole time equivalents of the following stroke specialists? (enter 0 if you do not have one)

	No. of whole time equivalents
6.3i Stroke Co-ordinator	
6.3ii Stroke Specialist Nurse	
6.3iii Stroke Clinical Specialist Therapist	
6.3iv Stroke Consultant Nurse	
6.3v Stroke Consultant Therapist	

VOCATIONAL TRAINING AND SUPPORT

6.4. Is there access to vocational training/employment support for working age stroke patients? Yes ○ No ○

SECTION 7 CONTINUING EDUCATION & RESEARCH

For the following questions answers for Stroke Unit apply to any type of stroke unit (acute, rehabilitation or combined). Other wards refers to all other wards in the hospital which treat stroke patients.

CONTINUING EDUCATION & RESEARCH CAPACITY

	Stroke Unit		Other Wards in the Trust	
7.1 Is there an in-house programme for the continuing education of qualified staff in management of stroke?	Yes ○	No ○	Yes ○	No ○

	Stroke Unit		Other Wards in the Trust	
7.2 Is there an in-house training programme, which includes issues relevant to the management of stroke for non-qualified clinical staff?	Yes ○	No ○	Yes ○	No ○

7.3 How many clinical stroke research studies are registered with your Research & Development Department (on the day you complete this form)? Please give as a total and then estimate by type of study.

Total	[ ]
Acute	[ ]
Rehabilitation	[ ]
Prevention	[ ]
Other	[ ]

7.4 How much time (in whole time equivalents, WTE, and however funded) is spent on clinical stroke research studies where patient consent (or relative assent) is required? Please give as a total and then estimate by type of profession.

Total	[ ] WTE
Doctor	[ ] WTE
Nurse	[ ] WTE
Occupational Therapy	[ ] WTE
Physiotherapy	[ ] WTE
Speech & Language Therapy	[ ] WTE
Psychologist	[ ] WTE
Dietitian	[ ] WTE
Other	[ ] WTE

SECTION 8 TEAM MEETINGS & ASSESSMENT MEASURES

TEAM WORKING

Records

8.1 Do all professions contribute to a single set of patient records for the management of stroke?

Yes ○ No ○

8.2 Does the Trust have an interdisciplinary care pathway for stroke?

Yes ○ No ○

TEAM MEETINGS

For the following questions answers for Stroke Unit apply to any type of stroke unit (acute, rehabilitation or combined). Other wards refers to all other wards in the hospital which treat stroke patients.

	Stroke Unit		Other Wards in the Trust	
8.3 Are there team meetings at least once a week for the interchange of information about individual patients?	Yes ○	No ○	Yes ○	No ○

8.4 Which of the following disciplines regularly attend the team meetings?(please mark all that apply)	Stroke Unit	Other Wards in the Trust
Clinical Psychology	☐	☐
Dietetics	☐	☐
Medicine (senior doctor)	☐	☐
Nursing	☐	☐
Occupational Therapy	☐	☐
Physiotherapy	☐	☐
Social Work	☐	☐
Speech and Language Therapy	☐	☐
Other (state which)	☐	☐

AGREED ASSESSMENT MEASURES

8.5 Is there a locally agreed assessment protocol for stroke, which indicates the appropriate use of standardised measures for the following?

		Yes	No
8.5i	Conscious level	○	○
8.5ii	Motor impairment	○	○
8.5iii	Cognitive function	○	○
8.5iv	Activities of Daily Living	○	○
8.5v	Acute stroke impairment Scale (eg NIH, Scandinavian Stroke Scale)	○	○
8.5vi	Mood	○	○

AVAILABILITY OF INFORMATION TO INFORM PRACTICE

	Stroke Unit		Other Wards in the Trust	
8.6 Do staff have ready access to up-to-date information on local and national patients/carers support organisations?	Yes ○	No ○	Yes ○	No ○

SECTION 9 PATIENT/CARER COMMUNICATION

For the following questions answers for Stroke Unit apply to any type of stroke unit (acute, rehabilitation or combined). Other wards refers to all other wards in the hospital which treat stroke patients.

