Royal College of Physicians | Sentinel Stroke National Audit Programme (SSNAP)

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Acute organisational audit report

Public Report for England, Wales and Northern Ireland

Prepared by

Royal College of Physicians, Clinical Effectiveness and Evaluation Unit on behalf of the Intercollegiate Stroke Working Party

For

The General Public

December 2014

Acute organisational audit

Document Purpose	To disseminate the results of the SSNAP acute organisational audit 2014
Title	SSNAP Acute Organisational Audit Report 2014
Author	On behalf of the Intercollegiate Stroke Working Party
Publication	December 2014
Audience	General public, stroke survivors and their carers, health and social care professionals
Description	This is the second report published under the auspices of the new national stroke audit, the Sentinel Stroke National Audit Programme (SSNAP). It publishes national and hospital level findings on the organisation of stroke services, in particular acute care organisation, specialist roles, staffing, TIA (mini stroke) services, communication between staff groups and with patients and carers, and pathway at discharge. The results reflect the organisation of stroke services as of 1 July 2014. The report findings enable the organisation of stroke services at national level to be compared with national standards outlined in the fourth edition of the National Clinical Guideline for Stroke (2012) published by the Intercollegiate Stroke Working Party and, the NICE (National Institute for Health and Clinical Excellence) Clinical Guideline, the National Stroke Strategy 2007 and the NICE Quality Standard for Stroke (2010). This report is addressed to everyone who is interested in stroke services. It gives a comprehensive picture of current services and the style of the report should allow lay people as well as experts to read it and extract relevant information. In Section 3 results are summarised in 6 domains which were used to calculate the score for each hospital. The aspects of service organisation included in each domain are presented in tables, graphics and maps, along with clinical commentary. Changes over time for comparable data are shown in Section 4, regional comparisons are given in Section 5 and named hospital results for the 6 domains are presented in colour coded performance tables in Section 6.
Superseded	National Sentinel Stroke Audit – Organisational Report (2010, 2009, 2008, 2006, 2004) Sentinel Stroke National Audit Programme – Acute Organisational Audit Report (2012)
Related publications	National clinical guideline for stroke 4th edition (Royal College of Physicians, 2012) http://www.rcplondon.ac.uk/resources/stroke-guidelines SSNAP Clinical Audit Quarterly reports: April – June 2014 https://www.strokeaudit.org/results/national-results.aspx SSNAP Clinical Audit annual report: April 2013 – March 2014 (to be published Dec 2014) https://www.rcplondon.ac.uk/projects/sentinel-stroke-national-audit-programme Site level report of the National Sentinel Stroke Organisational Audit 2012 (made available to Trusts in November 2012) https://www.rcplondon.ac.uk/projects/ssnap-acute-organisational-audit

	National clinical guidelines for diagnosis and initial management of acute stroke and transient ischaemic attack (NICE, 2008) www.nice.org.uk/CG68 NICE Quality Standard for Stroke 2010 http://www.nice.org.uk/guidance/qualitystandards/stroke/strokequalitystandard.jsp National Stroke Strategy (Department of Health, 2007) http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_081062 (please copy and paste this link into your browser) Department of Health: Progress in improving stroke care (National Audit Office, 2010) http://www.nao.org.uk/publications/0910/stroke.aspx Clinical Commissioning Group (CCG) Outcome Indicator Sets (OIS) (http://www.strokeaudit.org/Entity-documents.aspx)
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Foreword

Speaking as a born optimist I see much to celebrate in this audit report. We have again managed to get data from all hospitals delivering acute stroke care, despite the amount of time already being devoted to getting data on virtually every stroke patient admitted to hospital in the country for the clinical SSNAP audit. We have seen improvements in the structure of services in many areas. Ninety-nine percent of hospitals now provide a 24 hour a day service for patients who might benefit from clot busting treatment, which is an extraordinary achievement considering that only a few years ago it was a treatment being delivered in just a few centres of excellence. Nurse staffing levels have increased a bit but as we have shown using previous audit data the staffing ratios need to be even higher to reduce death rates. We have been pushing for what feels like generations to get clinical psychology recognised as an essential component of routine stroke care and the figures are better than they were in the last audit in 2012 with nearly two-thirds of hospitals having access to some psychology support. And perhaps best of all the proportion of areas of the country with early supported discharge services has risen from 66% to 75%.

But even the most fervent optimist has to recognise that there is still a lot to do and as every year passes of financial stringency it gets harder to achieve. The 25% of recalcitrant Clinical Commissioning Groups (CCGs) not commissioning early supported discharge (ESD) have to somehow be persuaded of the hard scientific arguments that such services produce better outcomes at lower cost. The stroke units that are still not offering all the five key quality characteristics need to urgently improve. We have to find a solution to the medical workforce problem that there are a quarter of hospitals with an unfilled stroke consultant post mainly as a result of us failing to train enough junior doctors and this is only going to get worse as nearly half of hospitals are hoping to appoint to new positions in the next year.

I want to personally thank everyone who has worked so hard over the years to transform services for stroke patients from the worst in Europe to some of the best and who continue to strive under difficult circumstances to ensure that their patients receive the best possible care. Let’s continue to work together to make sure by the time of the next report on the structure of stroke services we have even more to celebrate and less to feel ashamed of.

Tony Rudd
Chair, Intercollegiate Stroke Working Party

Ten Key Recommendations

1. Overall improvements in stroke care that have been made over successive rounds of the audit have generally been maintained – which in the recent climate of change within the NHS has to be seen as a positive achievement. There is no room for complacency however, and all providers of stroke care and CCGs/commissioners should continue to review service performance and improvement by participation in the prospective clinical component of SSNAP.

2. There is now 24/7 access to thrombolysis throughout the audit which is excellent for patients. Quality of thrombolysis services will be monitored and driven up through SSNAP, with the aim of giving thrombolytic treatment to appropriate patients in the most timely and safest way. Thrombolysis performance in SSNAP should be regularly reviewed at provider and CCG level and compared to national benchmarks.

3. Average staffing levels for nurses and care assistants on stroke units have increased in terms of numbers from a median of eight per 10 stroke unit beds in 2012 to nine in 2014. This may still not be enough. Skill mix and training are still too variable across the audit.

4. Clinical psychology involvement in the stroke multidisciplinary team has significantly improved to now 61% of hospitals but many patients still have no access at all. All stroke units should have access to clinical psychology.

5. Social work presence within the stroke multidisciplinary team has decreased and is now only seen in 57% of hospitals. With a growing need for joint health and social care planning for stroke patients this trend is worrying and will likely lead to prolonged hospital length of stay for stroke patients with complex social care needs and potentially increase burden on carers and family. All stroke units need formal working arrangements with local social services and ideally have a link social worker.

6. Stroke specific early supported discharge (ESD) has also improved so that three quarters of units have access which is a further step change in accessing evidence based community stroke care. All stroke patients should however have access to stroke specific ESD.

7. Access to stroke units has now become standard care for patients with suspected stroke. All stroke units however, need to deliver the all 5 Stroke Unit Trialists' Collaboration characteristics in order to demonstrate the benefits of stroke unit care. The fact that this is not universally happening is no longer an unfilled aspiration

but a necessity. In the same way acute admitting units need to offer a 7 day week service in line with all acute medicine conditions.

8. There are considerable concerns about the consultant stroke physician workforce, with one in four hospitals having current vacancies and almost half wishing to further expand their consultant stroke physician clinical time in the near future. The shortfall will likely impact on leadership of stroke services within the NHS and needs to be addressed immediately through training programmes in both geriatric medicine and neurology.

9. With a transition from PCTs to CCGs, commissioner involvement in service development and strategic planning of stroke services has apparently fallen away to only 65% of services. We hope this is not a trend and that the CCG specific reporting of SSNAP, this and future planned audit, will serve to encourage CCGs to act upon variance with best and benchmarked National practice. All CCGs should have a nominated lead for commissioning and developing stroke services that is registered with SSNAP.

10. Stroke services in Northern Ireland have declined across almost all domains. The review of stroke care in Northern Ireland undertaken earlier in 2014 should help guide future service improvement and organisational change.

Glossary

ABCD^2 score	Prognostic scores to identify people at high risk of stroke after transient ischaemic attack. It is calculated based on: A – age (≥60 years, 1 point) B – blood pressure at presentation (≥ 140/90 mm Hg, 1 point) C – clinical features (unilateral weakness, 2 points or speech disturbance without weakness, 1 point) D – duration of symptoms (≥ 60 minutes 2 points or 10 – 59 minutes, 1 point) The calculation of ABCD^2 also includes the presence of diabetes (1 point). Total scores range from 0 (lowest risk) to 7 (highest risk). The definition of high risk is a score of 4 or above and low risk is less than 4.
Carer	Someone (commonly the patient's spouse, a close relative or friend) who provides ongoing, unpaid support and personal care at home.
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 analysed 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 (or domains) 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
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 Guideline For Stroke (2012)	A National evidence based guideline for stroke care published by the Intercollegiate Working Party for Stroke fourth edition 2012 http://www.rcplondon.ac.uk/resources/stroke-guidelines
National Sentinel Stroke Audit	National stroke audit conducted between 1998 and 2010 which measured the organisational of stroke services (organisational audit) and the quality of stroke care for a group of patients (clinical audit) every two years. The National Sentinel Stroke Audit has been replaced by the new stroke audit SSNAP.
National Stroke Strategy	A best practice guidance document published in December 2007. It is intended to provide a quality framework to secure improvements to stroke services, to provide guidance and support to commissioners and strategic health authorities and social care, and inform the expectations of patients and their families by providing a guide to high quality health/social care. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/publicationsPolicyAndGuidance/DH_081062
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 audit due to the evidence supporting organised stroke services.
Organisational Score	The data were 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.
Orthotics	Orthotists are the health professionals concerned with the application and manufacture of orthoses, devices which support or correct the function of a limb.
Orthoptists	The evaluation and nonsurgical treatment of visual disorders caused by imbalance of the eye muscles.
Secondary Prevention	Measures to prevent recurrence of the same illness.
Sentinel Stroke National Audit Programme (SSNAP)	National Stroke Audit run by the Royal College of Physicians, London. It combines the National Sentinel Stroke Audit and SINAP. In addition to the acute organisational audit reported on in this document, SSNAP prospectively collects a minimum data set for every stroke patient covering acute care including rehabilitation and 6 month follow up.
Stroke Research Network	A nationally funded organisation to increase participation in stroke research http://www.uksrn.ac.uk/
Stroke Unit Trialists' Collaboration (SUTC)	Citation: Stroke Unit Trialists' Collaboration. Organised inpatient (stroke unit) care for stroke. Cochrane Database of Systematic Reviews 2007, Issue 4. Art. No.: CD000197. DOI: 10.1002/14651858.CD000197.pub2
Thrombolysis	The use of drugs to break up a blood clot.
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 hour). It is also referred to as 'mini stroke'.
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.

Section 1: Introduction and methodology

Introduction

This report presents the results of the National Sentinel Stroke National Audit Programme (SSNAP) Acute Organisational Audit 2014. It reports on the organisation of stroke care in England, Wales and Northern Ireland. It provides continuity from the 2012 acute organisational audit and previous biennial NSSA audits. The audit is based on standards agreed by representatives of the Intercollegiate Stroke Working Party (ICSWP). Its questions are well understood and the majority comparable with the 2012 audit. The organisational audit complements the continuous prospective clinical audit which reports quarterly (http://www.strokeaudit.org/results). At the time of submitting data for this organisational audit, 74,307 records had been analysed for stroke patients admitted between April 2013 and March 2014.

The Aims of the Sentinel Stroke National Audit Programme 2014

1. To benchmark services regionally and nationally
2. To monitor progress against a background of organisational change to stroke services and more generally in the NHS
3. To support clinicians in identifying where improvements are needed, planning for and lobbying for change, and celebrating success
4. To empower patients to ask searching questions

Organisation of the audit

This audit is commissioned by the Healthcare Quality Improvement Partnership (HQIP) on behalf of NHS England as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP) and run by the Clinical Effectiveness and Evaluation unit (CEEu) of the Royal College of Physicians, London. Data were collected within hospitals using a standardised method. This audit was overseen at hospital level by a lead clinician for stroke who was responsible for the quality of data supplied. The audit is guided by a multidisciplinary steering group responsible for the RCP Stroke Programme – the Intercollegiate Stroke Working Party (ICSWP) (Appendix 1).

Eligibility and recruitment

All hospitals that routinely admit patients within 7 days of stroke were eligible to participate. Pre 2012, only hospitals which directly admitted acute stroke patients were eligible, but due to the centralisation of stroke services and the establishment of a hyperacute model of stroke care in different parts of the country this was changed in 2012. Registration forms were submitted for each hospital which confirmed service configuration and details of the lead clinician and clinical audit lead.

Due to changes in service configurations and trust mergers the total number of hospitals decreased from 190 to 183 since the 2012 organisational audit. In total there were 157 hospitals in England, 14 in Wales, 11 in Northern Ireland and the Isle of Man.

Participation

There is 100% participation of eligible trusts (150) in England (139), Wales (6) and Northern Ireland (5) and the Isle of Man (1).

Methods

Standards in the audit

A number of changes were made to the 2014 proforma of questions (Appendix 2) from the 2012 audit. Due to the significant growth of information being obtained from the SSNAP clinical audit, more data linkages were possible to acquire figures previously requested and a number of questions were therefore removed. Several questions were also added to enable a more comprehensive snapshot of acute stroke services. The focus of these additional questions included interventional neuroradiology, total nursing establishments for stroke beds, specialist nurses within the stroke workforce and workforce planning (with the latter as a part of a national initiative from the British Association of Stroke Physicians to look at workforce planning for doctors).

Data collection tool

Data were collected using a web-based tool accessible via the internet. Security and confidentiality were maintained through the use of hospital codes. High data quality was ensured through the use of built in validations which prevented illogical data being entered. Data could be saved during as well as at the end of an input session. Once data entry was completed, hospitals were advised to export and check their responses.

Each participating hospital was provided with a standardised help booklet containing data definitions clarifications and context specific online help was available on the webtool. A telephone and email helpdesk was provided to answer any individual queries.

Definitions

Definition of a 'site'

Lead clinicians were asked to collect data on the basis of a unified service typically within a trust. For most trusts the 'site' was the trust. For some trusts there were several 'sites' each offering a discrete service. A site may include several hospitals and some include more than one trust. NB for the purposes of space and easy reading, participating sites are referred to as hospitals in this report.

Please note in this report 'trusts' is used as a generic term; however, it is acknowledged that in Wales, these are Health Boards.

Stroke Unit

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.

5 SUTC key characteristics of all stroke units

Five key characteristics were chosen from the Stroke Unit Trialists' Collaboration (SUTC) and subsequent papers, as markers of good stroke unit organisation (Stroke Unit Trialists' Collaboration (2007) Organised inpatient (stroke unit) care for stroke. *Cochrane Database of Systematic Reviews* (4): CD000197). The audit has assessed how many of these are in place. These will be referred to in the document as the 5 SUTC characteristics and 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
- funding for external courses and uptake

7 Acute Criteria for beds used for the first 72 hours of care

To evaluate specifically the quality of *acute* stroke unit organisation it was determined whether the following 7 criteria were met. These criteria are not all evidence based but were developed using the consensus of an expert working group.

The 7 acute criteria for units with beds providing care in the first 72 hours:

- continuous physiological monitoring (ECG, oximetry, blood pressure)
- immediate access to scanning for urgent stroke patients
- direct admission from A&E/front door
- specialist ward rounds on 7 days a week
- acute stroke protocols/guidelines
- nurses trained in swallow screening
- nurses trained in stroke assessment and management

There are three categories of stroke unit beds used at different parts of the care pathway which are referenced in this report.

- beds used *solely* used for patients in the first 72 hours after stroke
- beds *solely* used for patients beyond 72 hours after stroke
- beds used for *both* the first 72 hours of care and beyond

How to read this report

This report presents national and hospital level data for many important aspects of the organisation of stroke services. National results are presented as percentages, and hospital variation is summarised by the median.

The median is the middle point of the data. 50% of the values lie on either side.

It is important to note that denominators vary throughout this report depending on the number of hospitals to which the analyses relate. For example, there are 16 hospitals in London which do not treat stroke patients in the first 72 hours. These hospitals are excluded from the denominator for any measure related to this early phase of stroke care e.g. thrombolysis.

Availability of the 2014 Acute Organisational Audit data in the public domain

Individual hospitals results for this audit were made available to all participating hospitals, NHS England and the Care Quality Commission in England, NHS Wales (Welsh Assembly Government), and the Department of Health, Social Services and Public Safety in Northern Ireland in October 2014. For the first time, we also are publishing a full results portfolio including results for all data items by named hospital, a summary spreadsheet which includes key indicators from the organisational audit along with domain scores and overall score and colour-coded performance tables by named hospital. Also, in 2012, full and summary level PDF reports are being made publically available. These outputs are being made public in line with the transparency agenda and can be downloaded from www.strokeaudit.org/results.

Evidence

No references have been quoted in this report for reasons of space. All relevant evidence and standards are available in the following:

- National clinical guideline for stroke 4th edition (Royal College of Physicians, 2012) http://www.rcplondon.ac.uk/resources/stroke-guidelines
- National clinical guidelines for diagnosis and initial management of acute stroke and transient ischaemic attack (NICE, 2008) www.nice.org.uk/CG68
- NICE Quality Standard for Stroke 2010 http://www.nice.org.uk/guidance/qualitystandards/stroke/strokequalitystandard.jsp

Presentation of results

Section 2 reproduces the key messages from the entire audit. For reasons of space and clarity, the following chapters in this report do not provide the full source of all of these messages. The full generic report which is more technical and contains national level results for every data item is available from the Royal College of Physicians' website www.rcplondon.ac.uk/ssnap.

Section 3 describes the organisation of stroke care by domains. There are 6 domains representing various aspects of stroke care organisation. Each domain consists of a number of key indicators relating to the topic of the domain. For each domain an overview of performance is given first. This is followed by more detailed information about performance in the component key indicators. The method by which the overall score is calculated (algorithm) for the domains and total organisational score is described in Appendix 4.

Section 4 compares the results of the 2014 audit with previous rounds of SSNAP and the NSSA for those standards where comparison is possible.

Section 5 gives more detailed audit results along with a regional comparison between England, Wales and Northern Ireland.

Section 6 contains the performance tables which includes selected indicators for the acute organisational audit including overall domain scores and total score by named hospital.

A note on point maps

Section 3 contains point maps to display hospital results. Each hospital is denoted a symbol the colour of which displays its position for each domain. These maps are intended to give an indication of how organisation of stroke care varies across hospitals in England, Wales and Northern Ireland. For more detailed information about your local hospital please refer to the supplementary regional reports which are available on the RCP website or view the interactive maps (http://www.strokeaudit.org/results/Maps.aspx). These contain colour coded regional level maps. www.rcplondon.ac.uk/ssnap.

NB All results relate to stroke care organisation on 1 July 2014.

Section 2: Comprehensive summary of audit results

Audit results

This section presents an executive summary of the findings of the audit. It brings together the clinical commentary from Sections 2 – 4 of the full report. For ease of reading it does not contain the full findings which are presented in the tables in the relevant section of the Generic report.

Presentation, assessment and initial treatment

- FAST has become standard as pre-hospital screening for suspected stroke with 165/167 hospitals having a FAST-track pathway for potential thrombolysis patients. A third of hospitals now have a direct transfer policy from ambulance to stroke unit for suspected stroke patients bypassing Emergency departments all together.
- Whilst use of telemedicine has continued to grow, there is concern that it has not incorporated the use of video enabled clinical assessment (71% in 2014 compared with 76% 2012). In over two-thirds of cases currently, telemedicine is reserved for acute stroke patients as part of a thrombolysis treatment pathway only and in only 10% of services using telemedicine to assess *all* suspected stroke patients. All acute stroke patients need access to specialist stroke neurological diagnosis and opinion when they arrive at hospital.

Thrombolysis for stroke (for 167 hospitals providing care within the first 72h)

- As in 2012, 90% of hospitals providing care within the first 72h provide a thrombolysis service; however in 2014, 99% of hospitals now either offer on-site thrombolysis or else have a formal arrangement to transfer patients to a hospital that does offer it.
- With the increasing implementation of centralised models of hyperacute stroke care this may reduce the provision of onsite thrombolysis as thrombolysis services are concentrated in some parts of the country into larger single centres. There has been an increase to 83% of hospitals now providing on-site, 24/7 thrombolysis as opposed to a shared care arrangement and 99% of hospitals now provide 24/7 cover with either on-site or local arrangements. This is a significant improvement in access to thrombolytic therapy from only 50% in 2010.
- Assessment and decision making for thrombolysis has changed little since 2012 in terms of staff groups involved, with an understandable difference between the percentage of hospitals with consultant in person decision making in hours (99%), and out of hours (50%). However consultant led thrombolysis using telephone only remains a very questionable practice in terms of speed, effectiveness and safety when compared to onsite presence or video enabled telemedicine. The responsible thrombolysis decision maker needs to be clear on the diagnosis of stroke, timing of onset of symptoms, results

of brain imaging and the presence of contraindications. There needs to be clear clinical governance around such arrangements.

- A broad range of consultant specialities continue to support thrombolysis rotas with the majority being stroke physicians and care of the elderly specialists. It is important that all those participating are confident and competent in stroke thrombolysis – which can be challenging when managing and diagnosing acute stroke is not part of the consultants' regular daytime job plan. The British Association of Stroke Physicians (BASP) has defined definitions for physicians with stroke skills which should be the minimum applicable criteria for any doctors supervising a thrombolysis decision. The Health Technology Assessment 2002 also supports this by recommending that administration of acute stroke treatments such as thrombolysis should be carried out only by stroke specialists (stroke team or neurologist) who have received specific training on how to do so.
- The median number of doctors on a thrombolysis rota remains 6 – so almost half of rotas have fewer than 6 consultants. Shortfalls in current consultant stroke physician appointments will make addressing this challenging in the short term.
- Endovascular treatment for acute stroke (Intra-arterial thrombolysis and or mechanical clot retrieval) remains an exciting but as of yet, unproven treatment. Very small numbers of patients are currently being treated nationally. Appropriate patients should be offered treatment in specialist centres as part of a randomised clinical trial and outcomes published in a registry such as SITS-TBY. It is concerning that nearly 30% of hospitals using intra-arterial treatments are neither entering them in to a trial nor submitting data to a registry. These hospitals urgently need to address the clinical governance issues around delivering unproven treatments.

Stroke units

- Nearly all hospitals have a direct admission policy to stroke units which is the standard recommended in all recent national guidelines, although as in 2012, there are still three units where this is not the case. Direct admission exists in almost all hospitals 24/7 and the number of hospitals with exclusion criteria for patients accessing acute stroke unit care has reduced to three.
- Over 90% of units have 5 day a week or more consultant ward rounds. Seven day consultant ward rounds have increased to almost two-thirds of Type 1 beds. The HASU model of care requires this to be 100% to ensure all patients with suspected stroke are reviewed by a stroke consultant on a post emergency admission ward round.
- Compliance with the acute quality criteria on stroke units have improved in relative terms but still the vast majority fall below the gold standard of meeting all 7 criteria. Type 1 beds only meet this in 37% of cases and Type 3 beds in 17% – which needs to be addressed through service specification and commissioning to make a significant step change. Most units fall down on organisational issues such as stroke unit admission procedures and weekend stroke consultant ward rounds.

- Exclusion criteria for Type 2 beds (post 72 hours) cannot be condoned or justified. No patient should be excluded on the basis of age, stroke severity or co-morbidity. Rehabilitation potential is difficult to predict early after stroke and even if uncertain or thought to be poor, stroke unit multidisciplinary teams are best placed to provide disability management and inform transfer of care arrangements for severely affected stroke patients. There has been an increase in the number of stroke units using exclusion criteria since 2012. We ask the eight dedicated post-acute stroke units which currently have exclusion criteria, to reconsider.
- Stroke consultant ward round frequency for Type 2 beds has reduced slightly since 2012 from 77% having at least 5 days a week rounds to 69% now.
- Nursing staffing levels in hospital are important and associated with patient safety and mortality. There has been much discussion about 'safe' or 'minimum' numbers of nursing staff by NICE (http://www.nice.org.uk/Guidance/InDevelopment/gid-safenursestaffingadultwardsacutehospitals) and we have recently published that in acute stroke units there is an association between higher nursing numbers and lower mortality (http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.1001705). Due to the complexity of stroke patients it should be expected that nursing levels should be above the average for acute hospitals. The difference at national level in registered nursing levels in Type 1 beds between 10am and 10pm seen in the audit may be cause for concern. The fact that nursing levels are approximately the same across days of the week and public holidays is reassuring. Units with below average stroke unit staffing should urgently address this issue and increase their establishment. Poor care resulting from low nursing levels is clearly unacceptable and should be an issue addressed by commissioners and the Care Quality Commission.
- There has been an increase in whole time equivalent (WTE) clinical psychology posts such that now 54% of hospitals have some clinical psychology service however when compared to absolute numbers of staff per stroke unit, clinical psychology input remains pitiably small with a median of 0.04 WTE per ten beds. Otherwise multidisciplinary staffing, in terms of median numbers per 10 beds, has not greatly changed in the face of a further small increment in delivering weekend occupational and physiotherapy services. Units moving to provide 7 day a week therapy services need to ensure that this does not come at a cost of reducing therapy services within normal working hours.
- Junior doctor support for stroke units is provided predominantly by early years trainees with relatively little registrar grade input. Training specialist registrars in stroke is crucial to meeting the unmet demand for stroke specialist consultants and training posts need to be reviewed and increased to match current and future consultant demand.
- Access to clinical psychology has increased with the further investment in staffing from 52% in 2012 to 61% in 2014. This makes the lack of access to such support seem even more inequitable for the 39% of units that have no clinical psychology input. Access to

social work expertise remains high but key services for stroke patients such as orthotics, orthoptics and in particular podiatry, are still shamefully lacking in a number of units. Commissioners should look towards using service specifications with providers to ensure stroke patients who require these key services have timely access or expect a negative impact on quality of care and likely prolonged length of stroke unit stay.

- The practice of keeping stroke patients in bed until reviewed by a therapist remains at the same level as in 2012 (22 hospitals 2012, 23 hospitals 2014). We would strongly recommend those trusts with this policy to provide training and competencies for stroke unit nursing staff to be able to make this key early management decision. Even with an increase in 7 day therapy, many patients will arrive outside of normal working hours and a clinical decision about early mobilisation is required to prevent patients who are medically stable otherwise being inappropriately kept on bed rest.
- The composition of multidisciplinary stroke team meetings has not greatly changed from 2014 other than a small increase in clinical psychology participation (31% from 26%). More teams than before (69% from 61%) are meeting more than twice a week indicative of the importance placed by hospitals on formal MDT communication in order to optimise stroke unit care.
- Palliative care treatment remains an important aspect of stroke unit care and in the aftermath of the controversy surrounding the withdrawal of the Liverpool Care Pathway from hospitals in 2013, it is reassuring that hospital guidance on end of life care is still in place for 96% of stroke units. The 8 hospitals that do not have such guidance should urgently address this.
- We now have good randomised control trial evidence not to use compression stockings after stroke and the single unit where this is still practiced should stop. Since 2012 there is new randomised control trial evidence to support intermittent pneumatic compression device use in selected stroke patients. We will look to monitor the implementation of this at a patient level in SSNAP although already 42% of units state they are using such devices. The patient level audit suggests that the proportion of patients actually receiving Intermittent Pneumatic Compression (IPC) treatment currently is very small.

Stroke Unit Trialists' Collaboration (SUTC) Key Characteristics of All Stroke Units

- The aspiration for all stroke units must be to fulfil all 5 of the SUTC key characteristics. With the enormous investment and the many improvements in all aspects of stroke care nationally, it is then hugely disappointing that we have not made more significant improvements over time here. The shortfalls are, in particular, in providing formal links with patients and carers, patient information and a programme of continuing education for the stroke MDT staff. The fact that formal links with patients and carers has decreased is concerning particularly as the 2012 SSNAP acute organisational report called for an improvement in this area by stating '*This may be considered a less important component of care than some of the others but we would suggest this it is*

critical for a stroke unit to perform effectively. Without direct involvement of patients and carers it is very unlikely that the unit will address their needs adequately. We consider this to be one of the major areas for improvement over the next 12 months.' We would like to reiterate this for 2014.

These criteria do not necessarily require financial resource and should be considered as fundamental for all stroke units. If your hospital does not meet all 5 criteria, then you should consider addressing the deficiencies as a priority.

Management of stroke services

- Other than clinical psychology there has been little increase (absolute numbers or relative by hospital) in stroke specific ***senior*** multidisciplinary team (MDT) resource since 2012. Indeed only clinical psychology has expanded whilst physiotherapy, occupational and speech and language therapy have all decreased in absolute numbers. This may be explained by changes to skill mix seniority in order to finance seven day therapy services. The most senior posts (8b and 8c) remain predominantly within clinical psychology. According to this audit there is still no stroke specific 8c OT post. Overall it appears that investment in senior stroke MDT posts has plateaued and if anything is decreasing in keeping with the recent fallow period in NHS investment.
- Over one in ten stroke services have now made appointments of the new allied health professional group of physician associates – predominantly to make up for shortfalls in junior doctors (or senior nurses). Physician associates are likely to expand and play an important role, in particular, in future hospital stroke services.
- Overridingly the numbers of senior stroke nurse posts reported to the audit are small given the move towards 7 day services.
- The practice of the most senior nurses not working nights or weekends will likely need to be reviewed although with such a rare resource, stroke services will need to consider carefully how best to use – especially the band 8, stroke specialist nurses.
- One in four hospitals currently has full time vacancies for stroke consultants whilst almost half of all hospitals plan to increase their current stroke consultant sessions. This highlights a clear concern in terms of shortfall in appropriately trained stroke consultants. The median number of stroke consultants per hospital is three with 72% coming from the speciality of geriatric medicine. Only 53 hospitals (29%) currently have specialist registrar training posts in stroke and this has not changed greatly from the 49 hospitals (26%) from 2012.
- Over 95% of hospitals have a strategic multidisciplinary group responsible for stroke, and 89% of hospitals have regular reporting to trust boards. Commissioner involvement in such groups has reduced in relative terms since the advent of Clinical Commissioning Groups from 76% in 2012 to 65% in 2014. This is understandable perhaps given the organisation change in commissioning within England but is important for CCGs to address going forward to ensure the full implementation of the 10 year National Stroke Strategy for England published in 2007**.** Patient involvement has also not improved with

66% in 2014 compared with 73% in 2012. Putting the patient voice at the heart of service improvement needs to be a consideration for all such groups that currently do not include lay representation, particularly as there has been in the same period a significant increase in patient surveys of stroke services - with now half of hospitals implementing continuous patient surveys (compared to 36% in 2012).

- Doctors continue to be the dominant profession leading hospital stroke services. However, successful stroke teams are multidisciplinary and with the advent of an increase in consultant grade posts in nursing, therapies and allied health professions, this need not be the case. Given the issues with current shortfalls in consultant stroke physicians (see section 3.10) Trusts should be encouraged to develop multidisciplinary leadership of stroke services.
- With the organisational changes associated with the Stroke Research Network being integrated into the Comprehensive Research Network in April 2014, it is reassuring that at least at the current time, there has been little evident impact in stroke research activity with the median number of stroke studies and WTE allotted for stroke data collection remaining unchanged from 2012.
- Whilst clinical ownership is vital for validation of clinical research and data collection there has been a reassuring relative increase in administrative support for such activity with a relative reduction in the time spent by doctors and nurses.