	Stroke Unit		Other Wards in the Trust	
9.1 Does the organisation of the ward/unit enable patients to have access to their management plan?	Yes ○	No ○	Yes ○	No ○

	Stroke Unit		Other Wards in the Trust	
9.2 Is there patient information literature displayed in unit/ward on the following?	Yes	No	Yes	No
9.2i Condition specific literature on stroke	○	○	○	○
9.2ii Patient versions of national or local guidelines/standards	○	○	○	○
9.2iii Social Services local Community Care arrangements	○	○	○	○
9.2iv The Benefits Agency	○	○	○	○
9.2v Local voluntary agencies	○	○	○	○
9.2vi How to complain	○	○	○	○

9.3 Are patients given copies of their discharge summary/letters?	Yes ○	No ○
9.4 Does the Stroke service have formal links with patients and carers organisations for communication on service provision, audit and future plans?	Yes ○	No ○
9.5 Is there a community user group for stroke?	Yes ○	No ○
9.6 Is there a policy to give patients a named contact on transfer from hospital to community?	Yes ○	No ○
9.7 Are Patient/Carer groups involved in formulating policy to deliver care?	Yes ○	No ○
9.8 Are Patient/Carer views sought on stroke services?	Yes ○	No ○
9.9 Has a report been produced within the past 12 months which analysed the views of patients?	Yes ○	No ○

Notes:

This section is for you to clarify your answers to any questions. Identify the question number (s) which apply to each comment. (Online version allows you to enter comments next to each individual question)

Appendix 2 Questionnaire used for data collection phase II (clinical audit)

ROYAL COLLEGE OF PHYSICIANS
NATIONAL SENTINEL STROKE AUDIT 2006
CLINICAL AUDIT PROFORMA

The patient should be selected from the first 80 consecutive cases with a primary diagnosis of stroke (ICD 10 codes: I61, I63 and I64) admitted to the Trust between 1st April – 30th June 2006

SITE CODE: [ ]

Auditor Discipline (tick all that apply)

Clinical Audit ○ Medicine ○ Nursing ○ Therapy ○

Other ○ Specify _____

DEMOGRAPHIC INFORMATION

Patient audit number: [ ] Date of Birth: [ ] /[ ]/[ ] (dd/mm/yyyy)

Gender: Male ○ Female ○

If acute care for this patient is not being audited because they were initially admitted elsewhere tick this box ☐

Site code of collaborating hospital: [ ] (Contact RCP Administrator to obtain site code)
Date of transfer to your unit: [/ /] (dd/mm/yyyy)

SECTION 1 STROKE ONSET AND HOSPITAL STAY

1.1 Date of stroke: [/ /] Don't know ○
dd /mm/yyyy

**Please make every effort to find the date <u>and</u> time of stroke*

Time of stroke: [ ] HH (24 hr clock)

1.2 Date of admission: [/ /] Don't know ○
dd /mm/yyyy

n.b. should have been admitted between 1st April 2006 and 30 June 2006

Time of admission [ ] HH (24 hr clock)

Age at admission: [ ] (will be calculated automatically when you enter dates online)
n.b must be >16 years

1.3 Did the patient die whilst still an inpatient? Yes ○ No ○

IF NO,
1.3i At the time of audit is the patient?

- ○ still in hospital for initial episode
- ○ been discharged

1.4 Date of discharge (If discharged alive): [/ /] (dd/mm/yyyy)

Length of stay to discharge alive: [ ] days
(will be calculated automatically when you enter dates online)

1.5 Date of death: [/ /] (dd/mm/yyyy)

Or date of death not applicable ○

Time from stroke (or date of admission if not available) to death: [ ] days
(will be calculated automatically when you enter dates online)

1.6 Was the patient alive at 30 days after stroke? Yes ○ No ○ Don't know ○

ADMISSION/DISCHARGE

1.7 Was the patient treated in a Stroke Unit at any time during their stay? Yes ○ No ○

1.8 Was the patient admitted to a Stroke Unit within 4 hours of arrival at hospital? Yes ○ No ○

1.9 Where did the patient spend over 50% of their stay?

General/geriatric Ward ○
Stroke Unit ○
Rehabilitation Unit ○
Other ○ Specify_____

1.10 Date of admission to stroke unit [/ /] (dd/mm/yyyy)

1.11 Date of discharge from stroke unit [/ /] (dd/mm/yyyy)

SCAN

1.12 Did the patient have a brain scan after the stroke? Yes ○ No ○ Not known ○

If yes,

1.12i Date of first brain scan after the stroke [/ /] (dd/mm/yyyy)

**Please make every effort to find the date <u>and</u> time of scan*

1.12ii Time of first brain scan after the stroke [ ] HH (24 hr Clock)

1.12iii Has a brain scan been carried out within 24 hours of stroke? Yes ○ No ○ Not known ○

1.12iv What did the scan show?

Infarct ○
Haemorrhage ○
Haemorrhagic Infarct ○
No relevant abnormality ○

1.12v If no,
Reason the patient did not have a scan:

Patient refused/unable to co-operate ○
Palliative care ○
Scan not routinely available ○
Other ○
If other specify _____

SECTION 2 CASEMIX

CO-MORBIDITIES

2.1 Any history of known co-morbidities prior to admission?
(please select all that apply)

☐ Atrial Fibrillation
☐ Previous stroke or TIA
☐ Diabetes mellitus
☐ Hyperlipidaemia (total cholesterol >5 or LDL >3.0 mmol/L)
☐ Hypertension (systolic >140 or diastolic >85)
☐ Myocardial infarction or angina
☐ Valvular heart disease (aortic or mitral valves)
☐ Other serious illness that influences prognosis or management of stroke
Please specify _____

None of the above apply ○

2.2 Was the patient newly institutionalised at discharge? Yes ○ No ○ Not Known ○

PRE-ADMISSION MEDICATION

2.3 Was the patient on any of the following treatments before admission? Yes ○ No ○

2.3i If YES which classes of drugs were prescribed? (tick all that were prescribed):

Antihypertensives		**Antiplatelet/thrombotic**		**Lipid lowering treatment**	
ACE inhibitor or Angiotensin-II receptor antagonists	☐	Aspirin	☐	Statin	☐
Alpha Blocker	☐	Clopidogrel	☐	Other	☐
Beta Blocker	☐	Dipyridamole MR	☐	None	☐
Calcium Channel blocker	☐	Warfarin/other anticoagulant	☐		
Thiazide diuretic	☐	Other	☐		
Other	☐	None	☐		
None	☐		☐		

2.4 Was the patient independent in everyday activities before the stroke? Yes ○ No ○ Don't know ○
(e.g. Barthel 19-20 or Rankin <3

Error!DEPENDENCY AT DISCHARGE

2.5 Dependency at discharge (using the Barthel ADL Functional Assessment Scale)

Bowels	0 **=** Incontinent (or needs to be given enemata)	0	○
	1 = Occasional accident (once/week)	1	○
	2 = Continent	2	○
Bladder	0 = Incontinent, or catheterised	0	○
	1 = Occasional accident (max once per 24 hrs)	1	○
	2 = Continent (over 7 days)	2	○
Grooming	0 **=** Needs help with personal care	0	○
	1 = Independent face / hair / teeth / shaving (implements provided)	1	○
Toilet Use	0 **=** Dependent	0	○
	1 = Needs some help, can do something alone	1	○
	2 = Independent (on and off, dressing / wiping)	2	○
Feeding	0 **=** Unable	0	○
	1 = Needs help cutting, etc	1	○
	2 = Independent (food in reach)	2	○
Mobility	0 **=** Immobile	0	○
	1 =Wheelchair independent including corners etc.	1	○
	2 =Walks with help of one person (verbal or physical)	2	○
	3 = Independent (may use stick etc.)	3	○
Transfer	0 = Unable - no sitting balance	0	○
	1 = Major help (one / two people) can sit	1	○
	2 = Minor help (verbal or physical)	2	○
	3 = Independent	3	○
Dressing	0 **=** Dependent	0	○
	1 = Needs help, can do half unaided	1	○
	2 = Independent (including buttons, zips, laces etc)	2	○
Stairs	0 **=** Unable	0	○
	1 = Needs help (verbal/physical)	1	○
	2 = Independent	2	○
Bathing	0 **=** Dependent	0	○
	1 = Independent	1	○

Total [ ] (will only be calculated on website if all sections completed)

MAXIMUM SEVERITY WITHIN FIRST WEEK

2.6 What was the worst level of consciousness at the time of maximum severity within the first week after stroke?

- ○ Fully conscious
- ○ Drowsy
- ○ Semi-conscious (not fully rousable)
- ○ Unconscious (responds to pain only/no response)

SECTION 3 STANDARDS WITHIN 72 HOURS

Where the patient has been transferred from another hospital and data for the questions below is not available use the "No but.." option.