Patient support and communication

- Patient involvement in discharge planning is largely unchanged from 2012. It is routine in the majority but not all stroke services. Services that do not positively report on the patient involvement in discharge planning should consider why they are at odds with the majority of providers.
- Clinicians working with stroke patients know that there is lamentable access to vocational rehabilitation for patients with neurological deficits such as aphasia. The data reported does not have face validity and should not induce complacency from commissioners there is not an issue that needs to be dealt with. It more than likely represents a very loose definition of vocational rehabilitation than anything else.

Pathway at discharge

- Access to stroke-specific Early Supported Discharge (ESD) has continued to increase from 44% in 2010, to 66% in 2012 and now 74% in 2014. Commissioners in the quarter of the country where there is no stroke-specific ESD team should consider themselves now in a minority and not offering best and evidence-based services. In the SSNAP clinical audit currently around one in four patients discharged alive from stroke units are already being discharged with ESD.
- Access to non-specialist ESD has also increased from 2012 from 26% to 36% in keeping with the impetus to reduce length of stay for all hospitalized patients. As highlighted in

2012 this is an unproven intervention in the context of stroke where for the vast majority of cases a stroke specific service will produce the best outcome.

- Access to a specialist community rehabilitation team has increased significantly from 2012 – with 131 hospitals (72%) having access compared with 108 (57%) in 2012. As length of stay in hospital decreases this is increasingly important to good outcome after stroke and commissioners should be aiming to provide this for all stroke patients. Almost 30% of hospitals patients have no access to specialist community stroke rehabilitation.
- Access to non-specialist community rehabilitation has increased since 2012 (49% to 70%) but perhaps at the expense of developing specialist community stroke services in the community which are still lacking in 28% of the country (see above). In future rounds of the SSNAP clinical audit it may become clearer as to whether this influences clinical outcome and such therapy should be seen as additional as opposed to an alternative to specialist neurological rehabilitation for those recovering with the effects of stroke.

Transient Ischaemic Attack (TIA) / neurovascular service

- Rapid access TIA clinics are now well established. The median number of neurovascular clinics has increased from 20 in 2012 to 24 per 4 week period with more patients being seen on average (median 54 patients seen in last 4 weeks in 2014 compared with 46 in 2012), although there remains a differential of service between 5 day and 7 day services in terms of access to vascular imaging for high risk TIA patients.

Changes over time

Acute stroke care organisation (Domain 1)

There have been some positive but modest improvements in terms of increased quality in acute stroke care organisation, as judged by the proportion of hospitals fulfilling all 7 acute criteria. However, Type 1 beds should be commissioned to provide all 7 criteria within a service specification. The shortfall in specialist weekend ward rounds in over one-third of such units is a concern.

Although the proportion of hospitals offering thrombolysis onsite has remained similar since 2012, the number of hospitals where this is the case has decreased which may reflect the advent of centralised models of hyperacute care. The numbers of potentially eligible patients for thrombolysis and their outcomes is being prospectively recorded as part of SSNAP clinical audit, which will help judge the success of any future organisational changes in terms of effectiveness of thrombolysis treatment by population.

Specialist roles (Domain 2)

Whilst the audit continues to demonstrate regular MDT meetings with multidisciplinary representation, the frequency of multiple weekly meetings seems now to have plateaued across hospitals at around 80%. This is likely to reflect the differences between patterns of working between Type 1 bedded units (for the first 72 hours of care only), Type 3 (for the first 72 hours of care and beyond) and Type 2 (for post 72 hour care) units.

Given the importance of joint health and social care planning in transfers of care of stroke patients into the community, the diminishing amount of social work representation at MDT meetings is a major concern. Social workers were present at MDT meetings in 78% of hospitals in 2010 and now in only 57% in 2014.

Access to psychology has improved from 52% in 2012 to 61% of hospitals in 2014, which means patients in approximately 40% of hospitals do not access this key component of specialist stroke care. More 7 day ward rounds are taking place on Type 1 beds in keeping with the general increase in consultant weekend ward rounds in acute hospitals. However, this does not take place in 36% of hospitals with Type 1 beds, which means that patients being admitted at weekend in such units are not being reviewed by stroke consultants – as they are on weekdays. The neurological diagnosis of stroke and its differentials is best made by consultants with training and experience in stroke. All patients admitted to hospital with a suspected stroke should have the expectation of being reviewed by a stroke specialist consultant within 24 hours of admission. It is very unlikely that a patient with acute myocardial infarction admitted to a coronary care unit would not be seen over a weekend by a cardiologist. Why should stroke be different?

Inter disciplinary services (for hospitals with a stroke unit) (Domain 3)
Multidisciplinary care is integral to stroke unit care and whilst there has been steady improvements towards 100% access to all the allied health professions reported there are still significant deficiencies. This should be picked up using service specifications by commissioners in order to provide the very best stroke care for patients.

We know that nursing numbers are key to patient safety in hospital and whilst the median number of nursing staff (trained and untrained) had previously been steady between 2008-2012 at eight at 10am on weekdays, it is encouraging to see this has increased to a total of nine in the 2014 audit. The amount of 7 day a week physiotherapy and occupational therapy remains low at 28% and 22% respectively with speech and language therapy available 7 days a week in only 5% of hospitals.

Transient Ischaemic Attack (TIA) / neurovascular service (Domain 4)
Neurovascular clinics are now well established throughout the audit with almost all hospitals offering such services with average waiting times of 2 days. Seven day a week services have increased modestly but it is surprising that high risk TIA patients admitted to 40% of hospitals are still **not** investigated and treated on the same day. High risk TIA patients are by definition at risk of early recurrence of stroke symptoms and should be treated urgently. After all, patients with unstable angina admitted acutely to hospital would not be left without same day investigation and initiation of preventative treatment.

Quality improvement and research (Domain 5)
With all the changes to NHS organisations it is reassuring that there has been no decline in the elements of quality improvement and in particular stroke research. Whilst nationally the response to each of the items within Domain 5 is 89% or more we should aspire to 100% for all four of them.

Communication with patients and carers has generally improved with each audit which should be congratulated. Hospitals where this is not happening are firmly in the minority and should be looking to address this aspect of their service as a priority. The expectation is that we should see 100% positive responses to the same questions in the next audit.

Planning and access to specialist support (Domain 6)
The median number of stroke unit beds per hospital has remained reasonably constant over time since 2008, at 26 beds. Access to ESD has increased but still a quarter of hospitals do not transfer care into the community using this evidence based approach. Access to specialist community neurorehabilitation has improved from 57% in 2012 to 72% of hospitals in 2014, but still 28% of hospitals have no access at all.

Audit results by country

Thrombolysis provision and patients thrombolysed

We are pleased to report that there is now effectively 100% access to thrombolytic treatment for acute ischaemic stroke across England, Wales and Northern Ireland. Over half of hospitals have access to inter-arterial treatments and 93% of hospitals in Wales reported that they use inter-arterial treatments for acute stroke.

The evidence base for prevention of venous thromboembolism after stroke has been transformed by the CLOTS trials and it is good to see very little variation in the audit in the use of compression stockings, which has effectively disappeared from clinical practice. Use of Intermittent Pneumatic Compression (IPC) may well increase in England after review and recommendation by NICE. Currently there is low take up of IPC in Wales compared to England and Northern Ireland.

Stroke unit provision

The median number of beds in a stroke unit varies considerably by country and will relate to catchment area and demographics. However, the need for stroke units to be geographically distinct clinical areas with dedicated and 7 day specialist multidisciplinary staffing means that small units may struggle to be affordable and be prey to economies of scale.

Stroke care in the first 72 hours

There are currently no Type 1 beds in Northern Ireland. In both England and Wales the aspiration must be that all seven criteria for acute stroke units are met in such units and this is not happening at all in the current two Welsh units and in only 38% of the English HASUs.

The median number of Type 1 beds per hospital in England remains at six but has increased in Wales from five to eight since 2012. The increase in Type 1 beds has to be accompanied with the quality assurance of meeting all seven acute criteria.

In Type 3 stroke unit beds, there is also a marked difference by country in acute criteria being met, with units in England achieving six or more criteria in 63% of hospitals compared with 25% of units in Wales and 30% of units in Northern Ireland.

The 5 SUTC characteristics for all stroke units (type 1, type 2 and type 3 beds)

With respect to the 5 SUTC criteria which should be present in all stroke units there is again marked variation by country. Welsh stroke units report meeting all five criteria in 86% of hospitals, whilst English units only report all five being met in 41% of hospitals and the percentage is even lower in Northern Ireland at 18%. This variation is unacceptable and should be addressed by commissioners through service specifications.

Whole Time Equivalents (WTE) of staff across all stroke units

The median number of nurses per 10 beds on duty at 10am is between three and four across all three countries. The median total WTE equivalent of trained nurses per 10 stroke beds is nine in England and Northern Ireland and eight in Wales. Only England has senior 8b or 8c stroke nurse consultant posts. There are no senior (band 8) nursing posts at all in Northern Ireland.

Junior doctor time is also variable across countries with England having twice as many (30) junior sessions than Northern Ireland (15). This picture has not changed significantly from 2012 and has implications for training of future stroke consultants by country.

The median WTE of MDT staff is broadly similar across all three countries but weekend therapy provision is mainly happening in England, with two hospitals in Wales offering weekend stroke physiotherapy and no weekend therapy working in Northern Ireland at all reported currently.

Management of stroke services

There has been a large increase in accredited registrar stroke training posts in Wales to five in 2014 from one in 2012. At the same time Northern Ireland has now lost its single training post, which does not bode well for the speciality going forward. Variations in direct clinic consultant time exist between countries between a median of 19 programmed activity (PAs) per hospital in England and 5 PAs per hospital in Northern Ireland. These numbers are not however adjusted for total numbers of stroke unit beds - which we know are much smaller in Northern Ireland. All countries are looking to invest in additional stroke consultant clinical time in the future but a quarter of stroke consultant posts across all three countries remain unfilled currently. The situation appears worst in Northern Ireland where 36% of hospitals have unfilled posts and with no current recognised training post in Northern Ireland recruitment will be dependent on overseas applicants it now seems. Hopefully this apparent workforce crisis will be addressed by the recent stroke services review in Northern Ireland.

Quality improvement

As in 2012, Wales is leading the way in terms of Quality Improvement initiatives including preparing reports for Trust boards - in stark contrast to the situation in N. Ireland, where such reports have been presented in less than half of hospitals.

Research studies

Most countries remain research active although hospitals in England have a greater proportion of hospitals with three or more research studies and this number in Northern Ireland has fallen from 64% in 2012 to 36% in 2014.

Patient support and communication

Wales continue to perform well compared to the other countries in respect to patients support and communication and performance in Northern Ireland has seemingly deteriorated significantly from the audit results of 2012. Disseminating national audit report to patient and carer groups has never been easier with 'easy access' versions of quarterly SSNAP reports being readily available including 'PowerPoint' slide shows (https://www.strokeaudit.org/results/national-results.aspx).

Early Supported Discharge Teams and Community Rehabilitation Teams

Stroke specific ESD is still significantly under provided in Wales, where there is also no stroke or neurology specific community rehabilitation provision (there was one reported in 2012).

Section 3: Organisation of stroke care by domains and key indicators

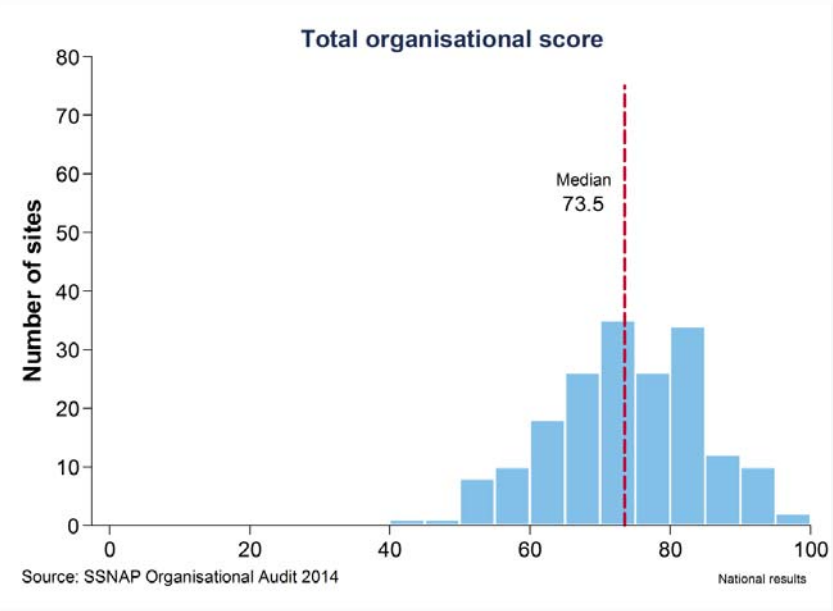
This section gives a summary overview of the organisation of stroke services nationally. It points to key areas of good practice and areas requiring improvement.

The results are divided into 6 domains covering key aspects of the organisation of the stroke service. A domain comprises several features that relate to the topic. Each domain is scored from 0 – 100 with 100 being the optimal score.

The report starts with total organisational score, with detailed information for each domain following that. Colour coding is used to show results for each domain which is divided into 5 performance bands (A-E). These bands will be fixed for future rounds of the audit to show progress over time. This is similar to the bands used in the clinical component of the audit and enables stroke service organisation to be compared with processes and outcomes.

Total organisational score

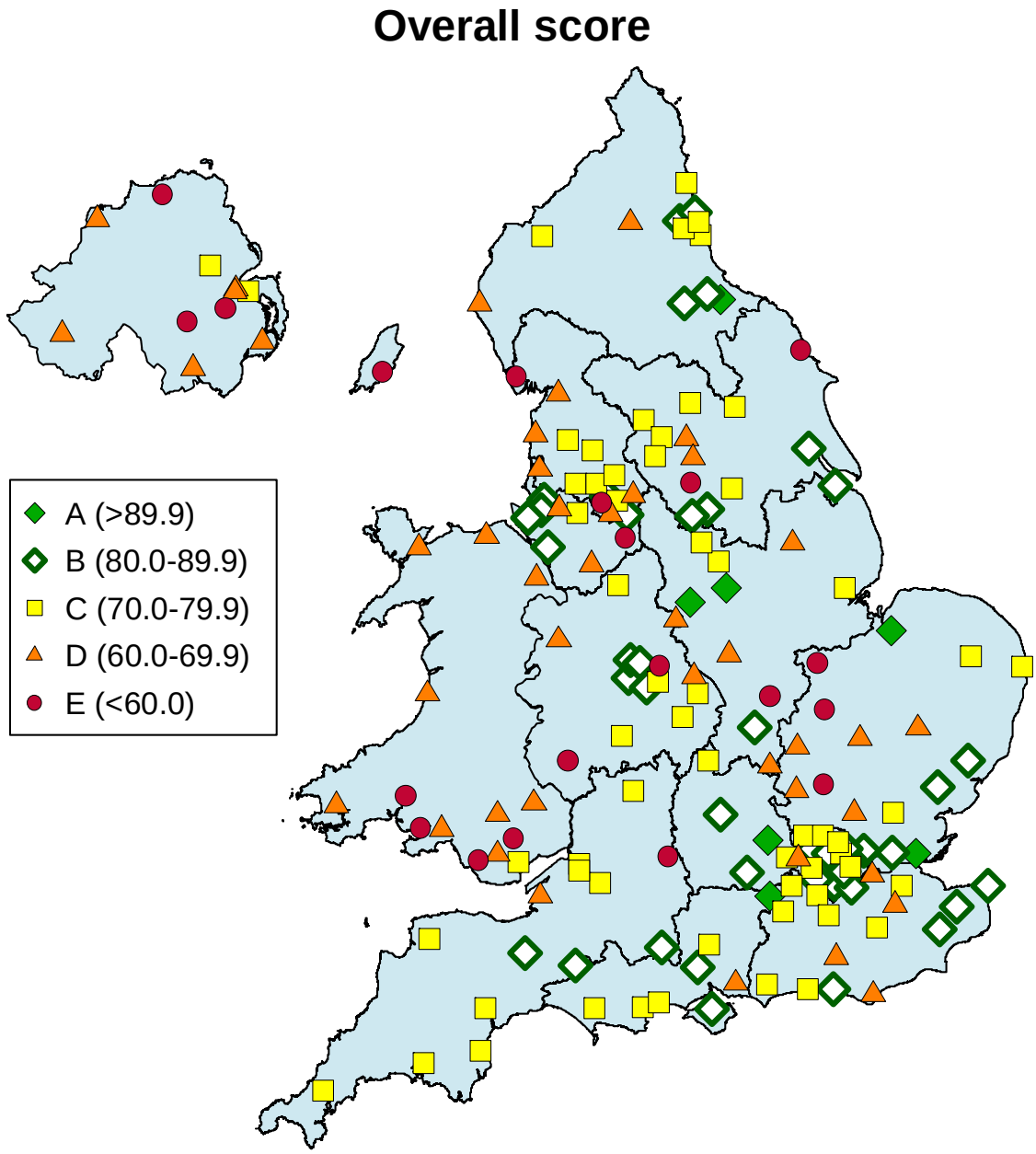
The median organisational score is 73.5



The table below shows the range of scores for all hospitals in the audit.

Summary of domain scores	A	B	C	D	E
Organisational audit total score	12 hospitals (7%) scored 90.0-100.0%	46 hospitals (25%) scored 80.0-89.9%	61 hospitals (33%) scored 70.0-79.9%	44 hospitals (24%) scored 60.0-69.0%	20 hospitals (11%) scored <60.0%

The map below shows the overall organisational position performance of all participating hospitals. Each symbol represents a hospital, colour coded by band (A-E).



Source: SSNAP Acute Organisational Audit 2014

For information about the organisation of stroke services in your local hospital, please refer to the regional interactive maps on the RCP results portal http://www.strokeaudit.org/results/Maps.aspx.

Domain 1 – Acute care organisation

Domain 1: Overview

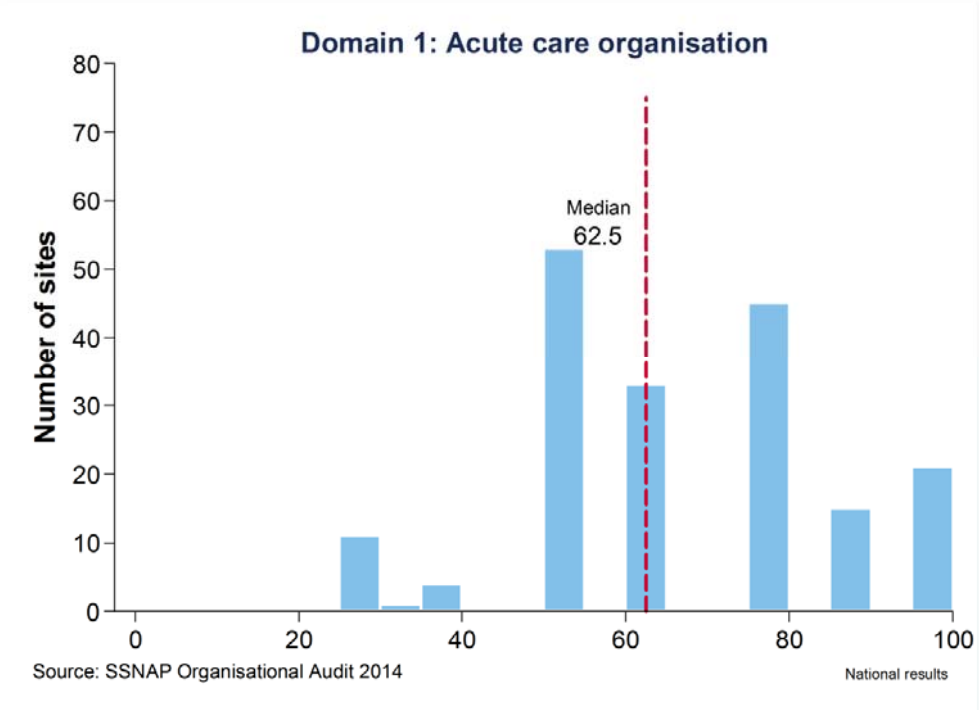
This domain includes

- the presence of 7 acute criteria which define a high quality stroke unit for stroke patients in the first 72 hours after stroke. These criteria are: access to immediate brain imaging, continuous physiological monitoring, nurses trained in swallow screening, nurses trained in stroke assessment/management, existence of stroke protocols, direct admission to a stroke unit and daily specialist ward rounds.
- the level of thrombolysis (clot-busting treatment) either on-site or in a formal arrangement
- the ratio of nurses per ten beds on duty at 10am on weekends

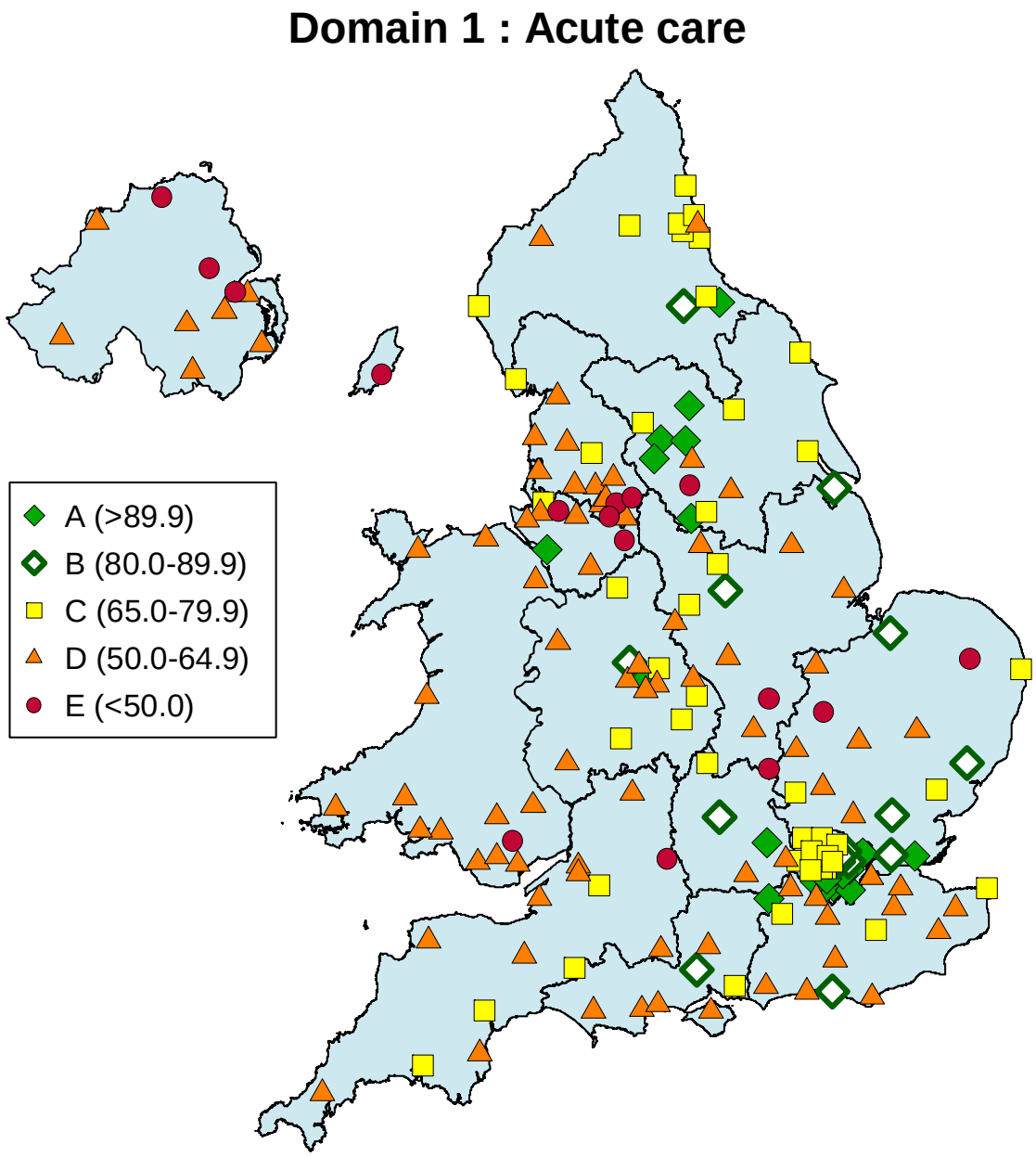
The table below shows the range of scores for Domain 1. The median national score is 62.5

Summary of domain scores	A	B	C	D	E
D1 Acute care*	21 hospitals (11%) scored 90.0-100.0%	15 hospitals (8%) scored 80.0-89.9%	45 hospitals (25%) scored 65.0-79.9%	86 hospitals (47%) scored 50.0-64.9%	16 hospitals (9%) scored <50.0%

*16 hospitals which do not treat patients during the first 72-hours after stroke have been allocated the Domain 1 score of the hospital where their patients are treated during this initial phase.



The map below shows the performance of all participating hospitals for Domain 1 – acute care organisation. Each symbol represents a hospital, colour coded by band (A-E).



Source: SSNAP Acute Organisational Audit 2014

For information about the organisation of stroke services in your local hospital, please refer to the regional interactive maps on the RCP results portal http://www.strokeaudit.org/results/Maps.aspx.

Please note: 16 hospitals which do not treat patients during the first 72 hours after stroke have been allocated the Domain 1 score of the hospital where their patients are treated during this initial phase.

Domain 1: Key indicators

Seven acute criteria defined for high quality acute stroke care

Standard: A stroke patient should always be cared for on a stroke unit which has the necessary equipment and procedures in place and is staffed with trained multidisciplinary clinicians.

Acute criteria	Beds used solely for first 72 hours after stroke	Beds used for both first 72 hours of care and beyond
Percentage of sites meeting all 7 acute criteria	37%	17%
1) Continuous physiological monitoring (ECG, oximetry, blood pressure)	72% Criterion is 100% of beds are monitored	88% Criterion is at least one monitored bed
2) Immediate access to brain scanning	99%	99%
3) Admission procedure to stroke unit*	64%*	50%
4) Specialist ward round at least 7 times a week	64%	30%
5) Acute stroke protocols/guidelines	99%	99%
6) Nurses trained in swallow screening (at least one on duty 10am, 7 days a week)	99%	96%
7) Nurses trained in stroke assessment and management (at least one on duty at 10am, 7 days a week)	100%	95%

* criterion is either i) All patients are always directly admitted or ii) All patients are directly admitted, except for those who have another predominant acute condition which demands management on another ward

Comment: Compliance with the acute quality criteria on stroke units have improved in relative terms but still the vast majority fall below the gold standard of meeting all 7 criteria. This needs to be addressed through service specification and commissioning to make a significant step change. Most units fall down on organisational issues such as stroke unit admission procedures and weekend stroke consultant ward rounds.

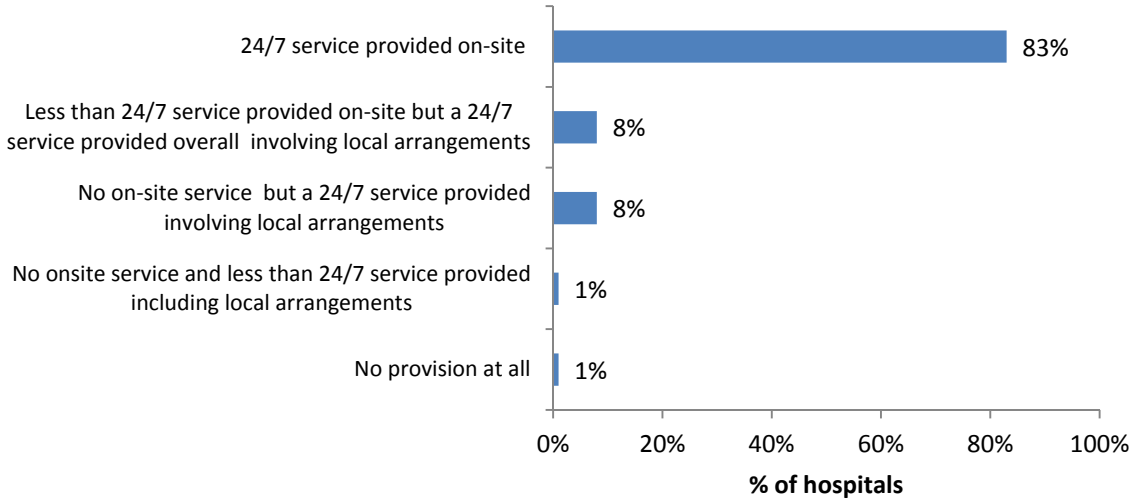
Thrombolysis provision

Standard: Patients seen within 4 and a half hours of developing symptoms should be considered for thrombolysis. Not all patients are suitable and giving the treatment to unsuitable patients can be dangerous. However when given to the right patients, at the right time and in the right way it can dramatically reduce the risk of long term disability.

NICE recommendations: Alteplase is recommended for the treatment of acute ischaemic stroke when used by physicians trained and experienced in the management of acute stroke. It should only be administered in centres with facilities that enable it to be used in full accordance with its marketing authorisation. (Alteplase TA122 2007).
Alteplase should be administered only within a well organised stroke service with:

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

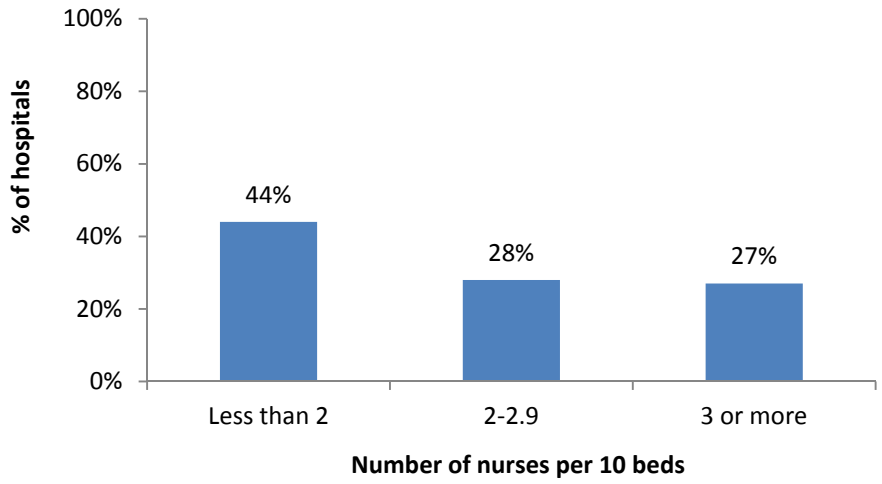
Provision of thrombolysis and whether 24 hours per day and including weekends (24/7) either on-site or in combination with another hospital



99% of hospitals now offer 24/7 thrombolysis either onsite or in collaboration with a neighbouring hospital**.**

Comment: With the increasing implementation of centralised models of hyperacute stroke care this may reduce the provision of onsite thrombolysis as thrombolysis services are concentrated in some parts of the country into larger single centres. There has been an increase to 83% of hospitals now providing on-site, 24/7 thrombolysis as opposed to a shared care arrangement and 99% of hospitals now provide 24/7 cover with either on-site or local arrangements. This is a significant improvement in access to thrombolytic therapy from only 50% in 2010.

Nurses per ten beds on duty at 10am on weekends

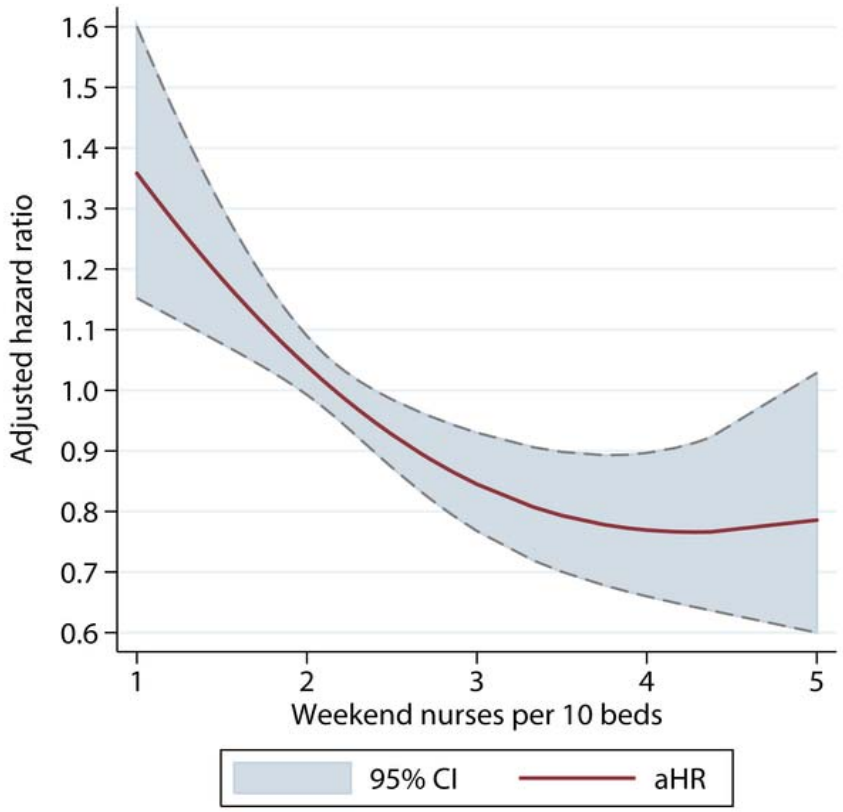


The national median and IQR for weekend nurse staffing levels can be found in Table 1 below.

Table 1

Registered nurses usually on duty at 10am		Beds for first 72 hours (75 sites)	Beds for first 72 hours and beyond (109 sites)
Saturdays	Median (IQR) number of nurses	2 (2-3)	4 (3-5)
	Median (IQR) number per 10 beds	3.3 (2.5-5.0)	1.7 (1.5-2.1)
Sundays/ Bank Holidays	Median (IQR) number of nurses	2 (2-3)	4 (3-5)
	Median (IQR) number per 10 beds	3.3 (2.5-5.0)	1.7 (1.5-2.1)

Following the interest in the influence of nurse ratios to stroke beds on duty at weekends and the recently published evidence (http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.1001705) showing an association between nurses on beds designated for acute care with a reduced risk of mortality, a new key indicator on this has been added to Domain 1. In the London reconfiguration a minimum of 3 nurses per 10 beds was recommended and this recently published paper, written by Bray et al, supports this nursing level to minimise stroke mortality.



Comment: Nursing staffing levels in hospital are important and associated with patient safety and mortality. There has been much discussion about 'safe' or 'minimum' numbers of nursing staff by NICE (http://www.nice.org.uk/Guidance/InDevelopment/gid-safenursestaffingadultwardsacutehospitals) and the above recently published paper associates higher nursing numbers and lower mortality. Due to the complexity of stroke patients it should be expected that nursing levels should be above the average for acute hospitals. Units with below average stroke unit staffing should urgently address this issue and increase their establishment. Poor care resulting from low nursing levels is clearly unacceptable and should be an issue addressed by commissioners and the Care Quality Commission.

Domain 2 – Specialist Roles

Domain 2: Overview

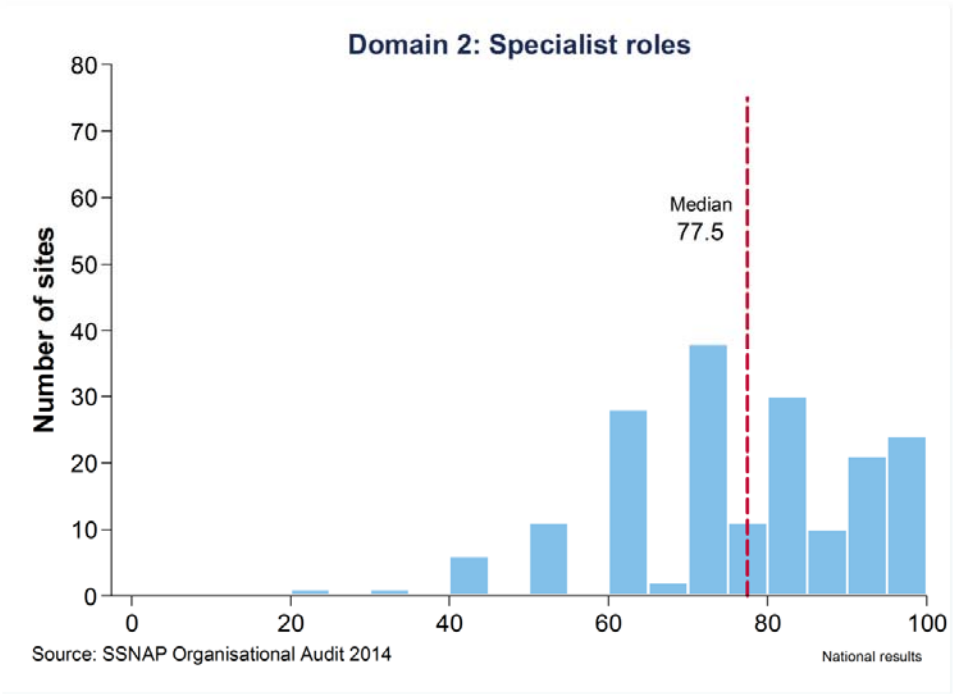
This domain describes and quantifies the specialist medical care available for participating hospitals.

This domain includes

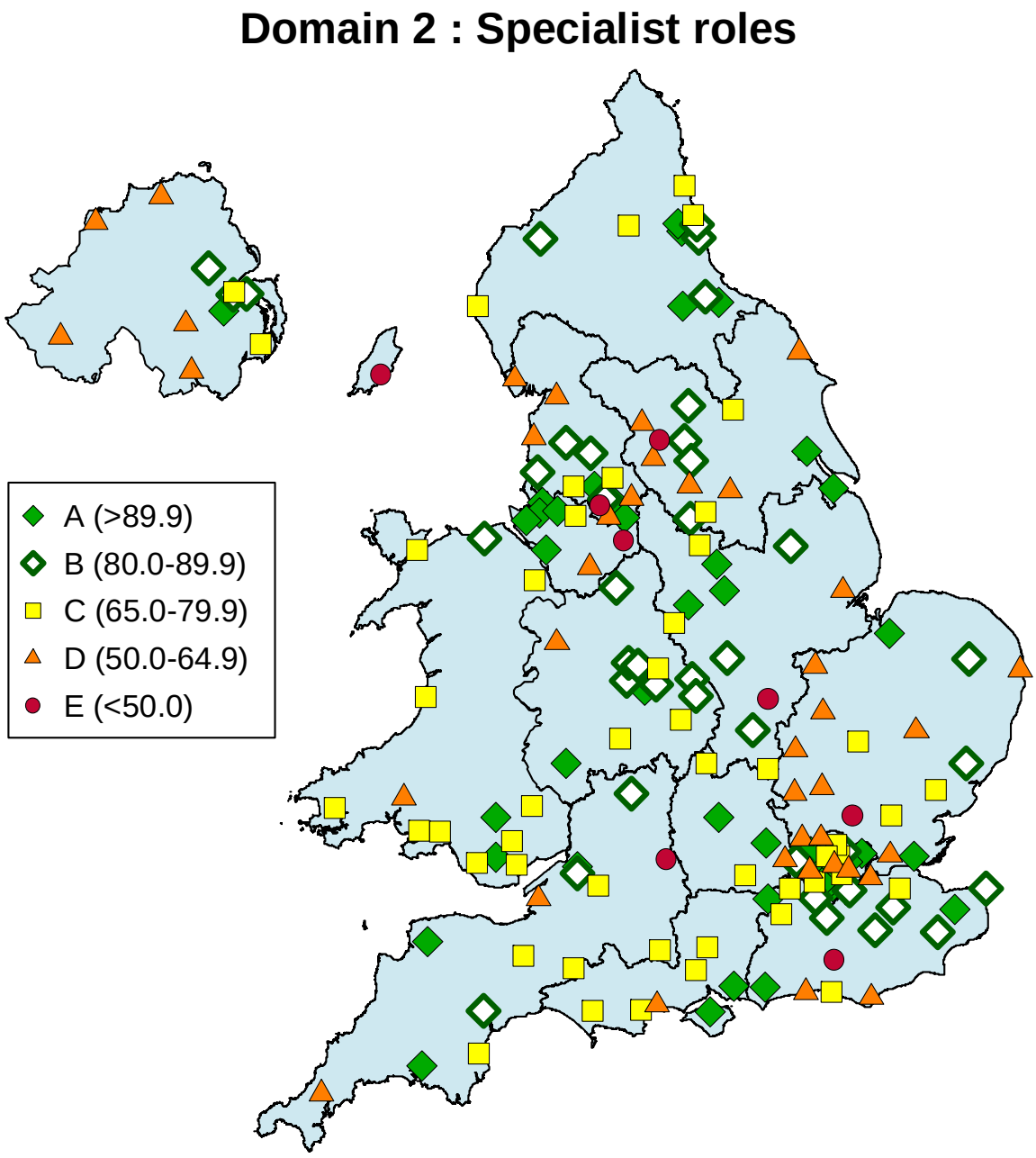
- the frequency of consultant ward rounds per week for stroke units
- the presence of senior nurses and therapists on the stroke unit
- access to social work expertise, orthoptics, orthotics and podiatry (foot health) within 5 days
- treatment of palliative care patients on the stroke unit.
- access to clinical psychologists and aspects of psychological care provided (mood assessment, high cognitive function assessment, mood treatment, higher cognitive function treatment, non-cognitive behavioural problems assessment and/or treatment)
- provision of educational and vocational training
- whether or not patients stay in bed until assessed by physiotherapist

The table below shows the range of scores for Domain 2. The median national score is 77.5

Summary of domain scores	A	B	C	D	E
D2 Specialist roles	45 hospitals (25%) scored 90.0-100.0%	40 hospitals (22%) scored 80.0-89.9%	51 hospitals (28%) scored 65.0-79.9%	39 hospitals (21%) scored 50.0-64.9%	8 hospitals (4%) scored <50.0%



The map below shows the performance of all participating hospitals for Domain 2 – specialist roles. Each symbol represents a hospital, colour coded by band (A-E).



Source: SSNAP Acute Organisational Audit 2014

For information about the organisation of stroke services in your local hospital, please refer to the regional interactive maps on the RCP results portal http://www.strokeaudit.org/results/Maps.aspx.

Domain 2: Key indicators

Consultant ward rounds

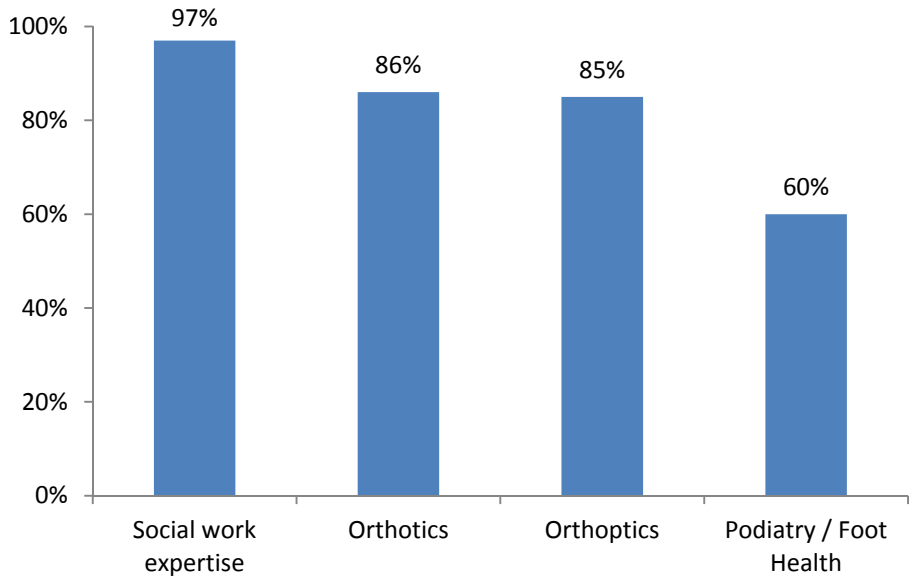
Standard: Stroke is a complex disease and is best managed by staff with specialist knowledge and experience both in the initial phase where diagnosis and acute treatment is a priority and subsequently during the period of rehabilitation.

Number of stroke consultant ward rounds in a week	Beds for first 72 hours	Beds for first 72 hours and beyond
7 days	64%	30%
5-6 days	33%	61%
Less than 5 days	3%	9%

Comment: Over 90% of units have 5 day a week or more consultant ward rounds. Seven day consultant ward rounds have increased to almost two-thirds of Type 1 beds. The HASU model of care requires this to be 100% to ensure all patients with suspected stroke are reviewed by a stroke consultant on a post emergency admission ward round.

Access to social work, orthoptics, orthotics and podiatry

Access to specialists within 5 days of referral



Comment: Access to social work expertise remains high but key services for stroke patients such as orthotics, orthoptics and in particular podiatry, are still shamefully lacking in a number of units.

Palliative care

Standard: All patients who are dying from their stroke should have care provided by staff experienced in recognising the need for palliative care and delivering it.

National Clinical Guidelines:
Teams providing care for patients after stroke should be taught how to recognise patients who might benefit from palliative care. All staff caring for people dying with a stroke should be trained in the principles and practice of palliative care. All patients who are dying should have access to specialist palliative care expertise when needed. All patients who are dying should be given the opportunity of timely/fast-track discharge home or to a hospice or care home according to wishes of the patient and/or carers.

Palliative care patients are treated on stroke units	100%
If YES:	
• Hospital has documented policy/guidance for clinicians on palliative and end of life care	96%

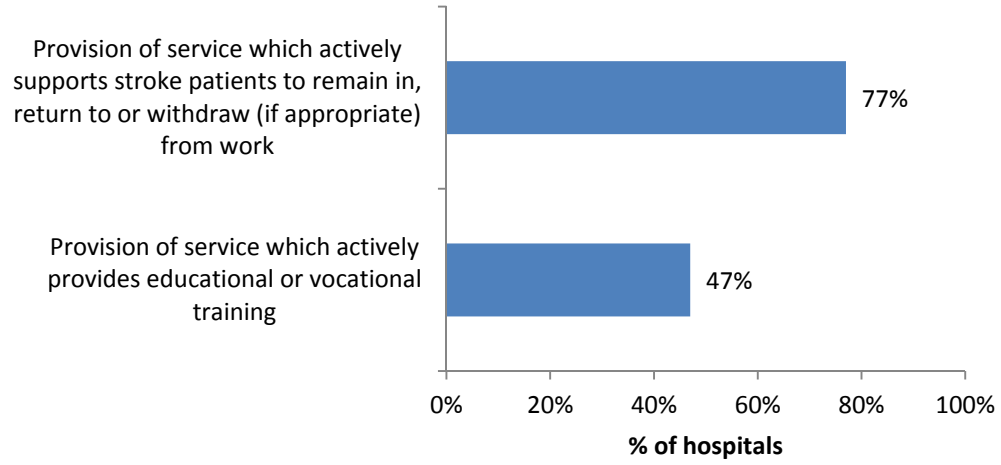
Comment: Palliative care treatment remains an important aspect of stroke unit care and in the aftermath of the controversy surrounding the withdrawal of the Liverpool Care Pathway from hospitals in 2013, it is reassuring that hospital guidance on end of life care is still in place for 96% of stroke units. The eight hospitals that do not have such guidance should urgently address this.

Access to clinical psychologists

Sixty-one percent of hospitals have access to clinical psychologists. Of these, 81% have access within 5 days.

Comment: Access to clinical psychology has increased with the further investment in staffing from 52% in 2012 to 61% in 2014. This makes the lack of access to such support seem even more inequitable for the 39% of units that have no clinical psychology input.

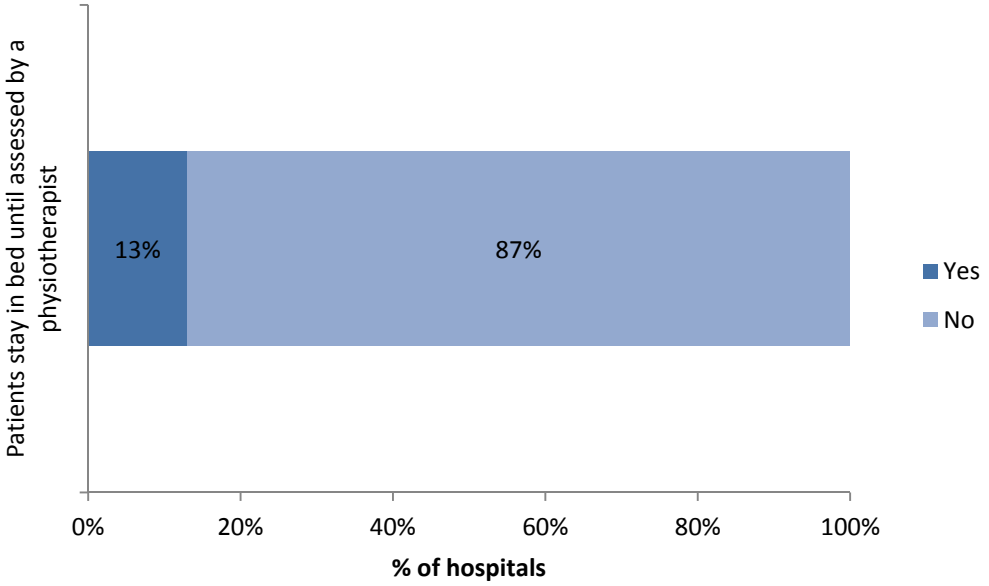
Support for working age patients



Comment: Clinicians working with stroke patients know that there is lamentable access to vocational rehabilitation for patients with neurological deficits such as aphasia. The data reported does not have face validity and should not induce complacency from commissioners there is not an issue that needs to be dealt with. It more than likely represents a very loose definition of vocational rehabilitation than anything else.

Patient mobility

National Clinical Guideline: People with acute stroke should be mobilised within 24 hours of stroke onset, unless medically unstable, by an appropriately trained healthcare professional with access to appropriate equipment.



Comment: The practice of keeping stroke patients in bed until reviewed by a therapist remains at the same level as in 2012 (22 hospitals 2012, 23 hospitals 2014). We would strongly recommend those trusts with this policy to provide training and competencies for stroke unit nursing staff to be able to make this key early management decision. Even with an increase in 7 day therapy, many patients will arrive outside of normal working hours and a clinical decision about early mobilisation is required to prevent patients who are medically stable otherwise being inappropriately kept on bed rest.

Domain 3 – Inter disciplinary services

Domain 3: Overview

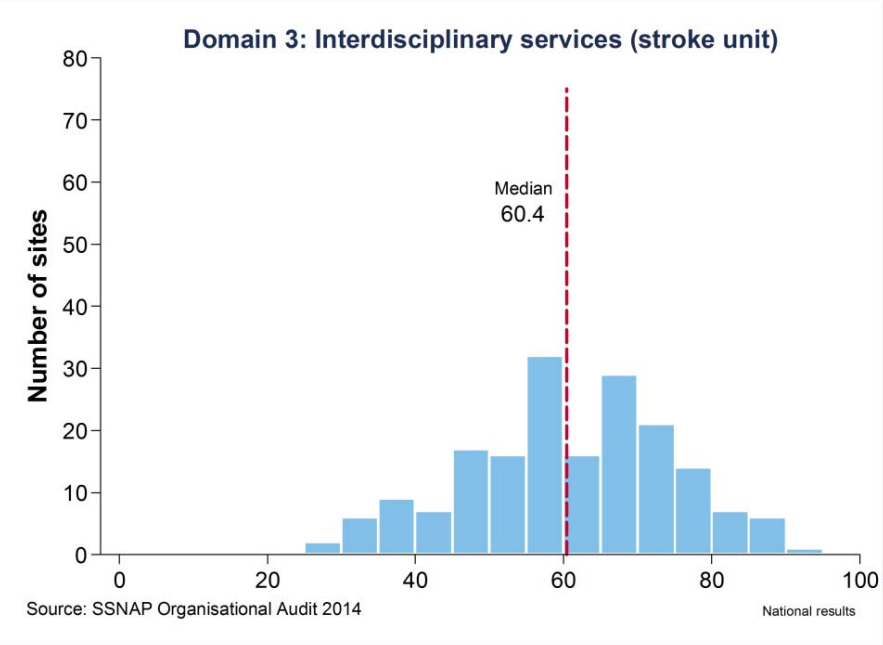
The composition of the multidisciplinary team and staffing of different professions in the stroke units are described and the ratio of staff to stroke unit (SU) beds quantified. Research shows patients with acute stroke should be offered organised inpatient care, which is typically provided by a co-ordinated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

This domain includes

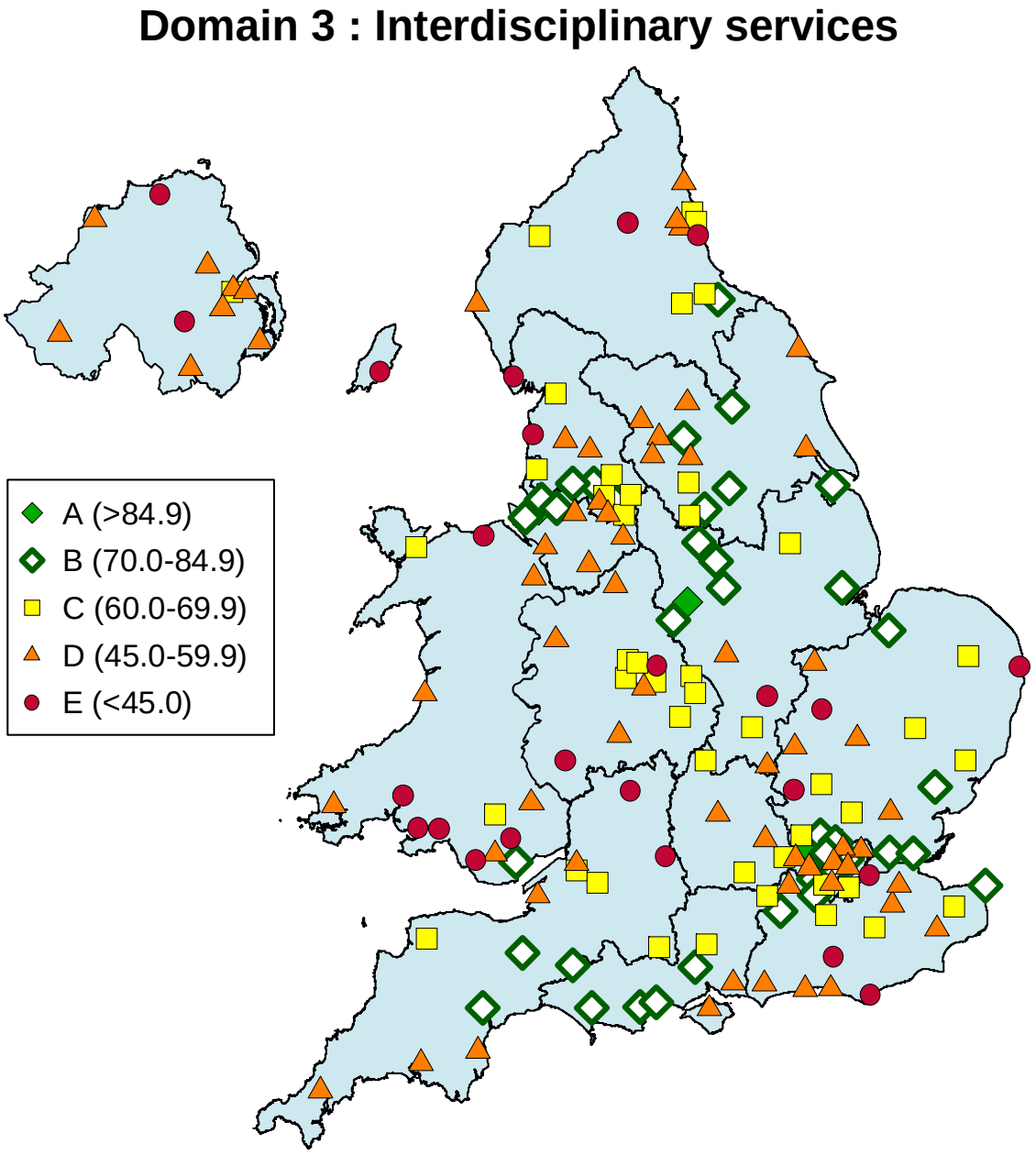
- qualified nurses on duty at 10 am weekdays per 10 SU beds
- care assistants on duty at 10 am weekdays per 10 SU beds
- qualified therapy staff availability in WTE (Whole Time Equivalents) per 10 stroke unit beds (clinical psychologist, dietetics, occupational therapy, physiotherapy, speech and language therapy, pharmacy)
- 6 or 7 day working for occupational therapy, physiotherapy, speech and language therapy
- frequency of formal team meetings
- members of the team

The table below shows the range of scores for Domain 3. The median national score is 60.4.

Summary of domain scores	A	B	C	D	E
D3 Interdisciplinary services	7 hospitals (4%) scored 85.0-100.0%	42 hospitals (23%) scored 70.0-84.9%	45 hospitals (25%) scored 60.0-69.9%	65 hospitals (36%) scored 45.0-59.9%	24 hospitals(13%) scored <45.0%



The map below shows the performance of all participating hospitals for Domain 3 – interdisciplinary services. Each symbol represents a hospital, colour coded by band (A-E).



Source: SSNAP Acute Organisational Audit 2014

For information about the organisation of stroke services in your local hospital, please refer to the regional interactive maps on the RCP results portal http://www.strokeaudit.org/results/Maps.aspx.

Domain 3: Key indicators

Standard: Effective multidisciplinary working is the most important aspect of stroke care. Staff should co-ordinate their treatments, involve patients and carers in the process and be able to provide as much therapy as the patient can tolerate.

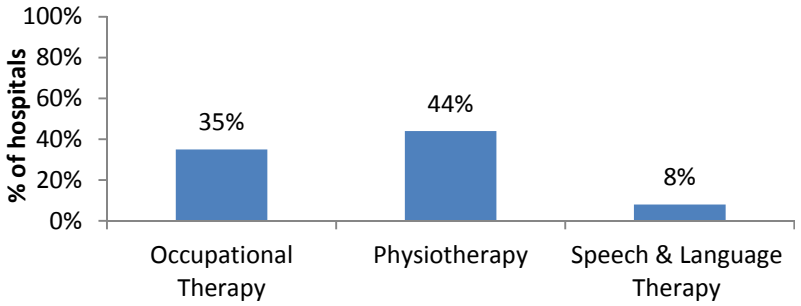
NICE Quality Standard: Patients with stroke are assessed and managed by stroke nursing staff and at least one member of the specialist rehabilitation team within 24 hours of admission to hospital, and by all relevant members of the specialist rehabilitation team within 72 hours, with documented multidisciplinary goals agreed within 5 days.

National clinical guideline recommendations: Each stroke rehabilitation unit and service should be organised as a single team of staff with specialist knowledge and experience of stroke and neurological rehabilitation including:
- consultant physician(s), nurses, physiotherapists, occupational therapists, speech and language therapists, dieticians, clinical psychologists, social workers

Percentage of different disciplines working on stroke units and the number of nurses and care assistants on the stroke unit per day.

Qualified nurse/care assistants on duty at 10am on normal weekdays: Median (IQR)	9 (7-12)
Staff establishment: % of hospitals who have the following staff on the stroke unit	
• Clinical Psychology	54%
• Dietetics	98%
• Occupational Therapy	100%
• Physiotherapy	100%
• Speech and Language Therapy	98%
• Pharmacy	92%

6 or 7 day working for occupational therapy, physiotherapy and speech and language therapy.



Thirty-four percent of hospitals have 6 or 7 day working for at least two of physiotherapy, occupational therapy and speech and language therapy.

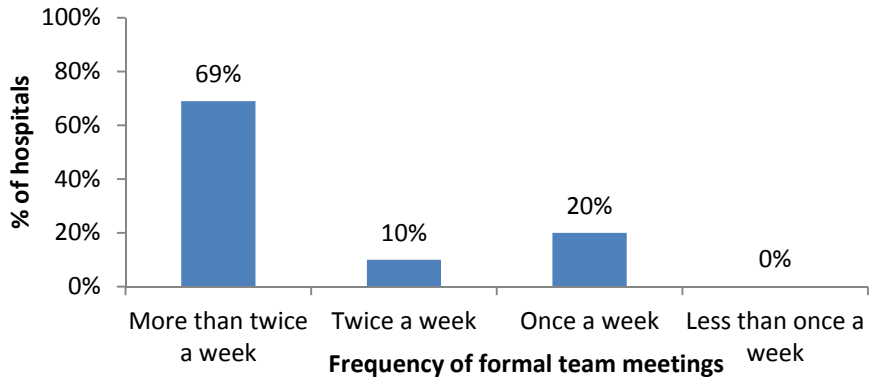
Comment: There has been an increase in whole time equivalent (WTE) clinical psychology posts such that now 54% of hospitals have some clinical psychology service. Units moving to provide 7 day a week therapy services need to ensure that this does not come at a cost of reducing therapy services within normal working hours.

Team working

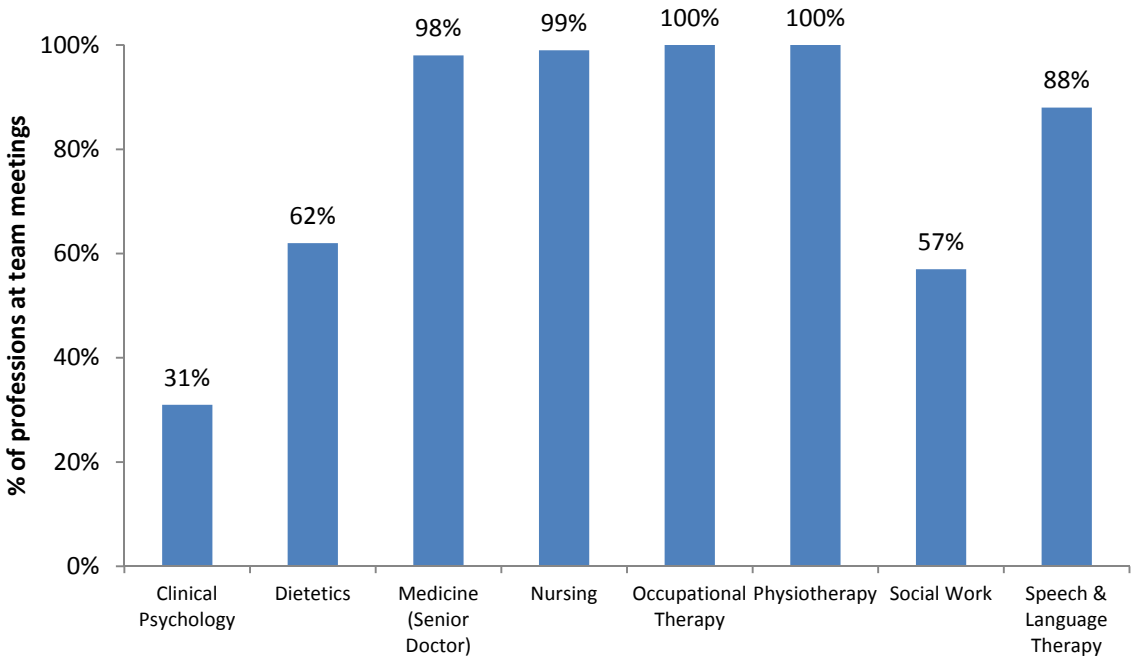
Standard: Effective communication between all the stroke team members is vital. Expertise from nursing, medicine and all the therapy professions including clinical psychology is required

In 99% of hospitals, all stroke patients are discussed at team meetings.