PATIENT ASSESSMENT FIRST 24 HOURS

	Yes	No	No but
3.1 Has screening for swallowing disorders (not gag reflex) been specifically recorded in the first 24 hours?	○	○	○

Answer **No, but** if: impaired level of consciousness is documented.

	Yes	No	No but
3.2 If the patient is alert and able to communicate, is there a formal assessment of?			
i) Visual fields	○	○	○
ii) Sensory testing	○	○	○

Answer **No, but**… if: impaired level of consciousness/communication is documented.

PATIENT ASSESSMENT FIRST 48 HOURS

	Yes	No	No but
3.3 Had the patient commenced aspirin by 48 hours after stroke?	○	○	○

Answer **No, but...** if: patient died; patient has intra-cerebral haemorrhage; it is documented that aspirin was contra-indicated.

PATIENT ASSESSMENT FIRST 72 HOURS

	Yes	No	No but
3.4 Has swallowing been assessed within 72 hours of admission by a speech and language therapist (or of stroke if the stroke occurred in hospital)?	○	○	○

Answer **No, but...** if: patient's swallowing is documented as normal: patient is still unconscious; patient died within 72 hours; patient is receiving palliative care.

	Yes	No	No but
3.5 Has the patient been assessed by a physiotherapist within 72 hours of admission (or of stroke if the stroke occurred in hospital)?	○	○	○

Answer **No, but...** if: patient died within 72 hours; patient is receiving palliative care.

	Yes	No	No but
3.6 Was the patient receiving nutrition by 72 hours of admission?	○	○	○

Answer **No, but...** if: patient refused or patient receiving palliative care

If yes,

3.6i Which of the following methods was in use?

Oral ○
Nasogastric/PEG ○
Intravenous ○

SECTION 4 STANDARDS WITHIN 7 DAYS

WITHIN SEVEN DAYS

	Yes	No	No but
4.1 Has there been an initial assessment of communication problems by the speech and language therapist within 7 days of admission (or of stroke if the stroke occurred in hospital)?	○	○	○

Answer **No, but**... if: patient died within 7 days; the patient was still unconscious; it is documented that the patient had no communication problems; patient is receiving palliative care.

	Yes	No	No but
4.2 Was the patient assessed by an occupational therapist within 4 working days of admission (or of stroke if the stroke occurred in hospital)?	○	○	○

Answer **No, but...** if: patient died within 4 days; the patient was still unconscious; it is documented that the patient had no difficulties performing everyday activities; patient is receiving palliative care.

If no,

	Yes	No	No but
4.2i Was the patient assessed by an occupational therapist within 7 days of admission (or of stroke if the stroke occurred in hospital)?	○	○	○

Answer **No, but...** if: patient died within 7 days; the patient was still unconscious; it is documented that the patient had no difficulties performing everyday activities; patient is receiving palliative care.

	Yes	No
4.3 Did the patient have *an indwelling* urinary catheter in the first week after admission?	○	○

If yes which of the following have been documented as the reason for urinary catheterisation?

Please select all that apply

a. ☐ urinary retention
b. ☐ pre-existing catheter
c. ☐ urinary incontinence
d. ☐ need for accurate fluid balance monitoring
e. ☐ critical skin care
f. ☐ not documented
g. ☐ other
please specify

	Yes	No	No but
4.4 Is there a plan to promote urinary continence?	○	○	○

Answer **No, but...** if: patient is continent; patient died within 7 days; patient is unconscious; patient is receiving palliative care.

SECTION 5 BY DISCHARGE

5.1 Is there evidence that the patient was weighed at least once during admission?

Yes ○ No ○ No but ○

Answer **No, but...** if patient died within 7 days; patient unconscious throughout.