Frequency of formal team meetings



Professions represented in team meetings on stroke unit



Comment: The composition of multidisciplinary stroke team meetings has not greatly changed from 2012 other than a small increase in clinical psychology participation (31% from 26%). More teams than before (69%) are meeting more than twice a week indicative of the importance placed by hospitals on formal multidisciplinary team communication in order to optimise stroke unit care.

Domain 4 – TIA/neurovascular service

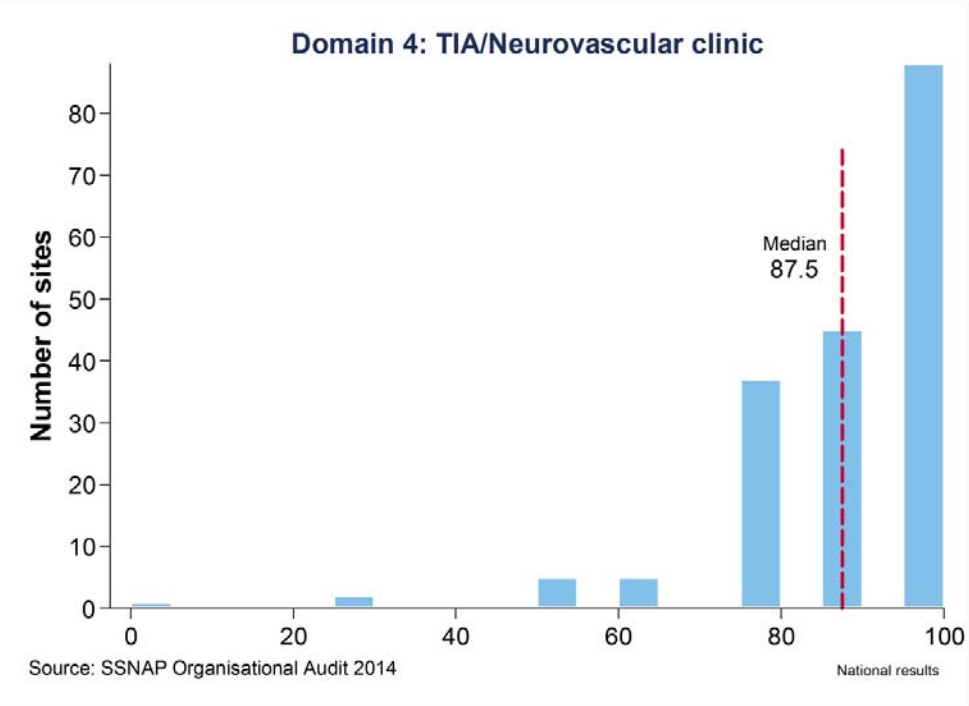
Domain 4: Overview

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. *National clinical guidelines for stroke (2012)* recommends that patients with TIA are seen, investigated and treated in a neurovascular clinic within one week. See the *UK Audit of Vascular Services and Carotid Endarterectomy Report* August 2012 available from http://www.rcseng.ac.uk/news/docs for further information on the level of current provision and time taken from referral to surgery.
This domain includes

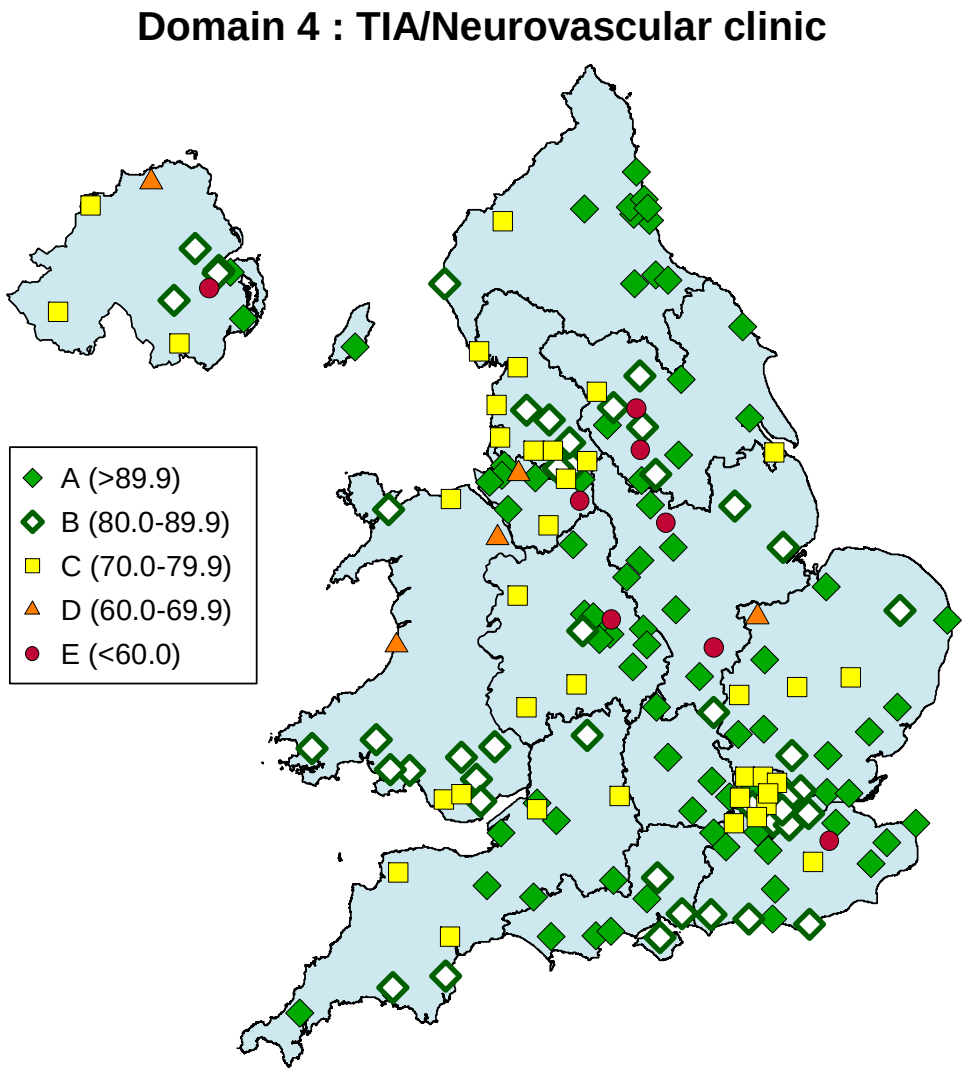
- the timeframes in which both HIGH and LOW risk patients can be seen, investigated and treated
- the usual waiting time to get carotid imaging for both HIGH and LOW risk TIA.

The table below shows the range of scores for Domain 4. The median national score is 87.5.

Summary of domain scores	A	B	C	D	E
D4 TIA/ Neurovascular clinic	88 hospitals (48%) scored 90.0-100.0%	45 hospitals (25%) scored 80.0-89.9%	37 hospitals (20%) scored 70.0-79.9%	5 hospitals (3%) scored 60.0-69.9%	8 hospitals (4%) scored <60.0%



The map below shows the performance of all participating hospitals for Domain 4 – TIA/neurovascular services. Each symbol represents a hospital, colour coded by band (A-E).



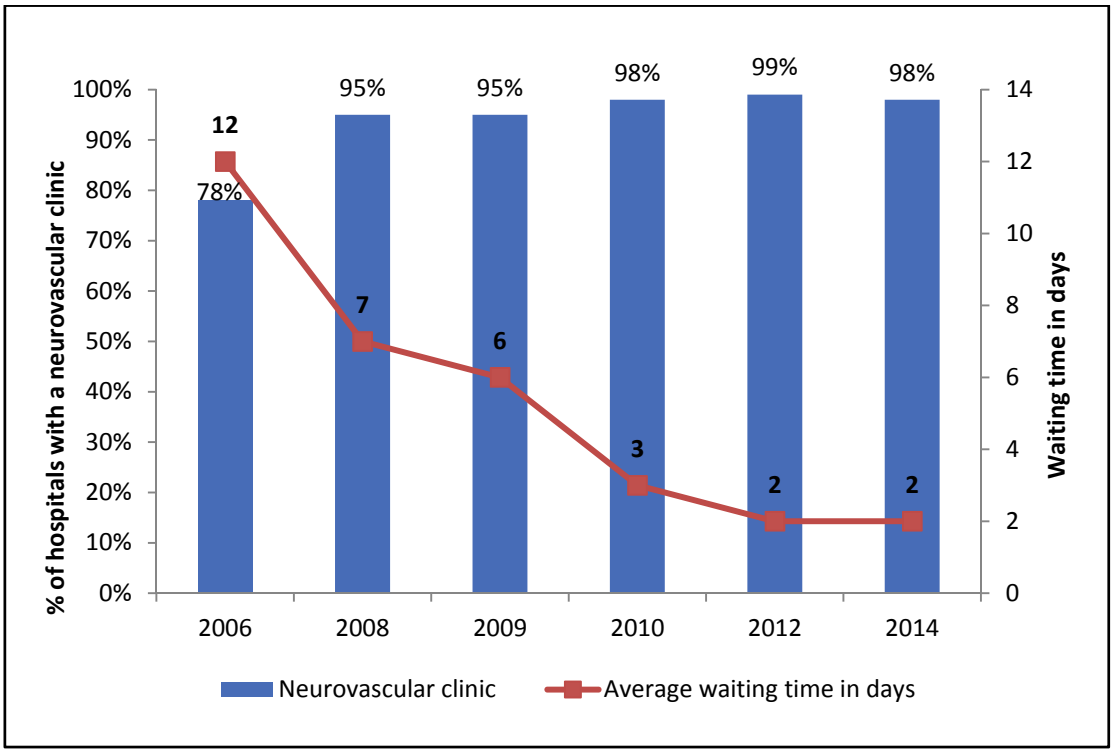
Source: SSNAP Acute Organisational Audit 2014

For information about the organisation of stroke services in your local hospital, please refer to the regional interactive maps on the RCP results portal http://www.strokeaudit.org/results/Maps.aspx.

Domain 4: Key indicators

Standard: High-risk TIA patients should be seen, investigated and treatment initiated within 24 hours of onset of symptoms. For low-risk TIA patients the time frame is one week.

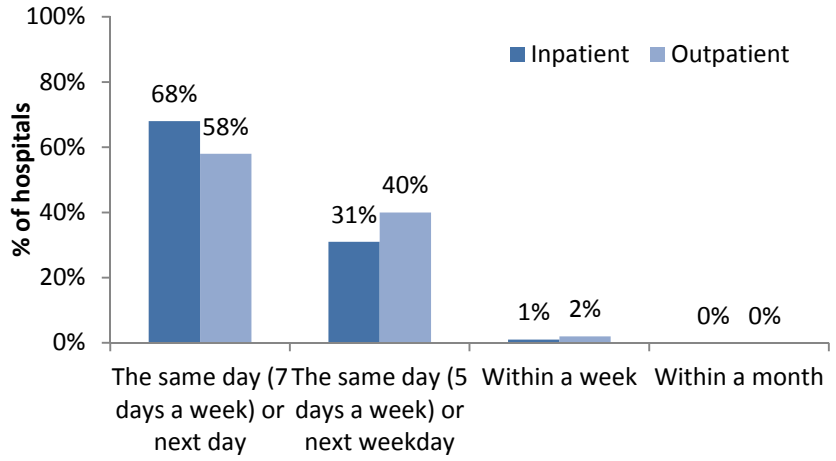
Changes in the provision of and speed of access to neurovascular clinics between 2006 and 2014



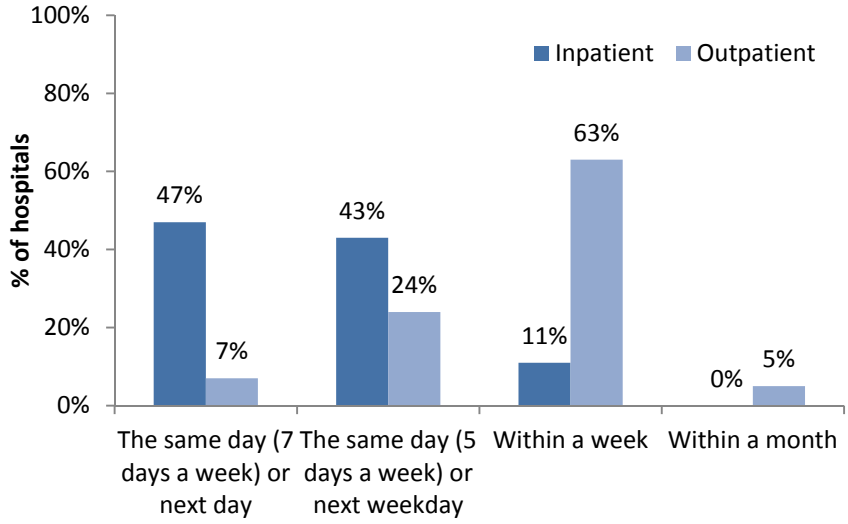
Depending on the level of potential risk to a patient that they may have a stroke within days there may be differences in service provision for inpatients and outpatients. TIA service can be provided to either or both inpatients and outpatients. High-risk TIA patients (with an ABCD^2 score of 4 or more) are seen, investigated and treated in 86% of hospitals if they are inpatients and in 97% of hospitals if they are outpatients. Low-risk TIA patients (ABCD^2 score of less than four) are seen, investigated and treated in 57% of hospitals if they are inpatients and in 99% of hospitals if they are outpatients.

Comment: There remains a differential of service between 5 day and 7 day services in terms of access to vascular imaging for high risk TIA patients.

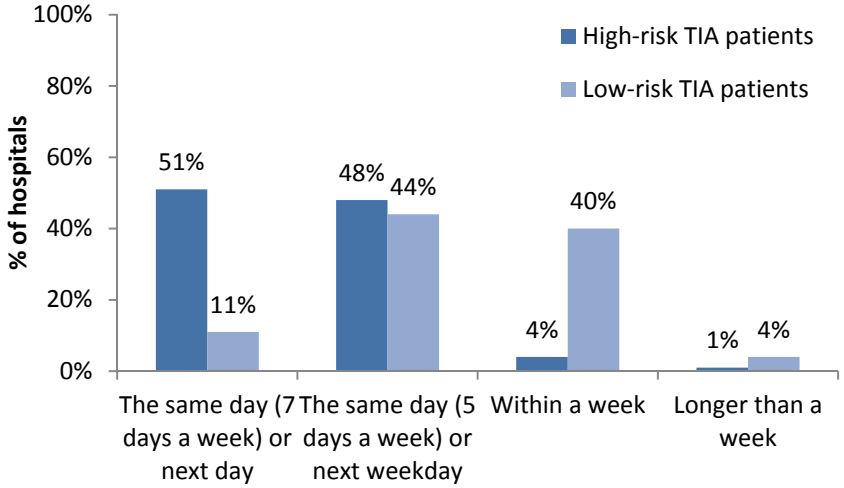
Speed of access for high-risk patients (for inpatients and outpatients)



Speed of access for low-risk patients (for inpatients and outpatients)



Waiting times for imaging of the carotid arteries in patients with TIA (mini stroke) depending on the risk of stroke



Domain 5 – Quality improvement, training and research

Domain 5: Overview

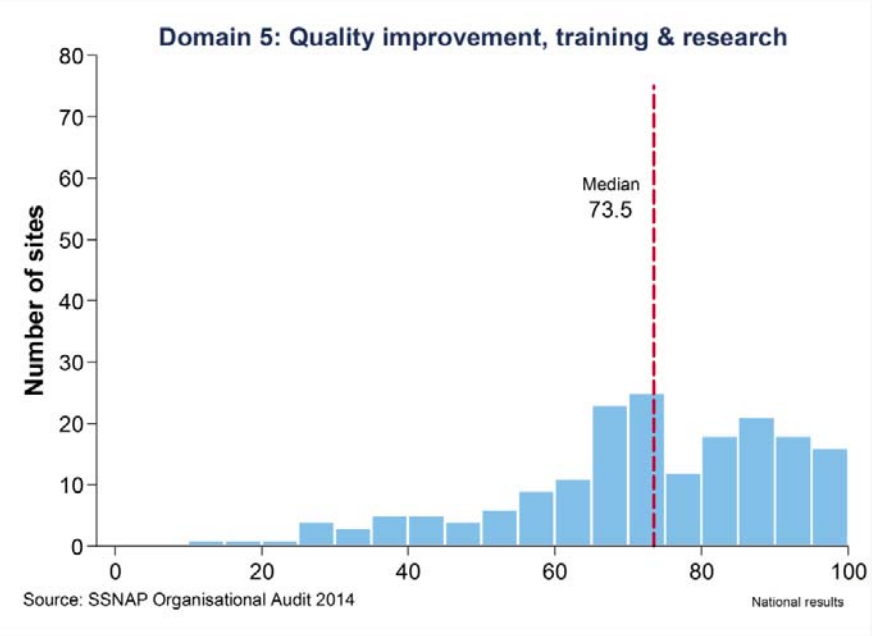
This domain highlights the importance of strategic management, staff education and participation in stroke research. All these areas are fundamental to ensure a stroke service that is sustainable up to a high standard and able to react to changes in service provision. Educating and informing patients and carers an listening to their views should be seen as a key role of health professionals managing patients with stroke.

The domain includes

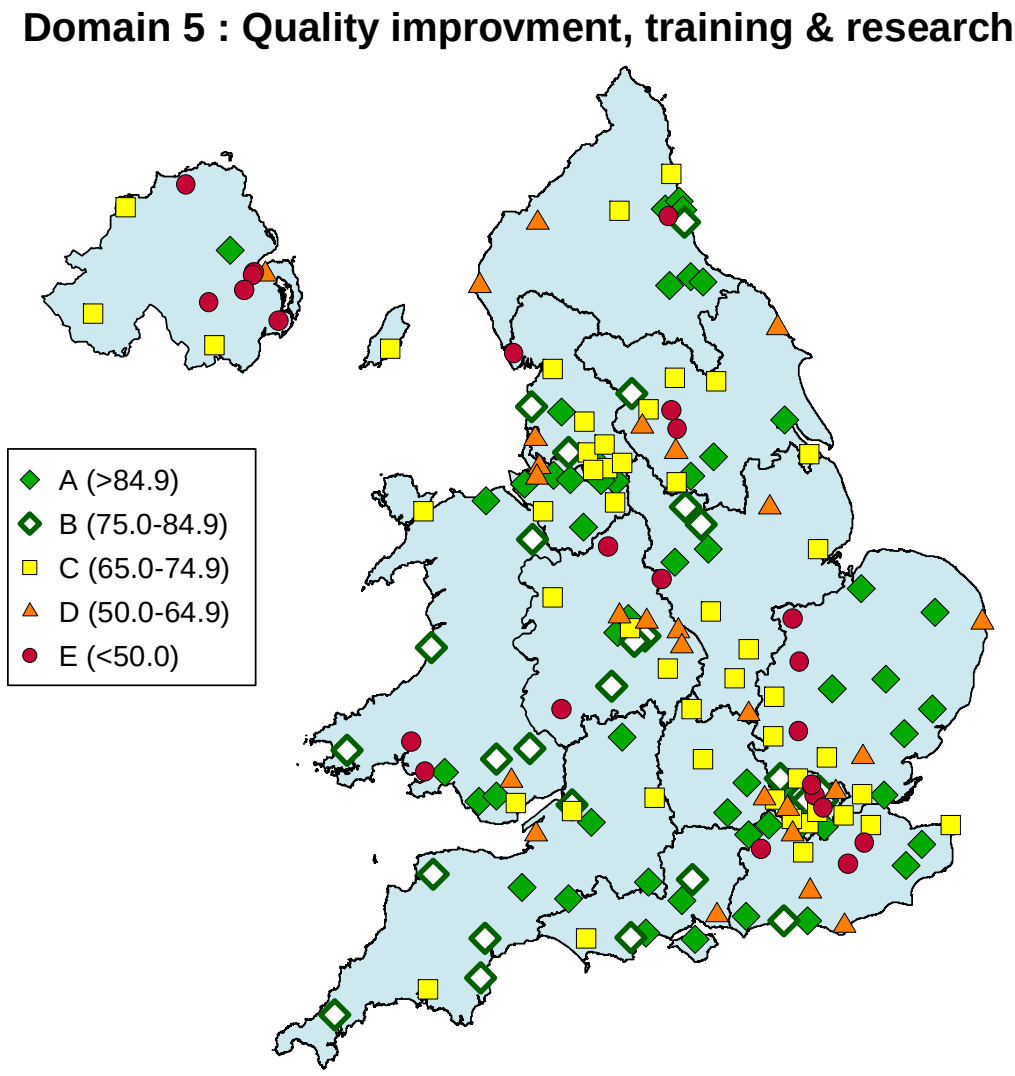
- the production of a report on the stroke service for trust board (e.g. on audit results)
- membership of a strategic group responsible for stroke
- funding for external courses available for nurses and therapists and the number of study days funded between April 2013 and March 2014
- participation in clinical research studies
- formal links with patients and carers organisations on ALL of the following: services provision, audit, and service reviews and future plans
- patient/carer views sought on stroke services
- report produced within past 12 months which analysed views of patients

The table below shows the range of scores for Domain 5. The median national score is 73.5.

Summary of domain scores	A	B	C	D	E
D5 Quality improvement, training & research	55 hospitals (30%) scored 85.0-100.0%	30 hospitals (16%) scored 75.0-84.9%	48 hospitals (26%) scored 65.0-74.9%	26 hospitals (14%) scored 50.0-64.9%	24 hospitals(13%) scored <50.0%



The map below shows the performance of all participating hospitals for Domain 5 – quality improvement, training and research. Each symbol represents a hospital, colour coded by band (A-E).



Source: SSNAP Acute Organisational Audit 2014

For information about the organisation of stroke services in your local hospital, please refer to the regional interactive maps on the RCP results portal http://www.strokeaudit.org/results/Maps.aspx.

Domain 5: Key indicators

Standard: High quality leadership is the cornerstone for developing and delivering high quality stroke services. Poor quality services invariably have poor quality clinical and or managerial leaders.

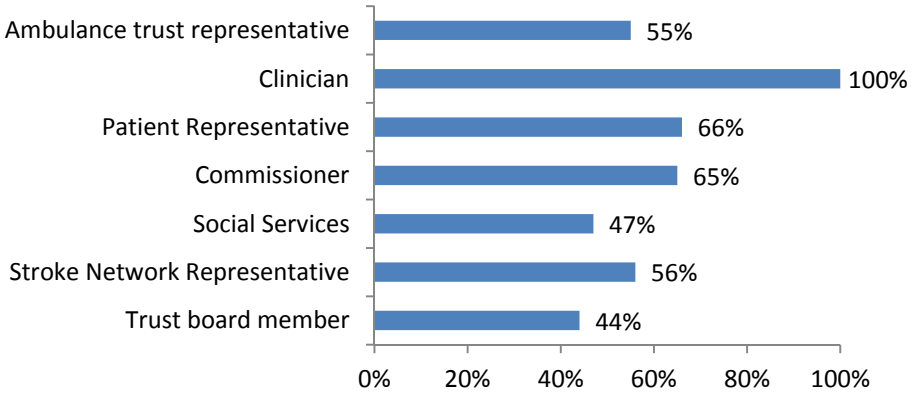
Report for trust board

The trust board needs to be updated regularly to make sure necessary changes in service can be undertaken. A stroke service report has been prepared for the trust board in 89% of all hospitals between 1 April 2013 and 31 March 2014.

Strategic group responsible for stroke

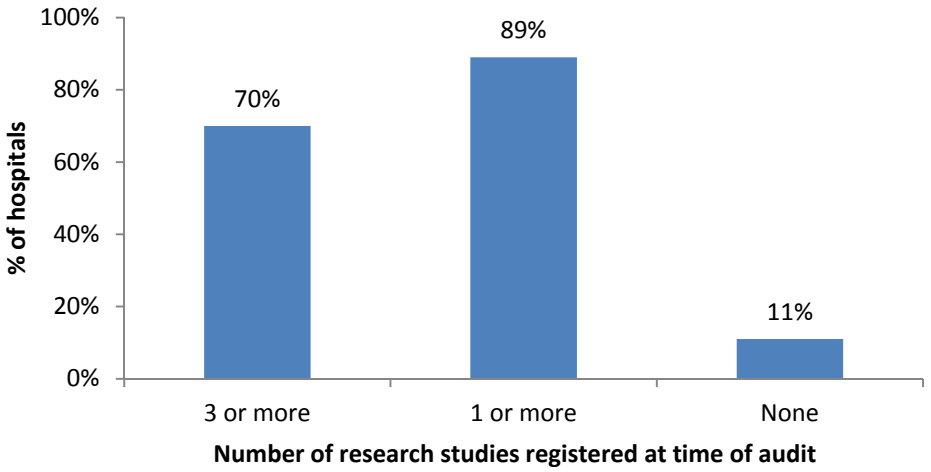
A strategic group responsible for stroke should be implemented to discuss current issues and future plans for the whole stroke pathway. Therefore, representatives of the various stakeholders of the stroke service including users should be part of this group. Such a strategic group exists in 96% of all relevant acute hospitals.

Membership of the strategic groups within hospitals in the audit



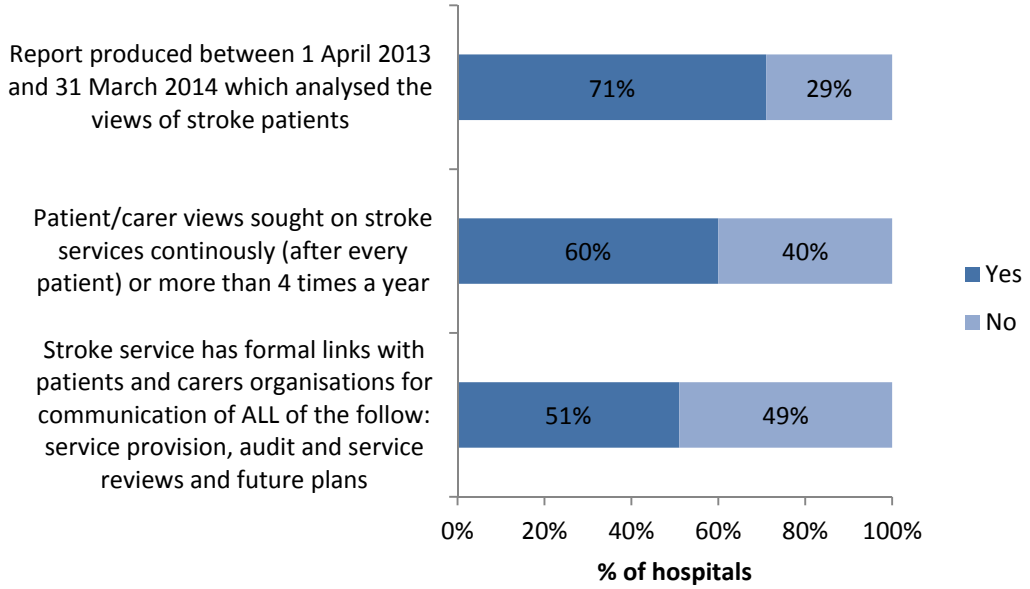
Comment: Over 95% of hospitals have a strategic multidisciplinary group responsible for stroke, and 89% of hospitals have regular reporting to trust boards. Commissioner involvement in such groups has reduced in relative terms since the advent of Clinical Commissioning Groups from 76% in 2012 to 65% in 2014. This is understandable perhaps given the organisation change in commissioning within England but is important for CCGs to address going forward to ensure the full implementation of the 10 year National Stroke Strategy for England published in 2007. Patient involvement has also not improved with 66% in 2014 compared with 73% in 2012. Putting the patient voice at the heart of service improvement needs to be a consideration for all such groups that currently do not include lay representation, particularly as there has been in the same period a significant increase in patient surveys of stroke services - with now half of hospitals implementing continuous patient surveys (compared to 36% in 2012).

Participation in research



Comment: With the organisational changes associated with the Stroke Research Network (www.uksrn.ac.uk) being integrated into the Comprehensive Research Network in April 2014, it is reassuring that at least at the current time, there has been little evident impact in stroke research activity with the median number of stroke studies and WTE allotted for stroke data collection remaining unchanged from 2012.

Patient involvement



Domain 6 – Planning and access to specialist support

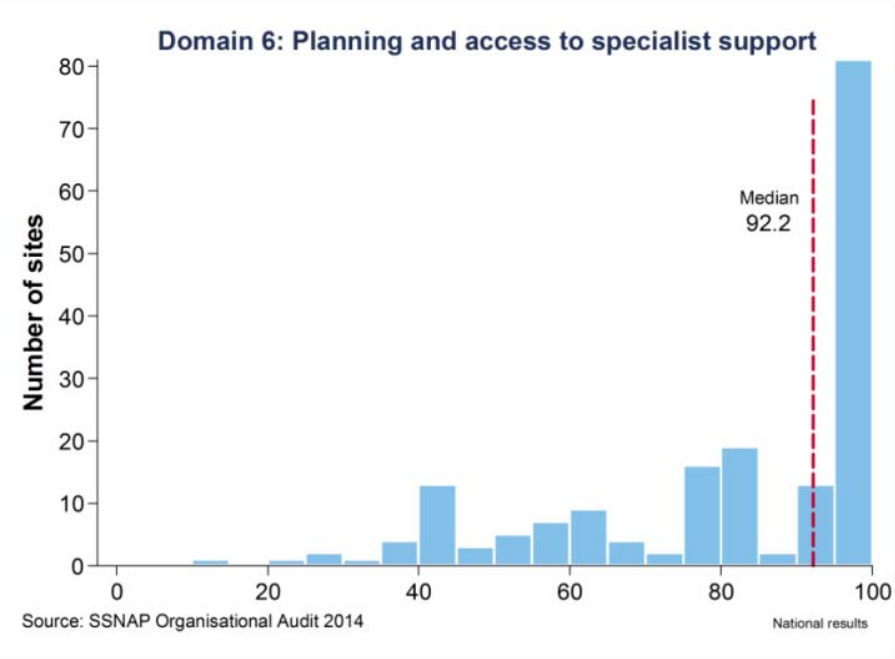
Domain 6: Overview

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. Post-acute access to specialist stroke services is also extremely important in ensuring the continued high quality care for stroke survivors.
The domain includes:

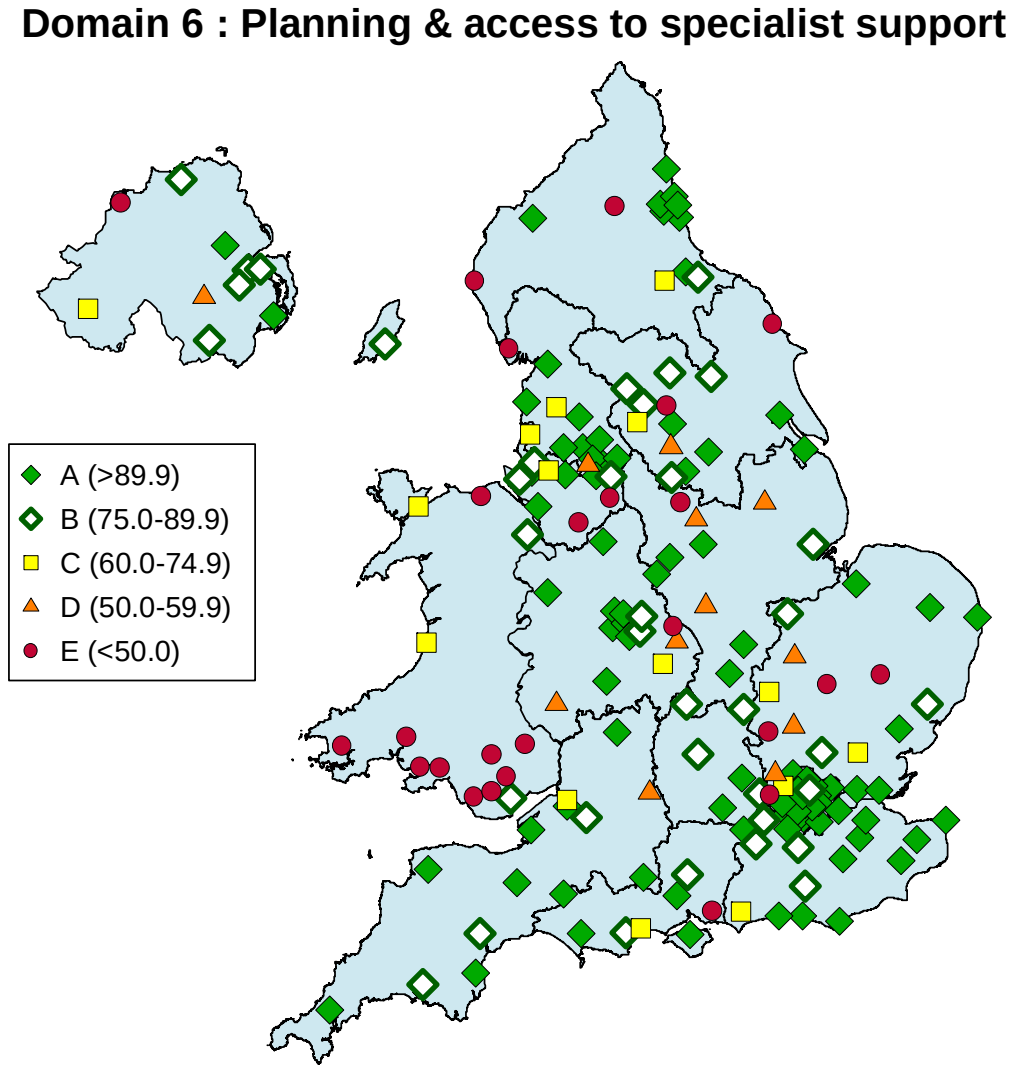
- availability of patient information on each of the following topics for stroke units & outpatients (patient version of national or local guidelines/standards/ social services, benefits agencies, secondary prevention advice)
- whether patients are given a personalised rehabilitation discharge plan
- access to a stroke/neurology specialist early supported discharge (ESD) multidisciplinary team
- access to a stroke/neurology specialist community team for longer term management

The table below shows the range of scores for Domain 6. The median national score is 92.2

Summary of domain scores	A	B	C	D	E
D6 Planning & access to specialist support	94 hospitals (51%) scored 90.0-100.0%	37 hospitals (20%) scored 75.0-89.9%	15 hospitals (8%) scored 60.0-74.9%	12 hospitals (7%) scored 50.0-59.9%	25 hospitals(14%) scored <50.0%



The map below shows the performance of all participating hospitals for Domain 6 – planning and access to specialist support. Each symbol represents a hospital, colour coded by band (A-E).



Source: SSNAP Acute Organisational Audit 2014

For information about the organisation of stroke services in your local hospital, please refer to the regional interactive maps on the RCP results portal http://www.strokeaudit.org/results/Maps.aspx.

Domain 6: Key indicators

Standard: Patient and carers should be provided with comprehensive information about the services they may need and how to access them on discharge from hospital, as well as on how to prevent further strokes.

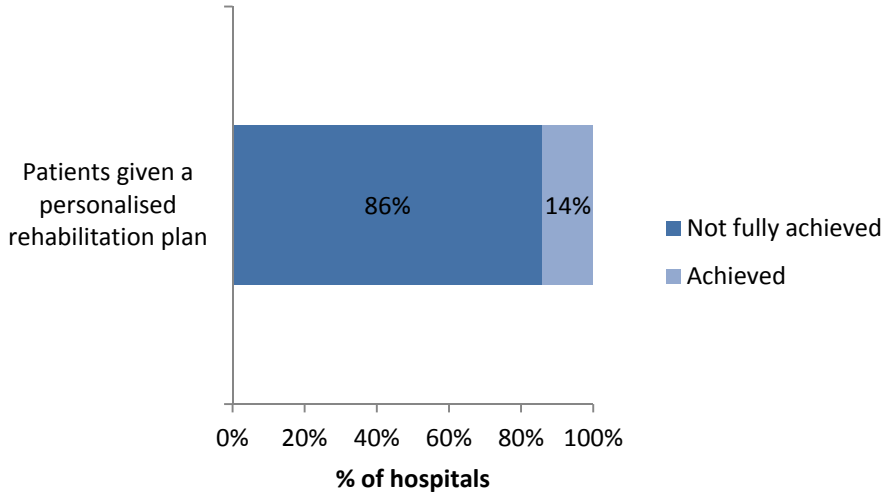
NICE Quality Standard: Carers of patients with stroke are provided with a named point of contact for stroke information, written information about the patient's diagnosis and management plan, and sufficient practical training to enable them to provide care

Availability of patient information for stroke units and outpatients

Communication with patients and carers	Stroke Units (183 hospitals)	Outpatients (183 hospitals)
The organisation of the ward/unit enables patients to have access to their management plan	86%	74%
Patient information displayed in ward/unit		
• Patient versions of national or local guidelines/standards	77%	61%
• Social Services local Community Care arrangements	89%	70%
• The Benefits Agency	85%	73%
• Secondary prevention advice	99%	90%

Comment: Patient involvement in discharge planning is largely unchanged from 2012. It is routine in the majority but not all stroke services. Services that do not positively report on the patient involvement in discharge planning should consider why they are at odds with the majority of providers.

Discharge planning



Early Supported Discharge team (ESD team)

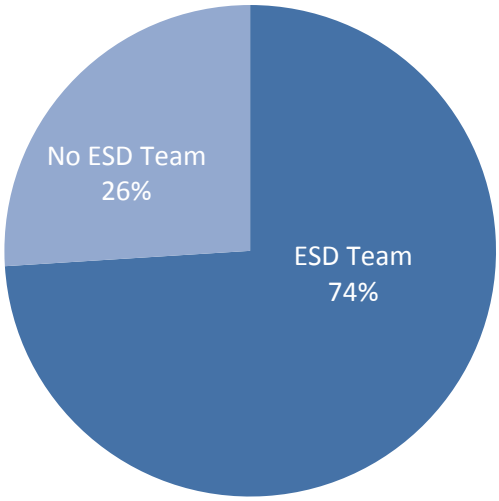
An Early Supported Discharge team is a multidisciplinary team which provides rehabilitation and support in a community setting with the aim of reducing the length of in-hospital stay for stroke patients. A stroke/neurology specific team is one which treats stroke patients either solely or in addition to general neurology patients.

National Clinical Guideline: Provide early supported discharge to patients who are able to transfer independently or with the assistance of one person. Early supported discharge should be considered a specialist stroke service and consist of the same intensity and skillmix as available in hospital, without delay in delivery.

Seventy-four percent of hospitals have access to a stroke specialist early supported discharge multidisciplinary team.

Comment: Access to stroke-specific Early Supported Discharge (ESD) has continued to increase from 44% in 2010, to 66% in 2012 and now 74% in 2014. Commissioners in the quarter of the country where there is no stroke-specific ESD team should consider themselves now in a minority and not offering best and evidence-based services. In the SSNAP clinical audit currently around one in four patients discharged alive from stroke units are already being discharged with ESD.

Access to a specialist early supported discharge team

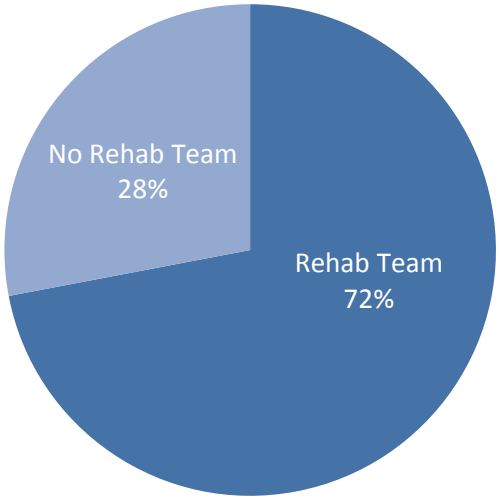


Longer Term Specialist Community Rehabilitation Team

Seventy-two percent of hospitals have access to a stroke specialist early supported discharge multidisciplinary team.

Comment: Access to a specialist community rehabilitation team has increased significantly from 2012 – with 131 hospitals (72%) having access compared with 108 (57%) in 2012. As length of stay in hospital decreases this is increasingly important to good outcome after stroke and commissioners should be aiming to provide this for all stroke patients. Almost 30% of hospitals patients have no access to specialist community stroke rehabilitation.

Access to a stroke/neurology specialist community rehabilitation team for longer term management

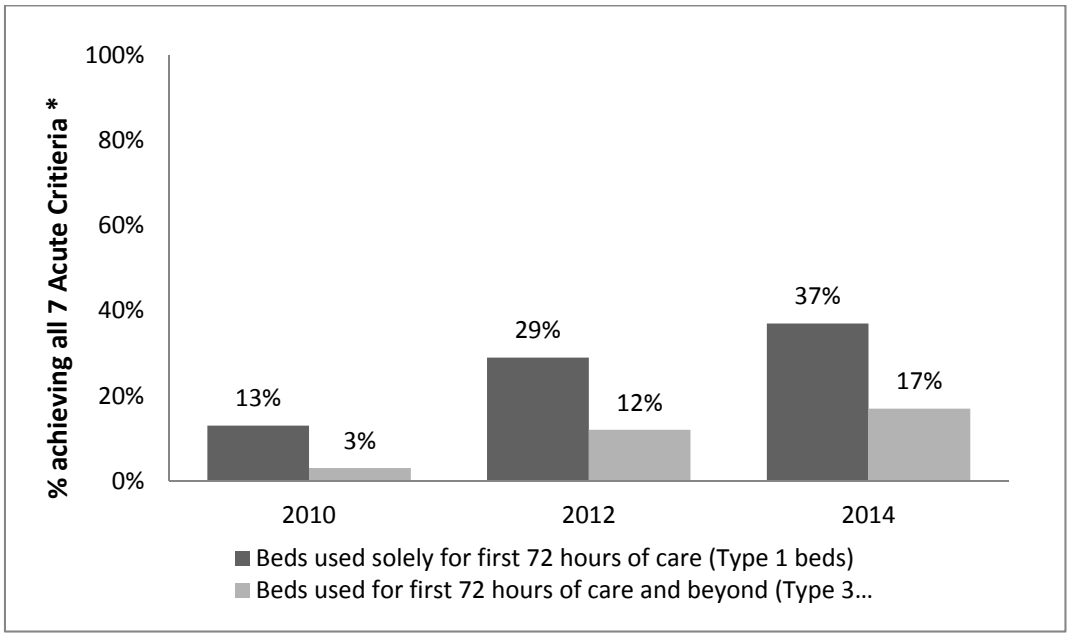


Section 4: Audit results over time - Change between 2006 and 2014

This section shows changes over time since 2006. Results for 2006 to 2010 relate to data collected for the National Sentinel Stroke Audit (NSSA); 2012 data is from the SSNAP acute organisational audit. The section broadly follows the 6 domains of stroke care; however not all elements of each domain are included due to incomparability between rounds.

4.1 Acute stroke care organisation (Domain 1)

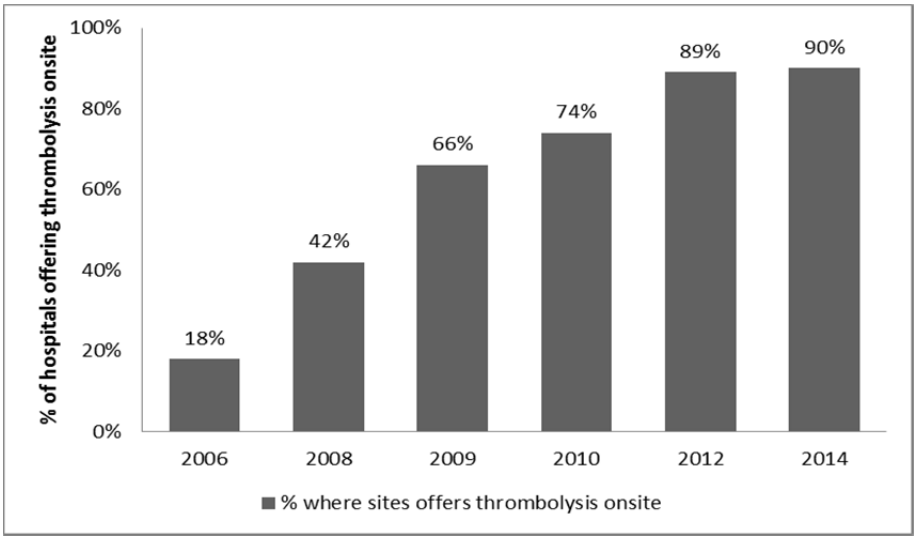
	NSSA	SSNAP	
	2010	2012	2014
% of hospitals with Type 1 beds achieving all 7 acute criteria	13%	29%	37%
% of hospitals with Type 3 beds achieving all 7 acute criteria	3%	12%	17%



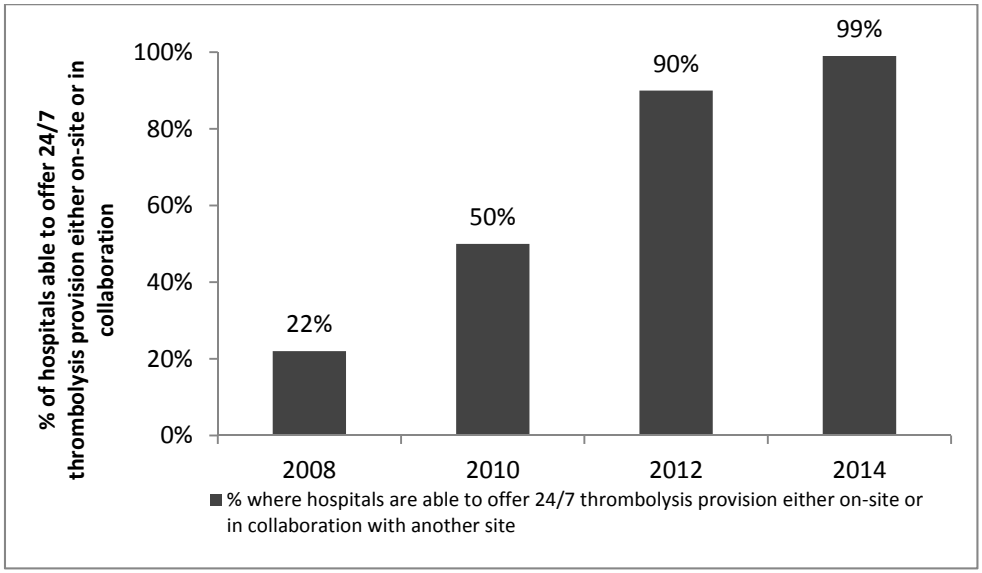
** The 7 acute criteria are continuous physiological monitoring (ECG, oximetry, blood pressure), immediate access to scanning for urgent stroke patients, direct admission from A&E/front door, specialist ward rounds on 7 days a week, acute stroke protocols/guidelines, nurses trained in swallow screening, nurses trained in stroke assessment and management*

Comment: There have been some positive but modest improvements in terms of increased quality in acute stroke care organisation, as judged by the proportion of hospitals fulfilling all 7 acute criteria. However, Type 1 beds should be commissioned to provide all 7 criteria within a service specification. The shortfall in specialist weekend ward rounds in over one-third of such units is a concern.

	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
% where hospitals offers thrombolysis onsite	18%	42%	66%	74%	89%	90%



Comment: Although the proportion of hospitals offering thrombolysis onsite has remained similar since 2012, the number of hospitals where this is the case has decreased which may reflect the advent of centralised models of hyperacute care. The numbers of potentially eligible patients for thrombolysis and their outcomes is being prospectively recorded as part of SSNAP clinical audit, which will help judge the success of any future organisational changes in terms of effectiveness of thrombolysis treatment by population.



4.2 Team working (Domain 3)

	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
Team meetings (at least) once weekly %	100	100	100	99.5	100	100
Team meetings (at least) twice weekly %	NA	NA	NA	51	76	80
Disciplines who regularly attend team meetings %						
Clinical Psychology	18	19	18	22	26	31
Dietetics	61	59	64	65	60	62
Medicine (Senior Doctor)	98	98	99	96	98	98
Nursing	100	99.5	100	99	99	99
Occupational Therapy	99	100	99.5	100	99	100
Physiotherapy	100	100	100	100	99	100
Social Work	77	79	82	78	66	57
Speech & Language Therapy	82	86	82	84	89	88

Comment: Whilst the audit continues to demonstrate regular MDT meetings with multidisciplinary representation, the frequency of multiple weekly meetings seems now to have plateaued across hospitals at around 80%. This is likely to reflect the differences between patterns of working between units with Type 1 beds (for the first 72 hours of care), Type 2 beds (for post-72 hour care) and Type 3 beds (for 72 hour care and beyond).
Given the importance of joint health and social care planning in transfers of care of stroke patients into the community, the diminishing provision of social work representation at MDT meetings is a major concern. Social workers were present at MDT meetings in 78% of hospitals in 2010 and now in only 57% in 2014.

4.3 Specialist roles (Domain 2)

	NSSA	SSNAP	
	2010	2012	2014
Consultant ward rounds 7 days per week			
• Type 1* beds	29%	53%	64%
• Type 3** beds	11%	30%	30%
Band 7 Nurse on stroke unit	84%	92%	93%
Palliative care patients treated on stroke unit	99%	99%	100%
Access within 5 days to social work	95%	97%	97%
Access to psychologists	49%	52%	61%
Vocational training	45%	50%	47%
Stay in bed until assessed by physiotherapist	17%	12%	13%

**Type 1: Beds solely for first 72 hours of care*

***Type 3: Beds for both first 72 hours of care and post 72 hour care*

Comment: Access to psychology has improved from 52% in 2012 to 61% of hospitals in 2014, which means patients in approximately 40% of hospitals do not access this key component of specialist stroke care. More 7 day ward rounds are taking place on Type 1 beds in keeping with the general increase in consultant weekend ward rounds in acute hospitals. However, this does not take place in 36% of hospitals with Type 1 beds, which means that patients being admitted at weekend in such units are not being reviewed by stroke consultants – as they are on weekdays. The neurological diagnosis of stroke and its differentials is best made by consultants with training and experience in stroke. All patients admitted to hospital with a suspected stroke should have the expectation of being reviewed by a stroke specialist consultant within 24 hours of admission. It is very unlikely that a patient with acute myocardial infarction admitted to a coronary care unit would not be seen over a weekend by a cardiologist. Why should stroke be different?

4.4 Inter disciplinary services (for hospitals with a stroke unit) (Domain 3)

Registered nurse/care assistants on duty at 10am on normal weekdays	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
Median	7	8	8	8	8	9
Staff establishment: % YES						
Clinical Psychology	31%	36%	35%	39%	46%	54%
Dietetics	85%	96%	95%	96%	99%	98%
Occupational Therapy	99.5%	100%	99%	99%	100%	100%
Physiotherapy	99.5%	100%	99%	99%	100%	100%
Speech and Language Therapy	94%	99%	98%	98%	99%	98%
Pharmacy	75%	86%	89%	88%	93%	92%

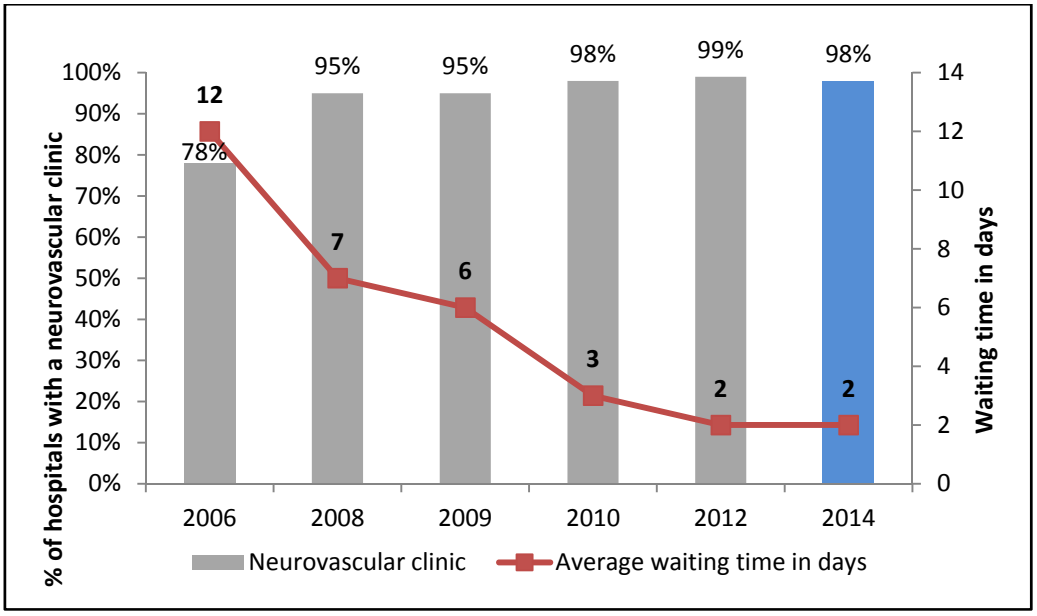
	NSSA	SSNAP	
	2010	2012	2014
Access to Orthotics within 5 days	76%	83%	86%
Access to Foot health within 5 days	58%	57%	60%

% of qualified 7 day therapy working (Q3.3)	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
Occupational Therapy	NA	4	4	4	16	22%
Physiotherapy	NA	4	7	12	25	28%
Speech and Language Therapy	NA	1	0	0.5	3	5%

Comment: Multidisciplinary care is integral to stroke unit care and whilst there has been steady improvements towards 100% access to all the allied health professions reported there are still significant deficiencies. This should be picked up using service specifications by commissioners in order to provide the very best stroke care for patients.
We know that nursing numbers are key to patient safety in hospital and whilst the median number of nursing staff (trained and untrained) had previously between 2008-2012 been steady at eight at 10am on weekdays, it is encouraging to see this has increased to a total of nine in the 2014 audit. The provision of 7 day a week physiotherapy and occupational therapy remains low at 28% and 22% respectively with speech and language therapy available 7 days a week in only 5% of hospitals.

4.5 TIA/neurovascular service (Domain 4)

	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
Neurovascular clinic onsite	78%	95%	95%	98%	99%	98%
Clinics within a 4 week period: Median	5	8	12	20	20	24
Average waiting time in days	12	7	6	3	2	2



	NSSA	SSNAP	
	2010	2012	2014
Hospital can see, investigate & initiate treatment for HIGH risk patients same day 7 days a week			
• Inpatients	33%	53%	60%
• Outpatients	10%	37%	45%
Hospital can see, investigate & initiate treatment for LOW risk patients same day 7 days a week			
• Inpatients	17%	31%	40%
• Outpatients	2%	6%	5%
Carotid Imaging same day 7 days a week			
• HIGH risk	10%	36%	42%
• Low risk	2%	14%	10%

Comment: Neurovascular clinics are now well established throughout the audit with almost all hospitals offering such services with average waiting times of 2 days. Seven day a week services have increased modestly but it is surprising that high risk TIA patients admitted to 40% of hospital hospitals are still **not** investigated and treated on the same day. High risk TIA patients are by definition at risk of early recurrence of stroke symptoms and should be treated urgently. After all, patients with unstable angina admitted acutely to hospital would not be left without same day investigation and initiation of preventative treatment.

4.6 Quality improvement and research (Domain 5)

	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
Stroke service report produced for trust board	NA	NA	NA	88%	93%	89%
Strategic group responsible for stroke	NA	NA	NA	98%	93%	96%
Funding for external courses available for nurses and therapists	NA	NA	NA	90%	88%	91%
1 or more research studies registered at time of audit	56%	68%	72%	81%	92%	89%

Comment: With all the changes to NHS organisations it is reassuring that there has been no decline in the elements of quality improvement and in particular stroke research. Whilst nationally the responses to each of the items within Domain 5 is 89% or more we should aspire to 100% for all four of them.

4.7 Communication with patients and carers (Domains 5 and 6)

	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
Formal links with patients and carers organisations for communication on service provision, audit or future plans*	74	81	86	90	88	91
Community user group for stroke	68	75	81	92**	89**	92

*In 2012, 53% of hospitals had formal links on all of the three topics. In 2014, this figure is 51%.

** In 2010 and 2012 we asked for formal links with community user groups for stroke.

	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
Patient access to management plan %						
Patient information literature displayed in unit/ward on:	73	80	79	79	82	86
• Patient versions of national or local guidelines/standards	59	77	84	81	82	77
• Social Services local Community Care arrangements	82	81	92	86	88	89
• The Benefits Agency	76	80	88	84	86	85
• Secondary prevention advice			99	98	98	99
Patients given a personalised rehabilitation discharge plan	NA	NA	NA	60	86	86
Patients views sought on stroke services	86	88	89	88	92	95
Report produced in past 12 months which analysed patient views	42	44	51	54	68	71

Comment: Communication with patients and carers has generally improved with each audit which has to be congratulated. Hospitals where this is not happening are firmly in the minority and should be looking to address this aspect of their service as a priority. The expectation is that we should see 100% positive responses to the same questions in the next audit.

4.8 Planning and access to specialist support (Domain 6)

	NSSA				SSNAP	
	2006	2008	2009	2010	2012	2014
Median number of stroke beds	24	25	26	26	25	26

	NSSA	SSNAP	
	2010	2012	2014
Access to a stroke specific ESD team	44%	66%	74%
Access to specialist community rehab	55%	57%	72%

Comment: The median number of stroke unit beds per hospital has remained reasonably constant over time since 2008, at 26 beds. Access to Early Supported Discharge (ESD) has increased but still a quarter of hospitals do not transfer care into the community using this evidence based approach. Access to specialist community neurorehabilitation has improved from 57% in 2012 to 72% of hospitals in 2014, but still 28% of hospitals have no access at all.

Section 5: More detailed audit results and country comparisons

This section gives national figures for the organisation of stroke care in England, Wales and Northern Ireland at 1 July 2014.

Denominators vary within tables because of differing hospital characteristics. 183 is the total number of sites (referred to as hospitals in this report) that participated in the audit in England, Wales, Northern Ireland and the Islands. 157 were in England, 14 in Wales and 11 in Northern Ireland. There are 16 hospitals in England which do not provide care to patients in the first 72 hours. These hospitals are excluded from the analysis of measures relating to this phase of acute care.

The 'All hospitals' column reflects the national figures including the results from the Isle of Man. However, the regional breakdowns relate to results from England, Wales and Northern Ireland only.

Please refer to the full report available on the SSNAP results portal for more details on denominators and further context (http://www.strokeaudit.org/results.aspx).

5.0 Type of service overall

Care in the first 72 hours after stroke	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Care provided for ALL patients in the first 72 hours after stroke	83%	82%	100%	82%
Care provided for SOME patients in first 72 hours after stroke	8%	9%	0%	9%
Care is NOT provided for patients within first 72 hours of stroke	9%	10%	0%	9%

5.1 Presentation and initial assessment

	All hospitals (167 hospitals)	England (142 hospitals)	Wales (14 hospitals)	Northern Ireland (10 hospitals)
There are NO arrangements in place with local ambulance services to FAST-Track (rapid blue light transfer to hospital) patients presenting with acute stroke who may be appropriate for thrombolysis	1%	1%	0%	0%

5.2 Thrombolysis provision

Thrombolysis in your hospital(s)	All hospitals (167 hospitals)	England (142 hospitals)	Wales (14 hospitals)	Northern Ireland (10 hospitals)
% of hospitals currently providing an on-site 24/7 thrombolysis service	83%	82%	93%	90%
% of hospitals currently providing a 24/7 thrombolysis service, on-site only or in collaboration with neighbouring hospitals.	99%	99%	100%	100%
Telemedicine				
% of hospitals currently using telemedicine to allow remote access for management of acute stroke care	70%	69%	86%	70%
Interventional Neuroradiology				
% of hospitals currently using intra-arterial treatment (eg thrombectomy) to treat patients with acute stroke*	54%	51%	93%	60%

*On site or by referral to another hospital

Comment: We are pleased to report that there is now effectively 100% access to thrombolytic treatment for acute ischaemic stroke across England, Wales and Northern Ireland. Over half of hospitals have access to intra-arterial treatments and 93% of hospitals in Wales reported that they use inter-arterial treatments for acute stroke.

5.2.1 Venous thromboembolism prevention

First line treatment for preventing venous thromboembolism for patients with reduced mobility	All hospitals (167 hospitals)	England (142 hospitals)	Wales (14 hospitals)	Northern Ireland (10 hospitals)
Short or long compression stockings	1	1%	0%	0%
Intermittent pneumatic compression device	42%	45%	7%	45%
Low molecular weight heparin	35%	34%	29%	45%
None of the above	22%	20%	64%	9%

Comment: The evidence base for prevention of venous thromboembolism after stroke has been transformed by the CLOTS trials and it is good to see very little variation in the audit in the use of compression stockings, which has effectively disappeared from clinical practice. Use of Intermittent Pneumatic Compression (IPC) may well increase in England after review and recommendation by NICE. Currently there is low take up of IPC in Wales compared to England and Northern Ireland.

5.3 Stroke unit provision

100% of hospitals in England, Wales and Northern Ireland have designated stroke unit beds.

	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Median number of stroke beds per hospital 2014	26	27	20	12

Comment: The median number of beds in a stroke unit varies considerably by country and will relate to catchment area and demographics. However, the need for stroke units to be geographically distinct clinical areas with dedicated and 7 day specialist multidisciplinary staffing means that small units may struggle to be affordable and be prey to economies of scale.

5.3.1 Stroke care in the first 72 hours

This section includes:

- hospitals with beds used solely for the first 72 hours after stroke (Type 1)
- hospitals with beds used for the first 72 hours of stroke care and beyond (Type 3)

The 7 acute criteria for stroke units with these types of beds are:

- continuous physiological monitoring (ECG, oximetry, blood pressure)
- immediate access to scanning for urgent stroke patients
- direct admission from A&E/front door
- specialist ward rounds on 7 days a week
- acute stroke protocols/guidelines
- nurses trained in swallow screening
- nurses trained in stroke assessment and management

Stroke units with Type 1 beds	All hospitals (n=75)	England (n=73)	Wales (n=2)	Northern Ireland (n=0)
Median number of type 1 stroke unit beds	6	6	8	-
% stroke units beds with all 7 criteria	37%	38%	0%	-
% stroke units beds with 6 or more criteria	68%	68%	50%	-

Stroke units with Type 3 beds	All hospitals (n=109)	England (n=86)	Wales (n=12)	Northern Ireland (n=10)
Median number of Type 3 stroke unit beds	22	23	20	13
% stroke units beds with all 7 criteria	17%	21%	0%	0%
% stroke units beds with 6 or more criteria	55%	63%	25%	30%

Comment: There are currently no Type 1 beds in Northern Ireland. In both England and Wales the aspiration must be that all 7 criteria for acute stroke units are met in such units and this is not happening at all in the current two Welsh units and in only 38% of English units. The median number of Type 1 beds per hospital in England remains six but has increased in Wales from five to eight since 2012. The increase in Type 1 beds has to be accompanied with the quality assurance of meeting all 7 acute criteria.
In Type 3 stroke unit beds there is also a marked difference by country in acute criteria being met, with units in England achieving six or more criteria in 63% of hospitals compared with 25% of units in Wales and 30% of units in Northern Ireland.