5.2 Is there evidence in the multi-disciplinary notes of a social work assessment within 7 days of referral?

Yes ○ No ○ No but ○

Answer **No, but...** if: patient not referred to Social Worker; patient died within 7 days; or patient refused.

5.3 Is there evidence that the patient's mood has been assessed?

Yes ○ No ○ No but ○

Answer **No, but...** if: patient unconscious throughout; or patient died within 7 days.

5.4. Is there evidence that the patient's cognitive status has been assessed?

Yes ○ No ○ No but ○

Answer **No, but...** if: patient unconscious throughout; or patient died within 7 days, or receiving palliative care.

CARE PLANNING

5.5 Is there written evidence of rehabilitation goals agreed by the multi-disciplinary team?

Yes ○ No ○ No but ○

Answer **No, but...** if: patient died / discharged within 7 days; patient is receiving palliative care.

SECTION 6 RISK FACTORS AND SECONDARY PREVENTION

STROKE RISK FACTORS DEFINED AT DISCHARGE

6.1 Has(ve) the probable underlying cause(s) for the stroke been identified?	Yes	No	Not documented
	○	○	○

If yes,

6.1i which of the following?

Carotid stenosis	☐
Current smoker	☐
Alcohol abuse no. of units per week (21 female 28 men)	☐
Atrial Fibrillation	☐
Myocardial Infarction within the past month	☐
Hypertension	☐
Other	☐

If other specify_____

6.2 Have the following risk factors been discussed with the patient and/or carer?	Yes	No	No but
Smoking cessation	○	○	○
Alcohol reduction	○	○	○
Exercise	○	○	○
Diet	○	○	○

Answer **No, but…** if patient died; remained profoundly impaired

6.3 Which treatment was the patient on at discharge?

(Tick all that apply. If "none" select the reason)

Antihypertensives		**Antiplatelet/thrombotic**		**Lipid lowering treatment**	
ACE inhibitor or Angiotensin-II receptor antagonists	☐	Aspirin	☐	Statin	☐
Alpha Blocker	☐	Clopidogrel	☐	Other	☐
Beta Blocker	☐	Dipyridamole MR	☐	None	☐
Calcium Channel blocker	☐	Warfarin/other anticoagulant	☐		
Thiazide diuretic	☐	Other	☐		
Other	☐	None	☐		
None	☐		☐		

If None, reasons for not prescribing

Antihypertensives		**Antiplatelet/thrombotic**		**Lipid lowering treatment**	
Not indicated	☐	Not indicated	☐	Not indicated	☐
Patient refused	☐	Patient refused	☐	Patient refused	☐
Under review	☐	Under review	☐	Under review	☐
Contra-indications	☐	Haemorrhagic stroke	☐	Patient life expectancy <2 years	☐
		Other Contra-indications	☐	Other Contra-indications	☐

SECTION 7 PATIENT COMUNICATION AND RESEARCH

COMMUNICATION

7.1 Is there documented evidence that there has been discussion with the patient about:

	Yes	No	No but
i. Diagnosis	○	○	○
ii. Prognosis	○	○	○

Answer **No, but...** if patient unconscious throughout or died or has severe receptive or cognitive difficulties.

7.2 Were the carer's needs for support assessed separately? Yes ○ No ○ No but.. ○

Answer **No, but...** if it was documented that there was no carer.

7.3 Is there evidence that the skills required to care for the patient at home were taught? Yes ○ No ○ No but ○

Answer **No, but...** if: patient died; patient discharged to institutional care; it is documented that the carer is not participating in the patient's care; patient was self-caring by discharge.

7.4 Was a home visit performed? Yes ○ No ○ No but ○

If yes,

7.4i was this:

by a professional with the patient? ○
by a professional without the patient? ○

Answer **No, but...** if: the patient was sent to another hospital/institution; or was functionally competent; or there was no change in functional ability from before stroke; patient died; or patient or carer refused.

RESEARCH

7.5 Is this patient in a research study where they (or a relative) have given written consent/assent? Yes ○ No ○

Notes:

This section is for you to clarify your answers to any questions. Identify the question number (s) which apply to each comment. (Online version allows you to enter comments next to each individual question)