5.3.2 Stroke care across all stroke units

The 5 SUTC characteristics for all stroke units 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
- funding for training (study leave and days taken)*

* The SUTC characteristic is defined as 'a programme for continuing education of staff'.

	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
% of hospitals with stroke units who have all 5 SUTC Key Characteristics	44%	41%	86%	18%

Comment: With respect to the 5 SUTC criteria which should be present in all stroke units there is again marked variation by country. Welsh stroke units report meeting all five criteria in 86% of hospitals, whilst English units only report all five being met in 41% of hospitals and the percentage is even lower in Northern Ireland at 18%. This variation is unacceptable and should be addressed by commissioners through service specifications.

5.3.3 Whole Time Equivalents (WTE) of staff across all stroke units

The data within this section are presented as ratios of staff per 10 stroke unit beds.

	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Median number of registered nurses/assistants usually on duty at 10am weekdays per 10 beds	3.46	3.46	3.02	3.64
Median number of junior doctor sessions	30	30	22	15

Median WTE per 10 stroke unit beds for qualified staff	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Clinical Psychology	0.04	0.04	0.01	0.06
Dietetics	0.19	0.19	0.13	0.20
Occupational Therapy	1.13	1.18	0.89	0.83
Physiotherapy	1.33	1.36	1.11	1.15
Speech & Language Therapy	0.52	0.54	0.48	0.45
Pharmacists	0.16	0.16	0.10	0.21
Nurses	9.17	9.22	8.48	9.46

% with 6 or 7 day working for therapists	All hospitals	England	Wales	Northern Ireland
Occupational Therapy	35%	41%	0%	0%
Physiotherapy	44%	50%	14%	0%
Speech & Language Therapy	8%	9%	0%	0%

% with 5 day access on stroke unit to and team meetings:	All hospitals	England	Wales	Northern Ireland
Social work expertise	97%	97%	100%	100%
Orthotics	86%	89%	100%	36%
Orthoptics	85%	85%	93%	73%
Podiatry / Foot health	60%	58%	86%	55%
Clinical Psychologists	61%	62%	57%	55%
Multidisciplinary team meetings take place more than twice a week	69%	74%	79%	0%

Comment: The median number of nurses per 10 beds on duty at 10am is between three and four across all 3 countries. The median total WTE equivalent of trained nurses per 10 stroke beds is nine in England and Northern Ireland and eight in Wales. Only England has senior 8b or 8c stroke nurse consultant posts. There are no senior (band 8) nursing posts at all in Northern Ireland**.**

Junior doctor time is also variable across countries with England having twice as many (30) junior sessions than Northern Ireland (15). This picture has not changed significantly from 2012 and has implications for training of future stroke consultants by country.

The median WTE of MDT staff is broadly similar across all three countries but weekend therapy provision is mainly happening in England, with two hospitals in Wales offering weekend stroke physiotherapy and no weekend therapy working in Northern Ireland at all reported currently.

5.4. Management of stroke services

5.4.1 Investment in staff

WTE of Band 7 or above stroke specialist staff	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Clinical Psychologists	0.0	0.0	0.1	0.2
Dietitian	0.0	0.0	0.0	0.0
Nurses	2.0	2.0	1.0	1.0
Occupational Therapists	1.0	1.0	0.6	0.0
Physiotherapists	1.0	1.0	1.0	0.0
Speech and Language Therapists	0.6	0.7	0.4	0.0

	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Accredited specialist registrar in post registered for stroke specialist training	29%	31%	36%	0%
Median number of PAs for stroke consultant physicians	22	23	10	15
Medial number of PAs for direct clinical care for stroke	17	19	10	5
Median number of new/additional PAs for stroke consultant physicians	0	0	0	0
Median number of new/additional PAs for direct clinical care for stroke	7	7	6	3
	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Number of unfilled stroke consultant posts	26%	27%	14%	36%
Number of PAs these posts cover	10	10	8	2

	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Funding for external courses available for nurses and therapists	91%	91%	100%	91%
Median number of staff days paid for between 1 April 2013 and 31 March 2014	20	21	9	9

Comment: There has been a large increase in accredited registrar stroke training posts in Wales to five in 2014 from one in 2012. At the same time Northern Ireland has now lost its single training post, which does not bode well for the speciality going forward. Variations in direct clinic consultant time exist between countries between a median of 19 programmed activity (PAs) per hospital in England and five PAs per hospital in Northern Ireland. These numbers are not however adjusted for total numbers of stroke unit beds - which we know are much smaller in Northern Ireland. All countries are looking to invest in additional stroke consultant clinical time in the future but a quarter of stroke consultant posts across all three countries remain unfilled currently. The situation appears worst in Northern Ireland where 36% of hospitals have unfilled posts and with no current recognised training post in Northern Ireland recruitment will be dependent on overseas applicants it now seems. Hopefully this apparent workforce crisis will be addressed by the recent stroke services review in Northern Ireland.

5.4.2 Quality improvement

	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
% of hospitals with a strategic group responsible for stroke	96%	96%	100%	100%
Stroke service report prepared for trust board between 1 April 2013 – 31 March 2014	89%	91%	100%	45%
Report produced between 1 April 2013 – 31 March 2014 which analysed the views of patients	71%	72%	79%	45%

Comment: As in 2012, Wales is leading the way in terms of Quality Improvement initiatives including preparing reports for Trust boards - in stark contrast to the situation in Northern Ireland, where such reports have been presented in less than half of hospitals.

5.4.3 Leadership of stroke services

	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
% of hospitals with clinicians with specialist knowledge of stroke formally recognised as having principal responsibility for stroke services (Q6.1)	99% (181)	99% (155)	100% (14)	100% (11)

5.4.4 Research studies

Stroke studies registered with your Research & Development department	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
% of hospitals with ONE or more research studies	89%	92%	71%	73%
% of hospitals with THREE or more research studies	70%	77%	29%	36%

Comment: Most countries remain research active although hospitals in England have a greater proportion of hospitals with 3 or more research studies and this number in Northern Ireland has fallen from 64% in 2012 to 36% in 2014.

5.5 Patient support and communication

Discharge planning	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
Patients given a personalised rehabilitation discharge plan	86%	88%	100%	36%
Stroke service has formal links with patients and carers organisations for communication on ALL of the following: service provision, audit , and service reviews and future plans	40%	37%	93%	18%
Stroke service has formal links with community user groups for stroke	92%	90%	100%	100%
Support for working age patients	**All hospitals (183 hospitals)**	**England (157 hospitals)**	**Wales (14 hospitals)**	**Northern Ireland (11 hospitals)**
Provision of a service which actively supports stroke patients to remain in, return to or withdraw (if appropriate) from work?	77%	75%	100%	73%
Provision of a service which actively provides educational or vocational training?	47%	46%	57%	55%

Comment: Wales continues to perform well compared to the other countries in respect to patients support and communication and performance in Northern Ireland has seemingly deteriorated significantly from the audit results of 2012. Disseminating national audit report to patient and carer groups has never been easier with 'easy access' versions of quarterly SSNAP reports being readily available including 'powerpoint' slide shows. https://www.strokeaudit.org/results/national-results.aspx.

5.6 Pathway at discharge

Early supported discharge team refers to a multidisciplinary team which provides rehabilitation and support in a community setting with the aim of reducing the duration of hospital care for stroke patients.

Access to Early Supported Discharge (ESD) Teams and Community Rehabilitation Teams

% with access to	All hospitals (183 hospitals)	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
A stroke/neurology specific early supported discharge multidisciplinary team	74%	80%	14%	73%
A non-specialist early supported discharge multidisciplinary team	36%	34%	36%	64%
A stroke/neurology specific community rehabilitation team for longer-term management	72%	76%	0%	91%
A non-specialist community rehabilitation team for longer-term management	70%	68%	93%	73%

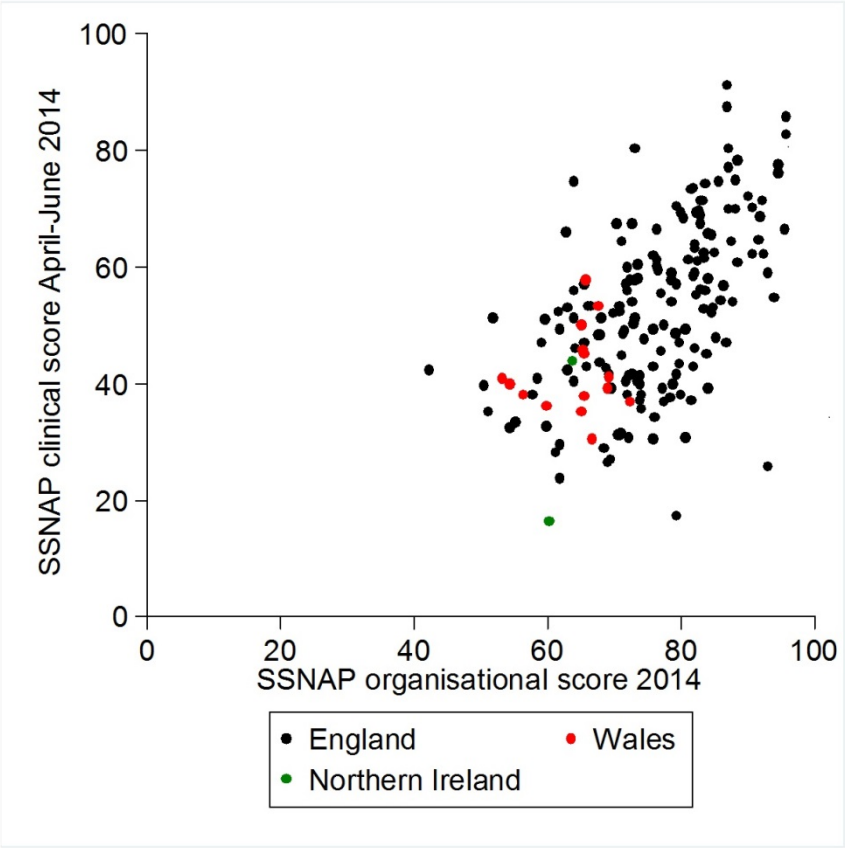
Comment: Stroke specific ESD is still significantly under provided in Wales, where there is also no stroke or neurology specific community rehabilitation provision (there was one reported in 2012).

5.7 Distribution of scores for England, Wales and Northern Ireland

In England, the median total organisational score was 76.4 across 157 hospitals. In Wales, the median total organisational score was 65.4 across 14 hospitals. In Northern Ireland, the median total organisational score was 63.0 across 11 hospitals.

Band	England (157 hospitals)	Wales (14 hospitals)	Northern Ireland (11 hospitals)
A	7%	0%	
B	29%	0%	
C	38%	7%	18%
D	18%	64%	55%
E	7%	28%	27%

SSNAP also measures the processes of stroke care for every patient through the longitudinal clinical audit and clinical results are publically reported on a quarterly basis. In the scatterplot below, the relationship between performance in the most recent SSNAP clinical report (April – June 2014) and the 2014 acute organisational audit (services on 1 July 2014) is shown.



Section 6: Hospital Results by Region and Country

The performance tables in this chapter give named hospital results in alphabetical order of trust name by geographical location by region, and then by Wales, Northern Ireland and Islands. Please note this describes the self-reported status on **1 July 2014**.

SSNAP Acute Organisational Audit 2014 - Performance Tables

These performance tables should be read in context as part of the full SSNAP Acute Organisational Audit Report 2014 and the full audit questions (appendix 2 of the report).

These performance tables show how each of the 183 participating hospitals performed in 6 domains of care and overall. Each domain covers an important aspect of good stroke care organisation and is comprised of a number of key indicators that relate to the topic.

A scoring system was developed to enable sites to compare their organisation of stroke care with other sites. The scores for the 6 domains range from 0 to 100 with 100 being the optimal score. A total organisational score is obtained by calculating the average of the 6 domain scores. For each domain and overall sites have been given a performance level (A-E). The aim is for this to allow sites to benchmark their performance against all other sites and for this to be comparable to all future acute organisational audit results.

It should be noted that the scoring system has changed from the 2012 Acute Organisational Audit. There are now 6 domains, comprising 46 key indicators and an absolute scoring method has also been adopted for 2014. The stringent criteria to achieve maximum points remains largely the same for 2014, as it did for 2012.

The key on Sheet 2 of this file provides further information about the items included in the performance tables, including a breakdown of what constitutes each domain.

To access the public tables

At the bottom of this screen there are 3 tabs. Clicking on the 2nd tab will bring you to the key to the performance tables, clicking on the 3rd tab will bring you to the performance tables

Heading in Performance Table	Description/Further information
Number of stroke beds onsite	
Total number of stroke beds onsite	Total number of stroke unit beds stated to be within site
Total organisational score 2014	The mean average of the 6 individual domain scores
Overall position 2014	Based on overall total organisational score, relative to other sites
Acute organisational audit domain scores 2014	**Key indicators within each domain**
Domain 1: Acute Care Organisation **(16 sites which do not treat patients during the first 72 hours after stroke have been allocated the Domain 1 score of the site where their patients are treated during this initial phase)**	• presence of 7 acute criteria *(Continuous physiological monitoring (ECG, oximetry, blood pressure, Immediate access to scanning for urgent stroke patients, Direct admission from A&E/front door, Specialist ward rounds on 7 days a week, Acute stroke protocols/guidelines, Nurses trained in swallow screening, Nurses trained in stroke assessment and management)* • level of thrombolysis • nurse staffing levels at weekends
Domain 2: Specialist Roles	• provision of consultant ward rounds for stroke units **(16 that do not treat within the first 72-hours are removed from the denominator for this element of the score)** • seniority of nurses and therapists • patient access to social work expertise, orthoptics, orthotics and podiatry (foot health) • treatment of palliative care patients on the stroke unit • access to clinical psychologists and psychological care • provision of educational and vocational training • whether or not patients stay in bed until assessed by physiotherapist
Domain 3: Inter Disciplinary Services	• availability of qualified nurses and care assistants • availability of qualified therapy staff • 6 or 7 day working for occupational therapy, physiotherapy, speech and language therapy • frequency of formal team meetings • disciplines that attend the team meetings (Clinical Psychologist, Dietetics, Medicine (senior doctor), Nursing, Occupational Therapy, Physiotherapy, Social Work and Speech and Language Therapy)

Domain 4: TIA/Neurovascular Services	• timeframes in which both HIGH and LOW risk patients can be seen, investigated and treated • usual waiting time to get carotid imaging for both HIGH and LOW risk TIA
Domain 5: Quality Improvement, Training and Research	• production of a report on the stroke service for trust board • membership of a strategic group responsible for stroke *(including Ambulance trust representative, Clinician, Patient representative, CCG commissioner, Social services, Stroke Network representative, Trust board member)* • funding for external courses and study days available for nurses & therapists • participation in clinical research studies • formal links with patient and carer organisational on ALL of the following: service provision, audit, and service reviews and future plans • patient/carer views sought on stroke services • report produced within past 12 months which analysed views of patients
Domain 6: Planning and access to specialist support	• availability of patient information of each of the following topics for stroke units and outpatients (patient version of national or local guidelines/standards, social services, Benefits agencies, Secondary prevention advice) • patients are given a personalised rehabilitation discharge plan • access to stroke/neurology specialist early supported discharge (ESD) multidisciplinary team • access to a stroke/neurology specialist community team for longer term management

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
London - London SCN								
Barking, Havering and Redbridge University Hospitals NHS Trust	57	B	A	A	D	B	D	A
Barnet and Chase Farm Hospitals NHS Trust	24	C	C	D	B	C	C	A
Barts Health NHS Trust (Newham University Hospital)	13	B	B	A	B	B	B	A
Barts Health NHS Trust (Royal London Hospital)	26	B	B	C	A	A	A	A
Barts Health NHS Trust (Whipps Cross Hospital)	19	B	B	B	D	A	B	A
Chelsea and Westminster Hospital NHS Foundation Trust	20	B	C	A	B	C	B	A
Croydon Health Services NHS Trust	26	B	A	A	D	B	C	A
Epsom and St Helier University Hospitals NHS Trust (St Helier Hospital)	24	A	A	A	C	A	A	A
Guy's and St Thomas' NHS Foundation Trust	22	B	A	D	D	A	B	A
Hillingdon Hospitals NHS Foundation Trust	20	D	C	B	D	C	C	E
Homerton University Hospital NHS Foundation Trust	24	C	B	C	B	A	E	B
Imperial College Healthcare NHS Trust	54	B	C	A	B	A	B	A
King's College Hospital NHS Foundation Trust (King's College Hospital)	28	A	A	A	B	A	A	A
King's College Hospital NHS Foundation Trust (Princess Royal University Hospital)	40	B	A	B	C	B	A	A
Kingston Hospital NHS Foundation Trust	20	B	A	C	B	C	C	A
Lewisham and Greenwich NHS Trust (Queen Elizabeth Hospital, Woolwich)	28	C	A	D	D	A	E	A
Lewisham and Greenwich NHS Trust (University Hospital Lewisham)	22	B	A	C	A	B	C	A
North Middlesex University Hospital NHS Trust	20	C	C	C	B	C	E	A
North West London Hospitals NHS Trust (Northwick Park Hospital)	50	B	C	A	A	A	A	C
Royal Free London NHS Foundation Trust	18	B	C	C	B	C	B	A

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
St George's Healthcare NHS Trust	36	A	A	A	A	A	A	A
University College London Hospitals NHS Foundation Trust	35	A	C	A	A	A	B	A
West Middlesex University Hospital NHS Trust	22	C	C	D	D	B	D	A
Midlands and East - East Midlands SCN								
Derby Hospitals NHS Foundation Trust	32	A	C	A	A	A	A	A
Kettering General Hospital NHS Foundation Trust	24	E	E	E	E	E	C	A
Northampton General Hospital NHS Trust	39	B	D	B	C	A	C	A
Nottingham University Hospitals NHS Trust	76	A	B	A	B	A	A	A
Sherwood Forest Hospitals NHS Foundation Trust	38	C	C	A	B	E	B	D
United Lincolnshire Hospitals NHS Trust (Lincoln County)	28	D	D	B	C	B	D	D
United Lincolnshire Hospitals NHS Trust (Pilgrim Hospital)	28	C	D	D	B	B	C	B
University Hospitals of Leicester NHS Trust	46	D	D	B	D	A	C	D
East of England - East of England SCN								
Basildon and Thurrock University Hospitals NHS Foundation Trust	47	B	B	D	B	A	C	A
Bedford Hospital NHS Trust	16	D	D	D	D	C	C	C
Cambridge University Hospitals NHS Foundation Trust	36	D	D	C	D	C	A	E
Colchester Hospital University NHS Foundation Trust	33	B	C	C	B	A	A	A
East and North Hertfordshire NHS Trust	26	E	D	D	C	A	E	D
Hinchingbrooke Health Care NHS Trust	25	E	E	D	E	A	E	D
Ipswich Hospital NHS Trust	32	B	B	B	C	A	A	B
James Paget University Hospitals NHS Foundation Trust	30	C	C	D	E	A	D	A
Luton and Dunstable University Hospital NHS Foundation	30	D	C	D	E	A	C	E

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
Trust								
Mid Essex Hospital Services NHS Trust	25	C	B	C	D	A	D	C
Norfolk and Norwich University Hospitals NHS Foundation Trust	48	C	E	B	C	B	A	A
Peterborough and Stamford Hospitals NHS Foundation Trust	36	E	D	D	D	D	E	B
Princess Alexandra Hospital NHS Trust	22	D	D	E	C	B	C	B
Queen Elizabeth Hospital King's Lynn NHS Trust	29	A	B	A	B	A	A	A
Southend University Hospital NHS Foundation Trust	40	A	A	A	B	A	A	A
West Hertfordshire Hospitals NHS Trust	36	C	C	D	C	C	B	D
West Suffolk NHS Foundation Trust	24	D	D	D	C	C	A	E
East of Englands - West Midlands SCN								
Burton Hospitals NHS Foundation Trust	21	D	D	C	B	A	E	A
Dudley Group NHS Foundation Trust	40	B	D	B	C	B	A	A
George Eliot Hospital NHS Trust	23	D	D	B	C	A	D	E
Heart of England NHS Foundation Trust (Birmingham Heartlands and Solihull Hospitals)	53	C	D	B	C	A	B	B
Heart of England NHS Foundation Trust (Good Hope Hospital)	27	E	C	C	E	E	D	B
Royal Wolverhampton NHS Trust	23	B	B	B	C	A	D	A
Sandwell and West Birmingham Hospitals NHS Trust (Sandwell District Hospital)	48	A	A	A	B	A	C	A
Shrewsbury and Telford Hospital NHS Trust	24	D	D	D	D	C	C	A
South Warwickshire NHS Foundation Trust	12	C	C	C	C	A	C	C
University Hospital of North Staffordshire NHS Trust	32	C	C	B	D	A	E	A

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
University Hospitals Birmingham NHS Foundation Trust	26	B	D	A	D	A	B	A
University Hospitals Coventry and Warwickshire NHS Trust	36	C	C	B	C	A	D	D
Walsall Healthcare NHS Trust	28	B	D	B	C	A	A	A
Worcestershire Acute Hospitals NHS Trust (Worcester Royal Hospital)	29	C	C	C	D	C	B	A
Wye Valley NHS Trust	12	E	D	A	E	C	E	D
North of England - Cheshire and Mersey SCN								
Aintree University Hospitals NHS Foundation Trust	29	B	C	A	B	A	D	B
Countess of Chester Hospital NHS Foundation Trust	28	B	A	A	D	A	C	A
East Cheshire NHS Trust	24	E	E	E	D	E	C	E
Mid Cheshire Hospitals NHS Foundation Trust	28	D	D	D	D	C	A	E
Royal Liverpool and Broadgreen University Hospitals NHS Trust	49	B	D	A	A	A	D	A
Southport and Ormskirk Hospital NHS Trust	28	D	D	B	C	C	D	C
St Helens and Knowsley Teaching Hospitals NHS Trust	39	D	E	A	B	D	A	C
Warrington and Halton Hospitals NHS Foundation Trust	32	C	D	C	D	A	A	A
Wirral University Teaching Hospital NHS Foundation Trust	46	B	D	A	B	A	A	B
North of England - Greater Manchester, Lancashire and South Cumbria SCN								
Blackpool Teaching Hospitals NHS Foundation Trust	39	D	D	D	E	C	B	A
Bolton NHS Foundation Trust	34	C	D	A	B	C	C	A
Central Manchester University Hospitals NHS Foundation Trust (Manchester Royal Infirmary)	26	C	E	A	B	B	C	A
Central Manchester University Hospitals NHS Foundation Trust (Trafford General Hospital)	18	E	D	E	D	B	C	D
East Lancashire Hospitals NHS Trust	45	C	C	B	D	B	C	A

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
Lancashire Teaching Hospitals NHS Foundation Trust	47	C	D	B	D	B	A	C
Pennine Acute Hospitals NHS Trust	74	C	D	C	C	B	C	A
Salford Royal NHS Foundation Trust	34	B	D	B	C	A	A	A
Stockport NHS Foundation Trust	35	B	D	A	C	A	A	B
Tameside Hospital NHS Foundation Trust	24	D	E	D	C	C	C	A
University Hospital of South Manchester NHS Foundation Trust	22	D	E	D	D	C	A	A
University Hospitals of Morecambe Bay NHS Foundation Trust (Furness General Hospital)	36	E	C	D	E	C	E	E
University Hospitals of Morecambe Bay NHS Foundation Trust (Royal Lancaster Infirmary)	29	D	D	D	C	C	C	A
Wrightington, Wigan and Leigh NHS Foundation Trust	22	C	D	C	B	C	B	A
North of England - North of England SCN								
City Hospitals Sunderland NHS Foundation Trust	49	C	C	B	E	A	B	A
County Durham and Darlington NHS Foundation Trust	24	B	B	A	C	A	A	C
Gateshead Health NHS Foundation Trust	24	C	C	A	D	A	E	A
Newcastle upon Tyne Hospitals NHS Foundation Trust	48	B	C	A	D	A	A	A
North Cumbria University Hospitals NHS Trust (Cumberland Infirmary)	22	C	D	B	C	C	D	A
North Cumbria University Hospitals NHS Trust (West Cumberland Hospital)	19	D	C	C	D	B	D	E
North Tees and Hartlepool NHS Foundation Trust	26	B	C	B	C	A	A	A
Northumbria Healthcare NHS Foundation Trust (Hexham Hospital)	15	D	C	C	E	A	C	E
Northumbria Healthcare NHS Foundation Trust (North Tyneside General Hospital)	29	B	C	C	C	A	A	A
Northumbria Healthcare NHS Foundation Trust (Wansbeck General Hospital)	27	C	C	C	D	A	C	A

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
South Tees Hospitals NHS Foundation Trust	29	A	A	A	B	A	A	B
South Tyneside NHS Foundation Trust	20	C	D	B	C	A	A	A
North of England - Yorkshire and Humber SCN								
Airedale NHS Foundation Trust	21	C	C	D	D	C	B	B
Barnsley Hospital NHS Foundation Trust	19	E	E	D	C	E	D	D
Bradford Teaching Hospitals NHS Foundation Trust	13	C	A	E	D	B	C	B
Calderdale and Huddersfield NHS Foundation Trust	55	C	A	D	D	A	D	C
Chesterfield Royal Hospital NHS Foundation Trust	36	C	D	C	B	A	B	E
Doncaster and Bassetlaw Hospitals NHS Foundation Trust	36	C	D	D	B	A	A	A
Harrogate and District NHS Foundation Trust	15	C	A	B	D	B	C	B
Hull and East Yorkshire Hospitals NHS Trust	52	B	C	A	D	A	A	A
Leeds Teaching Hospitals NHS Trust	41	D	A	B	B	E	E	E
Mid Yorkshire Hospitals NHS Trust	63	D	D	B	D	B	E	A
Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	43	B	B	A	B	C	C	A
Rotherham NHS Foundation Trust	23	B	C	C	B	B	A	A
Sheffield Teaching Hospitals NHS Foundation Trust	62	B	A	B	C	A	C	B
York Teaching Hospital NHS Foundation Trust (Scarborough General Hospital)	15	E	C	D	D	A	D	E
York Teaching Hospital NHS Foundation Trust (York Hospital)	38	C	C	C	B	A	C	B
South of England - South East Coast SCN								
Ashford and St Peter's Hospitals NHS Foundation Trust	23	C	D	C	D	C	A	B
Brighton and Sussex University Hospitals NHS Trust (Princess Royal Hospital Haywards Heath)	10	D	D	E	E	A	D	B

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
Brighton and Sussex University Hospitals NHS Trust (Royal Sussex County Hospital)	23	B	B	C	D	A	A	A
Dartford and Gravesham NHS Trust	23	D	D	D	E	B	C	A
East Kent Hospitals University NHS Foundation Trust (Kent and Canterbury Hospital)	22	B	D	A	C	A	A	A
East Kent Hospitals University NHS Foundation Trust (Queen Elizabeth The Queen Mother Hospital)	19	B	C	B	B	A	C	A
East Kent Hospitals University NHS Foundation Trust (William Harvey Hospital)	24	B	D	B	D	A	A	A
East Sussex Healthcare NHS Trust (Eastbourne District General Hospital)	38	D	D	D	E	B	D	A
Epsom and St Helier University Hospitals NHS Trust (Epsom General Hospital)	18	C	D	B	B	A	D	A
Frimley Park Hospital NHS Foundation Trust	26	A	A	A	C	A	A	A
Maidstone and Tunbridge Wells NHS Trust (Maidstone Hospital)	26	D	D	B	D	E	E	A
Maidstone and Tunbridge Wells NHS Trust (Tunbridge Wells Hospital)	22	C	C	B	C	C	E	A
Medway NHS Foundation Trust in collaboration with Medway Community Healthcare and Kent Community Health	25	C	D	C	D	A	C	A
Royal Surrey County Hospital NHS Foundation Trust	23	C	C	C	B	A	E	B
Surrey and Sussex Healthcare NHS Trust	33	C	D	B	C	A	C	B
Western Sussex Hospitals NHS Trust (St Richard's Hospital)	27	C	D	A	D	B	A	C
Western Sussex Hospitals NHS Trust (Worthing Hospital)	28	C	D	D	D	B	B	A
South of England - South West SCN								
Gloucestershire Hospitals NHS Foundation Trust	59	C	D	B	E	B	A	A
Great Western Hospitals NHS Foundation Trust	18	E	E	E	E	C	C	D
North Bristol NHS Trust	44	C	D	A	D	A	B	C

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
Northern Devon Healthcare NHS Trust	26	C	D	A	C	C	B	A
Plymouth Hospitals NHS Trust (Derriford Hospital)	22	C	C	A	D	B	C	B
Royal Cornwall Hospitals NHS Trust	20	C	D	D	D	A	B	A
Royal Devon and Exeter NHS Foundation Trust in collaboration with community hospitals under Northern Devon Healthcare NHS Trust	43	C	C	B	B	C	B	B
Royal United Hospital Bath NHS Trust	26	C	C	C	C	A	A	B
Salisbury NHS Foundation Trust	30	B	D	C	C	A	A	A
South Devon Healthcare NHS Foundation Trust and Torbay and Southern Devon Health Care Trust	39	C	D	C	D	B	B	A
Taunton and Somerset NHS Foundation Trust	23	B	D	C	B	A	A	A
University Hospitals Bristol NHS Foundation Trust	20	C	D	B	C	C	C	A
Weston Area Health NHS Trust	20	D	D	D	D	A	D	A
Yeovil District Hospital NHS Foundation Trust	16	B	C	C	B	A	A	A
South of England - Thames Valley SCN								
Buckinghamshire Healthcare NHS Trust	30	A	A	A	D	A	A	A
Heatherwood and Wexham Park Hospitals NHS Foundation Trust	17	C	D	D	C	A	D	B
Milton Keynes Hospital NHS Foundation Trust	25	D	E	C	D	B	D	B
Oxford University Hospitals NHS Trust (Horton General Hospital)	12	C	C	C	C	A	C	B
Oxford University Hospitals NHS Trust (John Radcliffe Hospital)	19	B	B	A	D	A	C	B
Royal Berkshire NHS Foundation Trust	36	B	D	C	C	A	A	A
South of England - Wessex SCN								
Dorset County Hospital NHS Foundation Trust	20	C	D	C	B	A	C	A
Hampshire Hospitals NHS Foundation Trust	46	C	D	C	C	B	B	B

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
Isle of Wight NHS Trust	26	B	D	A	D	B	A	A
Poole Hospital NHS Foundation Trust	27	C	D	C	B	A	B	B
Portsmouth Hospitals NHS Trust	60	D	C	A	D	B	D	E
Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	36	C	D	D	B	A	A	C
University Hospital Southampton NHS Foundation Trust	36	B	B	C	B	A	A	A
Islands								
Isle of Man Department of Health	9	E	E	E	E	A	C	B
Wales								
Abertawe Bro Morgannwg University Health Board (Morriston Hospital and Singleton Hospital)	44	D	D	C	E	B	A	E
Abertawe Bro Morgannwg University Health Board (Princess of Wales Hospital)	23	E	D	C	E	C	A	E
Aneurin Bevan University Health Board (Nevill Hall Hospital)	14	D	D	C	D	B	B	E
Aneurin Bevan University Health Board (Royal Gwent and Yabyty Yatrad Fawr)	48	E	E	C	E	B	D	E
Betsi Cadwaladr University Health Board (Glan Clwyd District General Hospital)	30	D	D	B	E	C	A	E
Betsi Cadwaladr University Health Board (Wrexham Maelor Hospital)	21	D	D	C	D	D	B	B
Betsi Cadwaladr University Health Board (Ysbyty Gwynedd)	12	D	D	C	C	B	C	C
Cardiff and Vale University Health Board	19	C	D	C	B	B	C	B
Cwm Taf University Health Board(Prince Charles Hospital)	12	D	D	A	D	C	A	E
Cwm Taf University Health Board (Royal Glamorgan Hospital)	6	D	D	A	C	B	B	E
Hywel Dda Health Board (Bronglais General Hospital)	8	D	D	C	D	D	B	C
Hywel Dda Health Board (Prince Philip Hospital)	20	E	D	C	E	B	E	E
Hywel Dda Health Board (West Wales General Hospital)	20	E	D	D	E	B	E	E

Acute Organisational Audit 2014 Performance Table	Total stroke unit beds	Total organisational score	Domain 1 Acute care organisation	Domain 2 Specialist roles	Domain 3 Interdisciplinary services	Domain 4 TIA/ Neurovascular clinic	Domain 5 Quality improvement, training & research	Domain 6 Planning & access to specialist support
Hywel Dda Health Board (Withybush General Hospital)	16	D	D	C	D	B	B	E
Northern Ireland								
Belfast Health and Social Care Trust (Mater Hospital)	8	D	E	C	D	B	E	A
Belfast Health and Social Care Trust (Royal Group of Hospitals)	34	D	D	B	C	B	E	B
Northern Health and Social Care Trust (Antrim Area Hospital)	12	C	E	B	D	B	A	A
Northern Health and Social Care Trust (Causeway Hospital)	14	E	E	D	E	D	E	B
South Eastern Health and Social Care Trust (Downe Hospital)	6	D	D	C	D	A	E	A
South Eastern Health and Social Care Trust (Lagan Valley Hospital)	10	E	D	A	D	E	E	B
South Eastern Health and Social Care Trust (Ulster Hospital)	20	C	D	B	D	A	D	B
Southern Health and Social Care Trust (Craigavon Area Hospital)	18	E	D	D	E	B	E	D
Southern Health and Social Care Trust (Daisy Hill Hospital)	10	D	D	D	D	C	C	B
Western Health and Social Care Trust (Altnagelvin Hospitals)	11	D	D	D	D	C	C	E
Western Health and Social Care Trust (South West Acute Hospital)	19	D	D	D	D	C	C	C

Appendix 1: Membership of the Intercollegiate Stroke Working Party

Chair

Professor Anthony Rudd, Professor of Stroke Medicine, King's College London; Consultant Stroke Physician, Guy's and St Thomas' NHS Foundation Trust

Associate directors from the Stroke Programme at the Royal College of Physicians

Professor Pippa Tyrrell, Professor of Stroke Medicine, University of Manchester; Consultant Stroke Physician, Salford Royal NHS Foundation Trust

Dr Geoffrey Cloud, Consultant Stroke Physician, Honorary Senior Lecturer Clinical Neuroscience, St George's Healthcare NHS Trust, London

Dr Martin James, Honorary Associate Professor, Peninsula College of Medicine and Dentistry; Consultant Stroke Physician, Royal Devon and Exeter Hospital

List of Members

Association of Chartered Physiotherapists in Neurology
Mrs Nicola Hancock, Lecturer in Physiotherapy, Restorative Neurology Group, University of East Anglia

AGILE – Professional Network of the Chartered Society of Physiotherapy
Miss Louise Briggs, Allied Health Professional Therapy Consultant, St George's Healthcare NHS Trust, London

Association of British Neurologists
Dr Gavin Young, Consultant Neurologist, The James Cook University Hospital, South Tees Hospitals NHS Foundation Trust

British Association of Social Workers/National Institute for Health Research School for Social Care Research
Professor Jill Manthorpe, Professor of Social Work, King's College London

British Association of Stroke Physicians
Dr Neil Baldwin, Consultant Stroke Physician, North Bristol NHS Trust

British Society of Rehabilitation Medicine
Professor Derick Wade, Consultant in Rehabilitation Medicine, The Oxford Centre for Enablement

British Dietetic Association
Dr Elizabeth Weekes, Consultant Dietitian and Research Lead, Guy's and St Thomas' NHS Foundation Trust, London

British Geriatrics Society/Stroke Research Network
Professor Helen Rodgers, Professor of Stroke Care, Newcastle University

British Psychological Society
Dr Audrey Bowen, Senior Lecturer In Psychology, University of Manchester

British Society of Neuroradiologists
Dr Andrew Clifton, Interventional Neuroradiologist, St George's Healthcare NHS Trust, London

Chartered Society of Physiotherapy
Dr Cherry Kilbride, Lecturer in Physiotherapy, Centre for Research in Rehabilitation, Brunel University, London

The Cochrane Stroke Group
Professor Peter Langhorne, Professor of Stroke Care Medicine, University of Glasgow

College of Occupational Therapists and Special Section Neurological Practice
Dr Judi Edmans, Senior Research Fellow, University of Nottingham

College of Occupational Therapists and Special Section Neurological Practice
Professor Avril Drummond, Professor of Healthcare Research, University of Nottingham

NIMAST (Northern Ireland)
Dr Michael Power, Consultant Physician Ulster Hospital Belfast, Founder and Committee Member NIMAST

Patient representative
Mr Robert Norbury

Patient representative
Mr Stephen Simpson

Patient representative
Ms Marney Williams

Qualitative Research Advice
Dr Chris McKevitt, Qualitative Stroke Researcher and Reader In Social Science and Health, King's College London

Royal College of Nursing
Mrs Diana Day, Stroke Consultant Nurse, Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust

Royal College of Nursing
Ms Amanda Jones, Stroke Nurse Consultant, Sheffield Teaching Hospitals NHS Foundation Trust

Royal College of Nursing
Dr Christopher Burton, Senior Research Fellow in Evidence Based Practice, Bangor University

Royal College of Radiologists
Dr Philip White, Consultant Interventional Neuroradiologist, Western General Hospital, Edinburgh

Royal College of Speech & Language Therapists
Ms Rosemary Cunningham, Speech and Language Therapy Team Manager, Royal Derby Hospital (Derbyshire Community Health Services)

Royal College of Speech & Language Therapists
Dr Sue Pownall, Speech and Language Therapy Team Leader, Sheffield Teaching Hospitals NHS Foundation Trust

Speakability
Mrs Melanie Derbyshire, Chief Executive, Speakability (Action for Dysphasic Adults)

Stroke Association
Mr Jon Barrick, Chief Executive, Stroke Association

Stroke Association
Mr Joe Korner, Director of Communications, Stroke Association

Appendix 2: List of Participating Hospitals and Trusts by Region

SHA/Region	SCN	Sitename	Number of hospitals incldued	Hospitals
London	**London**	Barking, Havering and Redbridge University Hospitals NHS Trust	2	Queens Hospital, Romford
				King George Hospital
		Barnet and Chase Farm Hospitals NHS Trust	1	Barnet Hospital
		Barts Health NHS Trust (Newham University Hospital)	1	Newham University Trust
		Barts Health NHS Trust (Royal London Hospital)	1	Royal London Hospital
		Barts Health NHS Trust (Whipps Cross Hospital)	1	Whipps Cross Hospital
		Chelsea and Westminster Hospital NHS Foundation Trust	1	Chelsea and Westminster Hospital NHS Foundation Trust
		Croydon Health Services NHS Trust	1	Croydon University Hospital
		Epsom and St Helier University Hospitals NHS Trust (St Helier Hospital)	1	St Helier Hospital
		Guy's and St Thomas' NHS Foundation Trust	1	Guy's and St Thomas' NHS Foundation Trust
		Hillingdon Hospitals NHS Foundation Trust	1	The Hillingdon Hospital
		Homerton University Hospital NHS Foundation Trust	1	Homerton University NHS Foundation Trust
		Imperial College Healthcare NHS Trust	2	Charing Cross Hospital
				St Mary's Hospital
		King's College Hospital NHS Foundation Trust (King's College Hospital)	1	King's College Hospital
		King's College Hospital NHS Foundation Trust (Princess Royal University Hospital)	1	Princess Royal University Hospital
		Kingston Hospital NHS Foundation Trust	1	Kingston Hospital NHS Foundation Trust
		Lewisham and Greenwich NHS Trust (Queen Elizabeth Hospital, Woolwich)	1	Queen Elizabeth Hospital, Woolwich
		Lewisham and Greenwich NHS Trust (University Hospital Lewisham)	1	Lewisham Hospital
		North Middlesex University Hospital NHS Trust	1	North Middlesex University Hospital NHS Trust
		North West London Hospitals NHS Trust (Northwick Park Hospital)	1	Northwick Park Hospital
		Royal Free London NHS Foundation Trust	1	Royal Free Hospital
		St George's Healthcare NHS Trust	1	St. George's Hospital NHS Trust
		University College London Hospitals NHS Foundation Trust	2	University College Hospital
				The National Hospital for Neurology and Neurosurgery
		West Middlesex University Hospital NHS Trust	1	West Middlesex University Hospital
Midlands and East	**East Midlands**	Derby Hospitals NHS Foundation Trust	1	Derby Hospitals NHS Foundation Trust
		Kettering General Hospital NHS Foundation Trust	1	Kettering General Hospital
		Northampton General Hospital NHS Trust	1	Northampton General Hospital NHS Trust
		Nottingham University Hospitals NHS Trust	1	Nottingham University Hospitals NHS Trust
		Sherwood Forest Hospitals NHS Foundation Trust	1	King's Mill Hospital
		United Lincolnshire Hospitals NHS Trust (Lincoln County)	1	Lincoln County Hospital
		United Lincolnshire Hospitals NHS Trust (Pilgrim Hospital)	1	Pilgrim Hospital
		University Hospitals of Leicester NHS Trust	1	Leicester Royal Infirmary
	East of England	Basildon and Thurrock University Hospitals NHS Foundation Trust	1	Basildon and Thurrock University Hospital
		Bedford Hospital NHS Trust	1	Bedford Hospital NHS Trust
		Cambridge University Hospitals NHS Foundation Trust	1	Cambridge University Hospitals NHS Foundation Trusts
		Colchester Hospital University NHS Foundation Trust	1	Colchester General Hospital
		East and North Hertfordshire NHS Trust	1	Lister Hospital
		Hinchingbrooke Health Care NHS Trust	1	Hinchingbrooke Healthcare NHS Trust
		Ipswich Hospital NHS Trust	1	Ipswich Hospital NHS Trust
		James Paget University Hospitals NHS Foundation Trust	1	James Paget University Hospital

SHA/Region	SCN	Sitename	Number of hospitals incldued	Hospitals
		Luton and Dunstable University Hospital NHS Foundation Trust	1	Luton and Dunstable University Hospital
		Mid Essex Hospital Services NHS Trust	1	Broomfield Hospital
		Norfolk and Norwich University Hospitals NHS Foundation Trust	1	Norfolk and Norwich University Hospitals NHS Foundation Trust
		Peterborough and Stamford Hospitals NHS Foundation Trust	1	Peterborough City Hospital
		Princess Alexandra Hospital NHS Trust	1	The Princess Alexandra Hospital
		Queen Elizabeth Hospital King's Lynn NHS Trust	1	The Queen Elizabeth Hospital Kings Lynn
		Southend University Hospital NHS Foundation Trust	1	Southend University Hospital NHS Foundation Trust
		West Hertfordshire Hospitals NHS Trust	1	Watford General Hospital
		West Suffolk NHS Foundation Trust	1	West Suffolk Hospital NHS Foundation Trust
	West Midlands	Burton Hospitals NHS Foundation Trust	1	Queen's Hospital, Burton on Trent
		Dudley Group NHS Foundation Trust	1	Russell's Hall Hospital
		George Eliot Hospital NHS Trust	1	George Eliot Hospitals NHS Trust
		Heart of England NHS Foundation Trust (Birmingham Heartlands and Solihull Hospitals)	2	Birmingham Heartlands Hospital
				Solihull Hospital
		Heart of England NHS Foundation Trust (Good Hope Hospital)	1	Good Hope Hospital
		Royal Wolverhampton NHS Trust	1	New Cross Hospital
		Sandwell and West Birmingham Hospitals NHS Trust (Sandwell District Hospital)	1	Sandwell General Hospital
		Shrewsbury and Telford Hospital NHS Trust	1	Princess Royal Hospital, Telford
		South Warwickshire NHS Foundation Trust	1	South Warwickshire NHS Foundation trust
		University Hospital of North Staffordshire NHS Trust	1	University Hospital of North Staffordshire
		University Hospitals Birmingham NHS Foundation Trust	1	Queen Elizabeth Hospital, Birmingham
		University Hospitals Coventry and Warwickshire NHS Trust	1	University Hospitals Coventry and Warwickshire NHS Trust
		Walsall Healthcare NHS Trust	1	Manor Hospital
		Worcestershire Acute Hospitals NHS Trust (Worcester Royal Hospital)	1	Worcester Royal Hospital
		Wye Valley NHS Trust	1	Hereford County Hospital
North of England	**Cheshire and Mersey**	Aintree University Hospitals NHS Foundation Trust	1	Aintree University Hospital NHS Foundation Trust
		Countess of Chester Hospital NHS Foundation Trust	1	Countess of Chester Hospital
		East Cheshire NHS Trust	1	East Cheshire NHS Trust
		Mid Cheshire Hospitals NHS Foundation Trust	1	Leighton Hospital
		Royal Liverpool and Broadgreen University Hospitals NHS Trust	1	Royal Liverpool and Broadgreen University Hospital NHS Trust
		Southport and Ormskirk Hospital NHS Trust	1	Southport District General Hospital
		St Helens and Knowsley Teaching Hospitals NHS Trust	1	St Helens & Knowsley Teaching Hospitals NHS Trust
		Warrington and Halton Hospitals NHS Foundation Trust	1	Warrington and Halton Hospitals NHS Foundation Trust
		Wirral University Teaching Hospital NHS Foundation Trust	1	Wirral University Teaching Hospital NHS Foundation Trust
	Greater Manchester, Lancashire and South Cumbria	Blackpool Teaching Hospitals NHS Foundation Trust	1	Blackpool Victoria Hospital
		Bolton NHS Foundation Trust	1	Royal Bolton Hospital
		Central Manchester University Hospitals NHS Foundation Trust (Manchester Royal Infirmary	1	Manchester Royal Infirmary
		Central Manchester University Hospitals NHS Foundation Trust (Trafford General Hospital)	1	Trafford General Hospital
		East Lancashire Hospitals NHS Trust	2	Royal Blackburn Hospital
				Pendal Community Hospital
		Lancashire Teaching Hospitals NHS Foundation Trust	2	Royal Preston Hospital
				Chorley and South Ribble District General Hospital
		Pennine Acute Hospitals NHS Trust	2	Fairfield General Hospital
				Royal Oldham Hospital

SHA/Region	SCN	Sitename	Number of hospitals incldued	Hospitals
		Salford Royal NHS Foundation Trust	1	Salford Royal Foundation Trust
		Stockport NHS Foundation Trust	1	Stepping Hill Hospital
		Tameside Hospital NHS Foundation Trust	1	Tameside General Hospital
		University Hospital of South Manchester NHS Foundation Trust	1	University Hospital of South Manchester, Wythenshawe
		University Hospitals of Morecambe Bay NHS Foundation Trust (Furness General Hospital)	1	Furness General Hospital
		University Hospitals of Morecambe Bay NHS Foundation Trust (Royal Lancaster Infirmary)	1	Royal Lancaster Infirmary
		Wrightington, Wigan and Leigh NHS Foundation Trust	1	Royal Albert Edward Infirmary
	North of England	City Hospitals Sunderland NHS Foundation Trust	1	Sunderland Royal Hospital
		County Durham and Darlington NHS Foundation Trust	1	University Hospital of North Durham
		Gateshead Health NHS Foundation Trust	1	Queen Elizabeth Hospital, Gateshead
		Newcastle upon Tyne Hospitals NHS Foundation Trust	3	Royal Victoria Infirmary Hospital
				Newcastle General Hospital
				Freeman Hospital
		North Cumbria University Hospitals NHS Trust (Cumberland Infirmary)	1	Cumberland Infirmary
		North Cumbria University Hospitals NHS Trust (West Cumberland Hospital)	1	West Cumberland Hospital
		North Tees and Hartlepool NHS Foundation Trust	1	University Hospital of North Tees
		Northumbria Healthcare NHS Foundation Trust (Hexham Hospital)	1	Hexham General Hospital
		Northumbria Healthcare NHS Foundation Trust (North Tyneside General Hospital)	1	North Tyneside General Hospital
		Northumbria Healthcare NHS Foundation Trust (Wansbeck General Hospital)	1	Wansbeck General Hospital
		South Tees Hospitals NHS Foundation Trust	1	The James Cook University Hospital
		South Tyneside NHS Foundation Trust	1	South Tyneside NHS Foundation Trust
	Yorkshire and the Humber	Airedale NHS Foundation Trust	1	Airedale NHS Foundation Trust
		Barnsley Hospital NHS Foundation Trust	1	Barnsley Hospital NHS Foundation Trust
		Bradford Teaching Hospitals NHS Foundation Trust	1	Bradford Royal Infirmary
		Calderdale and Huddersfield NHS Foundation Trust	1	Calderdale Royal Hospital
		Chesterfield Royal Hospital NHS Foundation Trust	1	Chesterfield Royal Hospital NHS Foundation Trust
		Doncaster and Bassetlaw Hospitals NHS Foundation Trust	2	Doncaster Royal Infirmary
				Bassetlaw General Hospital
		Harrogate and District NHS Foundation Trust	1	Harrogate District Hospital
		Hull and East Yorkshire Hospitals NHS Trust	1	Hull Royal Infirmary
		Leeds Teaching Hospitals NHS Trust	1	Leeds General Infirmary
		Mid Yorkshire Hospitals NHS Trust	3	Pinderfields Hospital
				Dewsbury & District Hospital
				Pontefract Hospital
		Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	3	Scunthorpe General Hospital
				Diana, Princess of Wales Hospital
				Goole and District Hospital
		Rotherham NHS Foundation Trust	1	Rotherham NHS Foundation Trust
		Sheffield Teaching Hospitals NHS Foundation Trust	2	Royal Hallamshire Hospital
				Northern General Hospital
		York Teaching Hospital NHS Foundation Trust (Scarborough General Hospital)	1	Scarborough District Hospital
		York Teaching Hospital NHS Foundation Trust (York Hospital)	1	York Hospital

SHA/Region	SCN	Sitename	Number of hospitals incldued	Hospitals
South of England	**South East Coast**			
		Ashford and St Peter's Hospitals NHS Foundation Trust	1	Ashford and St Peter's NHS Foundation Trust
		Brighton and Sussex University Hospitals NHS Trust (Princess Royal Hospital Haywards Heatl	1	Princess Royal Hospital, Haywards Heath
		Brighton and Sussex University Hospitals NHS Trust (Royal Sussex County Hospital)	1	Royal Sussex County Hospital
		Dartford and Gravesham NHS Trust	1	Darent Valley Hospital
		East Kent Hospitals University NHS Foundation Trust (Kent and Canterbury Hospital)	1	Kent and Canterbury Hospital
		East Kent Hospitals University NHS Foundation Trust (Queen Elizabeth The Queen Mother H	1	Queen Elizabeth The Queen Mother Hospital
		East Kent Hospitals University NHS Foundation Trust (William Harvey Hospital)	1	William Harvey Hospital
		East Sussex Healthcare NHS Trust (Eastbourne District General Hospital)	1	Eastbourne District General Hospital
		Epsom and St Helier University Hospitals NHS Trust (Epsom General Hospital)	1	Epsom General Hospital
		Frimley Park Hospital NHS Foundation Trust	1	Frimley Park Hospital NHS Foundation Trust
		Maidstone and Tunbridge Wells NHS Trust (Maidstone Hospital)	1	Maidstone Hospital
		Maidstone and Tunbridge Wells NHS Trust (Tunbridge Wells Hospital)	2	Tunbridge Wells Hospital
				Tonbridge Cottage Hospital
		Medway NHS Foundation Trust in collaboration with Medway Community Healthcare and K	1	Medway Maritime Hospital
		Royal Surrey County Hospital NHS Foundation Trust	1	Royal Surrey County Hospital
		Surrey and Sussex Healthcare NHS Trust	1	East Surrey Hospital
		Western Sussex Hospitals NHS Trust (St Richard's Hospital)	1	St. Richard's Hospital, Chichester
		Western Sussex Hospitals NHS Trust (Worthing Hospital)	1	Worthing Hospital
	South West	Gloucestershire Hospitals NHS Foundation Trust	1	Gloucetershire Royal Hospital
		Great Western Hospitals NHS Foundation Trust	1	The Great Western Hospitals NHS Foundation Trust
		North Bristol NHS Trust	1	Southmead Hospital
		Northern Devon Healthcare NHS Trust	2	North Devon District Hospital
				Bideford and District Hospital
		Plymouth Hospitals NHS Trust (Derriford Hospital)	1	Derriford Hospital
		Royal Cornwall Hospitals NHS Trust	1	Royal Cornwall Hospital
		Royal Devon and Exeter NHS Foundation Trust in collaboration with community hospitals ur	3	Royal Devon & Exeter Hospital
				Exmouth Community Hospital
				Crediton Community Hospital
		Royal United Hospital Bath NHS Trust	1	Royal United Hospital Bath NHS Trust
		Salisbury NHS Foundation Trust	1	Salisbury District Hospital
		South Devon Healthcare NHS Foundation Trust and Torbay and Southern Devon Health Care	2	Torbay Hospital
				Newton Abbot Hospital
		Taunton and Somerset NHS Foundation Trust	1	Musgrove Park Hospital
		University Hospitals Bristol NHS Foundation Trust	1	Bristol Royal Infirmary
		Weston Area Health NHS Trust	1	Weston General Hospital
		Yeovil District Hospital NHS Foundation Trust	1	Yeovil District Hospital NHS Foundation Trust
	Thames Valley	Buckinghamshire Healthcare NHS Trust	1	Wycombe Hospital
		Heatherwood and Wexham Park Hospitals NHS Foundation Trust	1	Wexham Park Hospital
		Milton Keynes Hospital NHS Foundation Trust	1	Milton Keynes Hospital NHS Foundation Trust
		Oxford University Hospitals NHS Trust (Horton General Hospital)	1	Horton General Hospital
		Oxford University Hospitals NHS Trust (John Radcliffe Hospital)	1	John Radcliffe Hospital
		Royal Berkshire NHS Foundation Trust	1	Royal Berkshire Hospital

SHA/Region	SCN	Sitename	Number of hospitals incldued	Hospitals
	Wessex	Dorset County Hospital NHS Foundation Trust	1	Dorset County Hospital
		Hampshire Hospitals NHS Foundation Trust	2	Royal Hampshire County Hospital
				Basingstoke & North Hampshire Hospital
		Isle of Wight NHS Trust	1	St Marys Hospital, Newport
		Poole Hospital NHS Foundation Trust	1	Poole Hospital NHS Foundation Trust
		Portsmouth Hospitals NHS Trust	1	Queen Alexandra Hospital, Portsmouth
		Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	1	Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust
		University Hospital Southampton NHS Foundation Trust	1	University Hospital Southampton NHS Foundation Trust
	Wales	Abertawe Bro Morgannwg University Health Board (Morriston Hospital and Singleton Hospi	2	Morriston Hospital
				Singleton Hospital
		Abertawe Bro Morgannwg University Health Board (Princess of Wales Hospital)	1	Princess of Wales Hospital
		Aneurin Bevan University Health Board(Nevill Hall Hospital)	1	Nevill Hall Hospital
		Aneurin Bevan University Health Board(Royal Gwent and Yabyty Yatrad Fawr)	2	Royal Gwent Hospital
				Ysbyty Ystrad Fawr
		Betsi Cadwaladr University Health Board (Glan Clwyd District General Hospital)	1	Glan Clwyd Hospital
		Betsi Cadwaladr University Health Board (Wrexham Maelor Hospital)	1	Wrexham Maelor Hospital
		Betsi Cadwaladr University Health Board (Ysbyty Gwynedd)	1	Ysbyty Gwynedd
		Cardiff and Vale University Health Board	1	University Hospital of Wales
		Cwm Taf University Health Board (Royal Glamorgan Hospital)	1	Royal Glamorgan Hospital
		Cwm Taf University Health Board(Prince Charles Hospital)	1	Prince Charles Hospital
		Hywel Dda Health Board (Bronglais General Hospital)	1	Bronglais General Hospital
		Hywel Dda Health Board (Prince Philip Hospital)	1	Prince Philip Hospital
		Hywel Dda Health Board (West Wales General Hospital)	1	West Wales General Hospital
		Hywel Dda Health Board (Withybush General Hospital)	1	Withybush General Hospital
	Northern Ireland	Belfast Health and Social Care Trust (Mater Hospital)	1	Mater Infirmorum Hospital
		Belfast Health and Social Care Trust (Royal Group of Hospitals)	1	Royal Victoria Hospital, Belfast
		Northern Health and Social Care Trust (Antrim Area Hospital)	1	Antrim Area Hospital
		Northern Health and Social Care Trust (Causeway Hospital)	1	Causeway Hospital
		South Eastern Health and Social Care Trust (Downe Hospital)	1	Downe Hospital
		South Eastern Health and Social Care Trust (Lagan Valley Hospital)	1	Lagan Valley Hospital
		South Eastern Health and Social Care Trust (Ulster Hospital)	1	Ulster Hospital
		Southern Health and Social Care Trust (Craigavon Area Hospital)	1	Craigavon Area Hospital
		Southern Health and Social Care Trust (Daisy Hill Hospital)	1	Daisy Hill Hospital
		Western Health and Social Care Trust (Altnagelvin Hospitals)	1	Altnagelvin Hospital
		Western Health and Social Care Trust (South West Acute Hospital)	1	South West Acute Hospital
	Island	Isle of Man Department of Health	1	Nobles Hospital

Appendix 3: Acute Organisational audit proforma 2014

This proforma should describe your stroke services as on **1 July 2014**. 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 apply based on answers to key questions. Data should be submitted to the Royal College of Physicians via the Web Tool.

Final Deadline: 18 July 2014

Helpdesk:

Telephone: 020 3075 1383 E-mail: ssnap@rcplondon.ac.uk

SITE CODE: ☐

Basic Organisational Information

A. Audit Questions

A1. Auditor Discipline: (tick all that apply)

Doctor ☐ Manager ☐ Nurse ☐ Therapist ☐ Clinical Audit/Clinical Governance ☐

Other ☐ (please specify) ☐

A2. How many hospitals are covered by this form? [ ]

Please give the full name of each individual hospital. In this question, we are asking about acute hospitals which directly admit acute stroke patients or routinely admit them within 7 days.

	Full name of hospital	Total number of stroke unit beds
1		
2		
3		
4		

TAB ONE

SECTION 1: Acute Presentation

Care in the first 72 hours after stroke

1.1 Which of the following options best describes the service at your site for patients during the first 72 hours after stroke? (Select one option only)

(i) We treat all of these patients ○

(ii) We treat some of these patients ○

(iii) We treat none of these patients ○

If 1.1(iii) is chosen:

1.1(a) Please give the RCP site code of the main hospital treating your patients for the first 72 hours. [ ]

(Please call the SSNAP helpdesk if you do not know this code)

NB your acute domain score will be based on this site's acute domain score.

Please go to Section 2 if 1.1(iii) is chosen.

Ambulance

1.2. Are there arrangements in place with local ambulance services to FAST-Track (rapid blue light transfer to hospital) patients presenting with acute stroke who may be appropriate for thrombolysis?

Yes ○ No ○

1.3. Is there an agreed pathway for ambulance clinicians to transport appropriate patients directly to a stroke unit?

Yes ○ No ○

Telemedicine

1.4. Does the stroke service use telemedicine to allow remote access for the management of acute stroke care?

Yes ○ No ○

If yes:

1.4(a) Which of the following do you use: (Tick all that apply)

(i) Remote viewing for brain imaging ☐

(ii) Video enabled clinical assessment ☐

1.4(b) Do you operate a telemedicine rota with other hospitals?

Yes ○ No ○

1.4(c) Which of the following groups of patients are assessed using telemedicine? (Select one option only)

(i) Only patients potentially eligible for thrombolysis ○

(ii) Some patients (regardless of eligibility for thrombolysis) ○

(iii) All patients (who require assessment during times when telemedicine is in use) ○

Thrombolysis in your Hospital(s)

1.5. Do you provide thrombolysis at the following hospital(s)?

Please choose 'No but…' if the hospital no longer provides thrombolysis but did provide it during the past 12 months.

	Full name of hospital	Thrombolysis at this hospital?
1	*On web tool this table will be auto-completed from **A2***	Yes ○ No ○ No but … ○
2		Yes ○ No ○ No but … ○
3		Yes ○ No ○ No but … ○
4		Yes ○ No ○ No but … ○

Only answer 1.6 – 1.9 if answered 'Yes' to 1.5 (i.e. if you currently provide thrombolysis at any of the hospitals above)

1.6. What level of thrombolysis service does your site offer (i.e. across all above hospitals)?

(a) Weekdays: Number of hours per day [ ] hours

(b) Saturdays: Number of hours per day [ ] hours

(c) Sundays/Bank Holidays: Number of hours per day [ ] hours

1.7. Who initially assesses patients for thrombolysis at your site (i.e. across all above hospitals)? (Answer for 'normal hours' and, if applicable, 'out of hours' and select all that apply)

	'Normal Hours' (up to and including 10 consecutive hours on weekdays)	'Out of Hours'(weekend/ bank holidays and more than 10 hours weekdays)
(i) Consultant physician	☐	☐
(ii) Registrar	☐	☐
(iii) Lower grade doctor	☐	☐
(iv) Stroke nurse or therapist band 8	☐	☐
(v) Stroke nurse or therapist band 7	☐	☐
(vi) Stroke nurse or therapist band 6	☐	☐
(vii) Stroke nurse or therapist band 5	☐	☐

1.8. Who makes the final decision that a patient should be given thrombolysis at your site? (Answer for 'normal hours' and, if applicable, 'out of hours' and select all that apply)

	'Normal Hours' (up to and including 10 consecutive hours on weekdays)	'Out of Hours' (weekend/ bank holidays and more than 10 hours weekdays)
(i) Consultant physician in person	☐	☐
(ii) Consultant physician via telemedicine	☐	☐
(iii) Consultant physician via telephone	☐	☐
(iv) Registrar	☐	☐
(v) Lower grade doctor	☐	☐
(vi) Stroke nurse band 8	☐	☐
(vii) Stroke nurse band 7	☐	☐
(viii) Stroke nurse band 6	☐	☐
(ix) Stroke nurse band 5	☐	☐

1.9. How many consultant level doctors from your trust are there on an on call thrombolysis rota? [ ]
For each of these consultants, please state their specialty.

1.9(a) Which specialty is this consultant?	**Consultant:**									
	1:	**2:**	**3:**	**4:**	**5:**	**6:**	**7:**	**8:**	**9:**	**10:**
(i) Stroke physician	○	○	○	○	○	○	○	○	○	○
(ii) Neurologist	○	○	○	○	○	○	○	○	○	○
(iii) Care of the Elderly	○	○	○	○	○	○	○	○	○	○
(iv) Cardiologist	○	○	○	○	○	○	○	○	○	○
(v) General Medicine physician	○	○	○	○	○	○	○	○	○	○
(vi) Emergency Physician	○	○	○	○	○	○	○	○	○	○
(vii) Acute Medicine physician	○	○	○	○	○	○	○	○	○	○
(viii) Other _____	○	○	○	○	○	○	○	○	○	○

<u>Thrombolysis in other hospital(s)</u>

1.10. Does your hospital have a formal bypass arrangement with the local ambulance service to take stroke patients to a hospital where a thrombolysis service is available (during those times when you do not provide thrombolysis)?

Yes ○ No ○

If yes:

1.10(a) When did this arrangement begin? [/ /] (dd/mm/yyyy)

1.11. Do you have an agreement with (an)other site(s) to provide thrombolysis for your patients (during the hours when your site does not provide it)?

Yes ◯ No ◯

If no go to Section 2

1.11(a) How many sites do you have an agreement with? [ ]

1.11(b) Please give the RCP codes of each of these sites [ ]

(Please call the helpdesk if you do not know these codes)

1.11(c) Does your site have a joint on call medical rota for thrombolysis with this/these site(s)?

Yes ◯ No ◯

1.11(d) What level of service is provided by the other site(s) (combined with your site)?

(i) Weekdays: Number of hours per day [ ] hours

(ii) Saturdays: Number of hours per day [ ] hours

(iii) Sundays/Bank Holidays: Number of hours per day [ ] hours

Interventional Neuroradiology

1.12. Does your site use intra-arterial treatment (eg thrombectomy) to treat patients with acute stroke?

(i) Yes, at our site ◯

(ii) Yes, by referral to another site ◯ [Enter RCP site code]
(Please call the SSNAP helpdesk if you do not know this code)

(iii) No ◯

If (i) answered for to 1.12

1.12(a) What hours is the service available? (Select one option only)

(i) Monday – Friday, 9am – 5pm ◯

(ii) Monday – Friday, extended hours ◯

(iii) Extended hours including weekends ◯

(iv) 24 hours a day, 7 days a week ◯

1.12(b) How is large artery occlusive stroke detected at your site (Select one option only)?

(i) Not specifically done ◯

(ii) Analysis of non-contrast CT ◯

(iii) CTA (MRA) by ad hoc request ○

(iv) CTA (or MRA) by local protocol ○

1.12(c) How many interventionists undertake stroke thrombectomy at your/the referral site? ____

1.12(d) Does this centre participate in a multisite rota for Interventional Neuroradiology procedures?

Yes ○ No ○

1.12(e) How many patients presenting to your site with acute stroke were treated intra-arterially between April 1, 2013 and March 31, 2014? [ ]

1.12(f) How were these procedures performed? (Select one option only)

(i) All performed under General Anaesthetic ○

(ii) All performed under conscious sedation ○

(iii) Mixture of both techniques ○

1.12(g) Was clinical data for ALL of these patients: (Tick all that apply)

(i) Collected as part of a randomised trial ☐

(ii) Entered onto an international registry ☐

(iii) Neither of the above ☐

TAB TWO

SECTION 2: STROKE UNITS

2.1. Please give the following details for each of these hospitals:

		Answer separately for each hospital			
	(a) Full name of hospital	**(b)** Total number of stroke unit beds (can be 0).*	**(c)** Number of stroke unit beds **solely** for patients in first 72 hours after stroke	**(d)** Number of stroke unit beds **solely** for patients beyond 72 hours after stroke	**(e)**Number of stroke unit beds used for **both** pre and post-72 hour care
1	*On the web tool the names of hospitals will be auto-completed from A2*				
2					
3					
4					
	TOTAL:				

Note: if 1.1(iii) is chosen (i.e. if your site does not treat patients within 72 hours) 2.1(c) and 2.1(e) above will be greyed out and you will not be able to answer any questions in sections 2A or 2C.

SECTION 2A: STROKE UNIT– Beds for patients in first 72 hours after stroke

Care on stroke unit beds used solely for patients in the first 72 hours after stroke (please answer based on ALL beds noted in **2.1(c)**)

2.2. Are any of the following exclusion criteria ever used to exclude a patient from these beds?

Yes ○ No ○

If yes:

2.2(a) Tick all the exclusion criteria that might apply:

- (i) Age related ☐
- (ii) Stroke severity ☐
- (iii) Pre existing dementia ☐
- (iv) No rehabilitation potential ☐
- (v) End of life care ☐

2.3. Which of the following best describes the admission of pre-72 hour patients to these stroke unit beds? (Select one option only)

- (i) All patients are always directly admitted ○
- (ii) All patients are directly admitted, except for those who have another predominant acute condition which demands management on another ward ○
- (iii) All patients are directly admitted, except for when there is not a bed available in the stroke unit ○
- (iv) Only those patients who may be eligible for thrombolysis are directly admitted ○
- (v) Only those patients who receive thrombolysis are directly admitted ○
- (vi) Some patients are directly admitted, but not as outlined in any of the categories above ○
- (vii) Patients are never directly admitted to the stroke unit ○

If 2.3(vii) is selected go to 2.4

2.3(a) When is direct admission available for pre-72 hour patients to these beds?

- (i) Weekdays: Number of hours per day [ ] hours
- (ii) Saturdays: Number of hours per day [ ] hours
- (iii) Sundays/Bank Holidays: Number of hours per day [ ] hours

2.4. How many of these beds have continuous physiological monitoring (ECG, oximetry, blood pressure)? [ ]

2.5. How many days per week is there a stroke specialist consultant ward round for these beds? *(If there is more than one location for these beds, please give an average e.g. if there are 20 beds overall and 10 have ward rounds 7 times a week and the other 10 have ward rounds 5 times a week, you should put 6).* [ ]

2.6. Is there immediate access to scanning for urgent stroke patients (as defined in the NICE Guidelines) on these beds?

Yes ◯ No ◯

2.7. Are there acute stroke protocols/guidelines for these beds?

Yes ◯ No ◯

2.8. How many of the following *nursing* staff are there usually on duty at <u>10AM</u> for these beds? (Enter 0 if no staff of that grade). *Only the nursing staff for the beds which are solely used for patients in the first 72 hours after stroke (i.e. the total entered for 2.1c).*

	Weekdays	Saturdays	Sundays/Bank Holidays
(i) Registered nurses	[ ]	[ ]	[ ]
(ii) Care assistants	[ ]	[ ]	[ ]

2.9. How many nurses are there usually on duty for these beds at 10am who are trained in the following? (Enter 0 if none).

	Weekdays	Saturdays	Sundays/Bank Holidays
(i) Swallow screening	[ ]	[ ]	[ ]
(ii) Stroke assessment and management	[ ]	[ ]	[ ]

2.10. How many of the following *nursing* staff are there usually on duty at <u>10PM</u> for these beds? (Enter 0 if no staff of that grade). *Only the nursing staff for the beds which are solely used for patients in the first 72 hours after stroke (i.e. the total entered for 2.1c).*

	Weekdays	Saturdays	Sundays/Bank Holidays
(iii) Registered nurses	[ ]	[ ]	[ ]
(iv) Care assistants	[ ]	[ ]	[ ]

2.11 What is the total establishment of whole time equivalents (WTEs) of the following bands of nurses for your Type 1 beds (beds solely for patients in the first 72 hours after stroke) in your site? (Enter 0 if no establishment)

Type 1 beds (beds solely for patients in first 72 hours after stroke)	**WTE**
Band 1	
Band 2	
Band 3	
Band 4	
Band 5	
Band 6	
Band 7	
Band 8a	
Band 8b	
Band 8c	

SECTION 2B: STROKE UNIT – Beds for patients beyond 72 hours after stroke

Care on stroke unit beds used solely for patients beyond 72 hours after stroke (please answer based on ALL beds noted in 2.**1(d)**)

2.12. Are any of the following exclusion criteria ever used to exclude a patient from these beds?

Yes ○ No ○

If yes:

2..12(a) Tick all the exclusion criteria that might apply:

(i) Age related ☐
(ii) Stroke severity ☐
(iii) Pre existing dementia ☐
(iv) No rehabilitation potential ☐
(v) End of life care ☐

2.13. How many days per week is there a stroke specialist consultant ward round for these beds? *(If there is more than one location for these beds, please give an estimated average e.g. if there are 20 beds overall and 10 have ward rounds 7 times a week and the other 10 have ward rounds 5 times a week, you should put 6).*

[ ]

2.14. How many of the following *nursing* staff are there usually on duty at 10am for these beds? (Enter 0 if no staff of that grade) *Only the nursing staff for the beds which are solely used for patients beyond the first 72 hours after stroke (i.e. the total entered for 2.1d)*

*(N.B. Please do not double count any nurses/care assistants listed in 2.**8**)*

	Weekdays	Saturdays	Sundays/Bank Holidays
(i) Registered nurses	[ ]	[ ]	[ ]
(ii) Care assistants	[ ]	[ ]	[ ]

2.15. How many nurses are there usually on duty for these beds at 10am who are trained in the following? (Enter 0 if none). *(N.B. Please do not double count any nurses listed in 2.**9**)*

	Weekdays	Saturdays	Sundays/Bank Holidays
(i) Swallow screening	[ ]	[ ]	[ ]
(ii) Stroke assessment and management	[ ]	[ ]	[ ]

2.16 How many of the following *nursing* staff are there usually on duty at 10PM for these beds? (Enter 0 if no staff of that grade). *Only the nursing staff for the beds which are solely used for patients beyond the first 72 hours after stroke (i.e. the total entered for 2.1c).*

	Weekdays	Saturdays	Sundays/Bank Holidays
(i) Registered nurses	[ ]	[ ]	[ ]
(ii) Care assistants	[ ]	[ ]	[ ]

2.17 What is the total establishment of whole time equivalents (WTEs) of the following bands of nurses for each type of stroke unit beds in your site? (Enter 0 if no establishment)

Type 2 beds (beds for patients beyond 72 hours after stroke)	WTE
Band 1	
Band 2	
Band 3	
Band 4	
Band 5	
Band 6	
Band 7	
Band 8a	
Band 8b	
Band 8c	

SECTION 2C: STROKE UNIT – Beds for both pre and post 72 hour care

Care on stroke unit beds which are used for both pre and post 72 hour care (please answer based on ALL beds noted in **2.1(e))**

2.18. Are any of the following exclusion criteria ever used to exclude a patient from these beds?

Yes ○ No ○

If yes:

2.18(a) Tick all the exclusion criteria that might apply:

(i) Age related ☐
(ii) Stroke severity ☐
(iii) Pre existing dementia ☐
(iv) No rehabilitation potential ☐
(v) End of life care ☐

2.19. Which of the following best describes the admission of pre-72 hour patients to these stroke unit beds? (Select one option only)

(i) All patients are always directly admitted ○
(ii) All patients are directly admitted, except for those who have another predominant acute condition which demands management on another ward ○
(iii) All patients are directly admitted, except for when there is not a bed available in the stroke unit ○
(iv) Only those patients who may be eligible for thrombolysis are directly admitted ○
(v) Only those patients who receive thrombolysis are directly admitted ○
(vi) Some patients are directly admitted, but not as outlined in any of the categories above ○
(vii) Patients are never directly admitted to the stroke unit ○

If 2.19 (vii) is selected go to 2.20

2.19(a) When is direct admission available for pre-72 hour patients to these beds?

(i) Weekdays: Number of hours per day [ ] hours
(ii) Saturdays: Number of hours per day [ ] hours
(iii) Sundays/Bank Holidays: Number of hours per day [ ] hours

2.20. How many of these beds have continuous physiological monitoring (ECG, oximetry, blood pressure)?

[ ]

2.21. How many days per week is there a stroke specialist consultant ward round for these beds? *(If there is more than one location for these beds, please give an average e.g. if there are 20 beds overall and 10 have ward rounds 7 times a week and the other 10 have ward rounds 5 times a week, you should put 6).* [ ]

2.22. Is there immediate access to scanning for urgent stroke patients (as defined in the NICE Guidelines) on these beds?

Yes ◯ No ◯

2.23. Are there acute stroke protocols/guidelines for these beds?

Yes ◯ No ◯

2.24. How many of the following *nursing* staff are there usually on duty at 10am for these beds? (Enter 0 if no staff of that grade). *(N.B. Please do not double count any nurses/care assistants listed in 2.8 & 2.14)*. *Only the nursing staff for the beds which are solely used for patients pre and post 72 hour care (i.e. the total entered for 2.1e.)*

	Weekdays	Saturdays	Sundays/Bank Holidays
(i) Registered nurses	[ ]	[ ]	[ ]
(ii) Care assistants	[ ]	[ ]	[ ]

2.25. How many nurses are there usually on duty for these beds at 10am who are trained in the following? (Enter 0 if none). *(N.B. Please do not double count any nurses listed in 2.9* or *2.15)*

	Weekdays	Saturdays	Sundays/Bank Holidays
(i) Swallow screening	[ ]	[ ]	[ ]
(ii) Stroke assessment and management	[ ]	[ ]	[ ]

2.26. How many of the following *nursing* staff are there usually on duty at <u>10PM</u> for these beds? (Enter 0 if no staff of that grade). *(N.B. Please do not double count any nurses/care assistants listed in 2.10 & 2.16.*

	Weekdays	Saturdays	Sundays/Bank Holidays
(i) Registered nurses	[ ]	[ ]	[ ]
(ii) Care assistants	[ ]	[ ]	[ ]

2.27 What is the total establishment of whole time equivalents (WTEs) of the following bands of nurses for each type of stroke unit beds in your site? (Enter 0 if no establishment)

Type 3 beds Beds for both pre and post 72 hour care	WTE
Band 1	
Band 2	
Band 3	
Band 4	
Band 5	
Band 6	
Band 7	
Band 8a	
Band 8b	
Band 8c	

TAB 3

SECTION 3: SERVICES AND STAFF ACROSS ALL STROKE UNIT BEDS

Do not answer this section if you do not have any stroke units across your site (i.e. if total of 2.1(b) = 0)

3.1. Does your stroke unit have access to the following within 5 days:

(a) Social work Yes ◯ No ◯

(b) Orthotics Yes ◯ No ◯

(c) Orthoptics Yes ◯ No ◯

(d) Podiatry/foot health Yes ◯ No ◯

3.2. Does your stroke unit have access to clinical psychologist(s)?

Yes ◯ No ◯

If no go to 3.3

3.2(a) Is this within ◯ 5 working days? ◯Yes ◯ No

3.2(b) What aspects of stroke care are provided by the clinical psychologist(s)?

	Inpatient		Outpatient	
(i) Mood assessment	Yes ◯	No ◯	Yes ◯	No ◯
(ii) Higher cognitive function assessment	Yes ◯	No ◯	Yes ◯	No ◯
(iii) Mood treatment	Yes ◯	No ◯	Yes ◯	No ◯
(iv) Higher cognitive function treatment	Yes ◯	No ◯	Yes ◯	No ◯
(v) Non cognitive behavioural problems assessment and/or treatment	Yes ◯	No ◯	Yes ◯	No ◯

3.3. What is the total establishment of whole time equivalents (WTEs) of the following qualified professionals and support workers for all your stroke unit beds? (Enter 0 if no establishment). Only tick the 6 day working or 7 day working option if these professionals treat stroke patients ***in relation to stroke management*** at weekends ***on the stroke unit***.

	WTE	5 day working	6 day working	7 day working
(i) Clinical Psychology (qualified)	[ ]	○	○	○
(ii) Clinical Psychology (support worker)				
(iii) Dietetics (qualified)				
(iv) Dietetics (support worker)				
(v) Occupational Therapy (qualified)				
(vi) Occupational Therapy (support worker)				
(vii) Physiotherapy (qualified)				
(viii) Physiotherapy (support worker)				
(ix) Speech & Language Therapy (qualified)				
(x) Speech & Language Therapy (support worker)				
(xi) Pharmacy (qualified)				
(xii) Pharmacy (support worker)				
(xiii) Nursing (registered)				
(xiv) Nursing (care assistant/support worker)				

3.4 How many nurses does your stroke service have at each of the following bands (across ALL stroke unit beds)? For each nurse at each band, please specify:

- the whole time equivalents of this individual
- their routine working pattern
- state if these nurses have been included in Q2.8, 2.10, 2.14, 2.16, 2.25, 2.26) (Questions about the number of nurses on duty at 10am/pm).

These new questions have been requested by the National Stroke Nursing Forum to identify the number of specialist nurses in the stroke workforce and to determine whether these nurses are in addition to those working on the stroke unit.

NB On the webtool, these questions will be asked in relation to *each individual* specified for each band.

Nursing Band	No of individuals	WTE	Does this nurse's shift pattern include		Is this nurse included in the figures provided for number of nurses on duty at 10am/10pm (in Section 2)
			Nights	Weekends	
		These questions to be answered in relation to <u>each</u> individual specified in previous column.			
Band 7			Y/N	Y/N	Y/N
Band 8a			Y/N	Y/N	Y/N
Band 8b			Y/N	Y/N	Y/N
Band 8c			Y/N	Y/N	Y/N

3.5. Do patients on the stroke unit stay in bed until assessed by a physiotherapist?

Yes ◯ No ◯

<u>Junior Doctor Sessions</u>

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

(i) Specialty trainee 3(ST3)/registrar grade or above [ ] Sessions

(ii) Foundation years/core training/ST1/ST2 or below [ ] Sessions

(iii) Non training grade junior doctor [ ] Sessions

<u>Team Meetings</u>

3.7. How often are there formal team meetings, on average, for the interchange of information about individual patients on the stroke unit? (Select one option only)

(i) Less than once a week ◯

(ii) Once a week ◯

(iii) Twice a week ◯

(iv) More than twice a week ◯

3.7(a) Which of the following disciplines regularly attend the team meetings to discuss stroke patients on the stroke unit(s) (please selected at least one)?

(i) Clinical Psychology ○
(ii) Dietetics ○
(iii) Medicine (senior doctor) ○
(iv) Nursing ○
(v) Occupational Therapy ○
(vi) Physiotherapy ○
(vii) Social Work ○
(viii) Speech and Language Therapy ○

3.7(b) Are **all** stroke unit inpatients discussed in these meetings?

Yes ○ No ○

3.7(c) Are stroke inpatients on other wards ever discussed in these meetings?

Yes ○ No ○ Not applicable because all stroke patients always on stroke unit ○

If no or N/A selected for 3.7(c) go to 3.8

3.7(d) Are **all** stroke inpatients on other wards discussed in these meetings?

Yes ○ No ○

<u>Palliative Care</u>

3.8. Are palliative care stroke patients treated on the stroke unit(s)?

Yes ○ No ○

If yes:

3.8(a) Does the hospital have a documented policy/guidance for clinicians on palliative and end of life care?

Yes ○ No ○

<u>Venous thromboembolism prevention</u>

3.9 What is your first line treatment for preventing venous thromboembolism for patients with reduced mobility? (select one option only)

(i) Short or long compression strockings ○
(ii) Intermittent pneumatice compression device ○
(iii) Low molecular weight heparin ○
(iv) None of the above ○

TAB 4

SECTION 4: OTHER STROKE CARE MODELS

EARLY SUPPORTED DISCHARGE TEAM

Definition – Early supported discharge team refers to a multidisciplinary team which provides rehabilitation and support in a community setting with the aim of reducing the duration of hospital care for stroke patients.

We will ask you about two types of ESD team in this part – stroke/neurology specialist and non-specialist (please make sure you answer the correct section(s) – this could be none, either or both)

Specialist Early Supported Discharge Team

A stroke/neurology specific team is one which treats stroke patients either solely or as well as general neurology patients.

4.1. Do you have access to a **stroke/neurology specific** early supported discharge multidisciplinary team?

Yes ○ No ○

If no go to 4.2

4.1(a) The team treats: (Select one option only)

(i) Only stroke patients ○

(ii) Stroke and general neurology patients ○

4.1(b) What percentage of your catchment area has access to this team? [ ]

4.1(c) What is the name of this team? _____

Non-specialist Early Supported Discharge Team

4.2. Do you have access to a **non-specialist** early supported discharge multidisciplinary team?

Yes ○ No ○

If no go to 4.3

4.2(a) What percentage of your catchment area has access to this team? [ ]

4.2(b) What is the name of this team? _____

LONGER TERM COMMUNITY REHABILITATION TEAM

Definition: A team working in the community delivering rehabilitation services.

We will ask you about two types of CRT team in this part – stroke/neurology specialist and non-specialist (please make sure you answer the correct section(s) – this could be none, either or both)

Specialist Community Rehabilitation Team

4.3. Do you have access to a **stroke/neurology specific** community rehabilitation team for longer term management?

Yes ◯ No ◯

If no go to 4.4

4.3(a) The team treats: (Select one option only)

(i) Only stroke patients ◯

(ii) Stroke and general neurology patients ◯

◯

4.3(b) What percentage of your catchment area has access to this team? [ ]

4.3 (c) What is the name of this team? _____

Non-specialist Community Rehabilitation Team

4.4. Do you have access to a **non-specialist** community rehabilitation team for longer term management?

Yes ◯ No ◯

If no go to 4.5

4.4(a) What percentage of your catchment area has access to this team? [ ]

4.4 (b) What is the name of this team? _____

TAB 5

SECTION 5: TIA / NEUROVASCULAR SERVICE

5.1. Do you have a neurovascular clinic?

Yes ◯ No ◯

If no:

5.1(a) Who provides this for your patients (select one option only)?

(i) Another site within our trust ◯

(ii) Another trust ◯ Please give trust code: [ ]

Please go to Section 6

If yes:

5.1(b) How many clinics within a 4 week period? [ ]

5.1(c) How many new patients were seen during the past 4 weeks? [ ]

5.1(d) What is the current average waiting time for an appointment? [ ] days

5.2. What is the usual waiting time to get carotid imaging (select one option only for (a) and (b))?

	(a) For HIGH risk TIA patients (ABCD2 score 4 or more)	**(b)** For LOW risk TIA patients (ABCD2 score less than 4)
(i) The same day (7 days a week)	◯	◯
(ii) The same day (5 days a week)	◯	◯
(iii) The next day	◯	◯
(iv) The next weekday	◯	◯
(v) Within a week	◯	◯
(vi) Longer than a week	◯	◯

5.3. Within what timescale can you see, investigate and initiate treatment for ALL your **HIGH** risk TIA patients?

Tick which service(s) you have:	**a)** Inpatient Yes ○	No ○	**(b)** Outpatient Yes ○	No ○
(i) The same day (7 days a week)	○		○	
(ii) The same day (5 days a week)	○		○	
(iii) The next day	○		○	
(iv) The next weekday	○		○	
(v) Within a week	○		○	
(vi) Within a month	○		○	
(vii) Longer than a month	○		○	

5.4. Within what timescale can you see, investigate and initiate treatment for ALL your **LOW** risk TIA patients?

Tick which service(s) you have: (a) Inpatient	Yes ○	No ○	**(b)** Outpatient Yes ○	No ○
(i) The same day (7 days a week)	○		○	
(ii) The same day (5 days a week)	○		○	
(iii) The next day	○		○	
(iv) The next weekday	○		○	
(v) Within a week	○		○	
(vi) Within a month	○		○	
(vii) Longer than a month	○		○	

TIA patients in your site

5.5. What is the total number of inpatients with confirmed or suspected TIA across all primary admitting hospitals at the time this form is completed? [ ]

If 5.5 is 0 please go to Section 1.

5.5(a). How many inpatients with confirmed or suspected TIA are in stroke unit beds across all primary admitting hospitals at the time this form is completed? [ ]

TAB 6

SECTION 6: SPECIALIST ROLES

6.1. Is there a clinician with specialist knowledge of stroke who is formally recognised as having principal responsibility for stroke services?

Yes ◯ No ◯

If yes:

6.1(a) Please select one option

(i) Doctor ◯
(ii) Nurse ◯
(iii) Therapist ◯

6.2. Do you have an accredited specialist registrar in a post registered for stroke specialist training?

Yes ◯ No ◯

6.3. How many WTEs of the following stroke specialist nursing and therapy staff do you have at each of the following bands? Enter 0 if no staff of that grade.

	Band 7	Band 8a	Band 8b	Band 8c
Clinical Psychologists				
Dietitian				
Occupational Therapists				
Physiotherapists				
Speech and Language Therapists				

6.4. Do you provide a service which actively:

(a) Supports stroke patients to remain in, return to or withdraw (if appropriate) from work?
Yes ◯ No ◯

(b) Provides educational or vocational training?
Yes ◯ No ◯

6.5. Do you have any unfilled stroke consultant posts?
Yes ◯ No ◯

If yes:

6.5(a) How many programmed activities (PAs) do these posts cover? [ ] PAs

6.5(b) For how many months have these posts been funded but unfilled? [ ] months

Workforce Planning

The aims of this new section are to match the stroke care you provide to the type of consultant workforce that is, and may in the future, be available in your site. This may improve both national planning for training of future consultant physicians working in stroke medicine and their equitable distribution. These questions will be used in inform a study being undertaken by the British Association of Stroke Physicians (BASP).

Existing posts

6.6. How many PAs do you have in total for Stroke Consultant Physicians? [ ] PAs

6.6(a) How many consultants (individuals) are these PAs divided amongst? [ ] Consultants

6.6(b) How many of these PAs are Direct Clinical Care (DCCs) for Stroke? [ ]

6.6(c) Please complete the distribution of these DCC PAs in the following table.

NB On the webtool, these questions will be asked in relation to *each individual consultant* specified in 6.6(a).

Consultants	Main parent accredited speciality of consultant	Estimate of consultant's Direct Clinical Care Programmed Activities for stroke	Contributions of consultant (Tick all that apply)	Time period for which consultant is likely to continue role	Accredited CCST in Stroke Medicine after Stroke Training when SpR
Consultant 1	Geriatrics ○ Neurology ○ Internal Medicine ○ Other ○ ----------		Stroke unit ☐ TIA clinic ☐ Stroke ☐ out of hours ☐	>10yrs ○ 6-10 yrs ○ 3-5 yrs ○ <3 yrs ○	Yes ○ No ○
Consultant 2					
Consultant 3					
etc					

Planned future posts
This section refers to changes planned in the next **2 years**.

6.7 How many new/additional PAs do you plan to have for Stroke Consultant Physicians?[ ] PAs

6.7(a) How many new/additional consultants (individuals) will these Pas be divided amongst? [ ] Consultants

6.7(b) How many of these new/additional Pas will be for Direct Clinical Care (DCC) for Stroke? [ ] PAs

6.7(c) Please complete the distribution of these new/additional DCC Pas in the following table.

NB On the webtool, these questions will be asked in relation to *each individual consultant* specified in 6.7(a).

Consultants	Main parent accredited speciality of consultant	Estimate of consultant's Direct Clinical Care Programmed Activities for stroke	Contributions of consultant (Tick all that apply)
Consultant 1	Geriatrics ○ Neurology ○ Internal Medicine ○ Other ○ ----------		Stroke unit ☐ TIA clinic ☐ Stroke ☐ out of hours ☐
Consultant 2			
Consultant 3			
etc			

6.8 Do you have Physician Associates as part of your clinical team?
Yes ○ No ○

If yes:
6.8a How many whole time equivalents do these Physician Associates (Physician Assistants) work across your stroke service?

WTEs [ ]

TAB 7

SECTION 7: QUALITY IMPROVEMENT, RESEARCH, TRAINING & LEADERSHIP

7.1. Has a report on stroke services been prepared for the trust board between 1 April 2013 and 31 March 2014 (e.g. regarding SSNAP quarterly reports)?

Yes ◯ No ◯

7.2. What level of management takes responsibility for the follow-up of the results and recommendations of the Sentinel Stroke Audit? (Tick all that apply)

- (i) Executive on the Board ☐
- (ii) Non-executive on the Board ☐
- (iii) Chairman of Clinical Governance (or equivalent) ☐
- (iv) Directorate Manager ☐
- (v) Stroke Clinical Lead ☐
- (vi) Other (please specify) ☐
- (vii) No specific individual ☐
- (viii) Not known ☐

7.3. Is there a strategic group responsible for stroke?

Yes ◯ No ◯

If yes:

7.3(a) Which of the following does it include? (Tick all that apply)

- (i) Ambulance trust representative ☐
- (ii) Clinician ☐
- (iii) Patient representative ☐
- (iv) Commissioner ☐
- (v) Social Services ☐
- (vi) Stroke Network representative ☐
- (vii) Trust board member ☐

7.4. Is there funding for external courses available for nurses and therapists?

Yes ◯ No ◯

If yes:

7.4(a) How many staff days were paid for between 1 April 2013 and 31 March 2014? [ ]

7.5. Is there a system in place which provides feedback on individual cases to the referring ambulance clinicians?

Yes ◯ No ◯

7.6. How often is there a formal survey seeking patient/carer views on stroke service? (Select one option only)

(i) Never ◯
(ii) Less than once a year ◯
(iii) 1-2 times a year ◯
(iv) 3-4 times a year ◯
(v) More than 4 a year ◯
(vi) Continuous (every patient) ◯

7.7. Has a report been produced between 1 April 2013 and 31 March 2014 which analysed the views of stroke patients?

Yes ◯ No ◯

7.8. Are patient surveys and/or reports discussed in a formal meeting and plans devised to act upon findings?

Yes ◯ No ◯

<u>Research</u>

7.9. Is information provided to patients about research studies and how to participate?

Yes ◯ No ◯

7.10. How many stroke studies are registered with your Research & Development Department (on the day you complete this form)?

Total [ ]

<u>Stroke audit</u>

7.11 What is the total number of WTEs allocated in your site for stroke data collection?

WTEs [ ]

7.11 (a) What disciplines are covered by the WTEs for stroke data collection?

Doctor ☐ Manager ☐ Nurse ☐ Therapist ☐ Clinical Audit/Clinical Governance ☐
Data clerk/analyst with specific responsibility for stroke ☐
Data clerk/analyst with general audit responsibilities ☐

TAB 8

SECTION 8: PATIENT/ CARER COMMUNICATION

	Stroke Unit(s)		Outpatients	
8.1. Does the organisation of the ward/unit enable patients to have access to their management plan?	Yes ○	No ○	Yes ○	No ○

8.2. Is there patient information literature displayed in unit/ward on the following?

	Stroke Unit(s)		Outpatients	
	Yes	No	Yes	No
(a) Patient versions of national or local guidelines/standard	○	○	○	○
(b) Social Services local Community Care arrangements	○	○	○	○
(c) The Benefits Agency	○	○	○	○
(d) Information on stroke	○	○	○	○
(e) Secondary prevention advice	○	○	○	○

8.3. Are patients given a personalised rehabilitation discharge plan?

Yes ○ No ○

8.4. Does the stroke service have formal links with patients and carers organisations for communication on any of the following?

Yes ○ No ○

8.4 (a) If yes, select all that apply:

- (i) Service provision ☐
- (ii) Audit ☐
- (iii) Service reviews and future plans ☐
- (iv) Developing research ☐

8.5. Does the stroke service have formal links with community user groups for stroke?

Yes ○ No ○

Acute Organisational Audit 2014: Scoring algorithm

Domain 1: Acute care organisational				
Domain element (and relevant question)	**Question Scoring**	**Key indicator inclusion/exclusion criteria**	Domain score calculation	Maximum score if,
Quality of care of stroke units treating patients within the first 72 hours of stroke applying seven acute features*	7 features = 4, 5/6 features = 2, <5 features = 0 Sites who treat patients within the first 72-hours but have no Type 1 or 3 beds are scored 0.	This is assessed only on the pre-72 hour beds if they are present or the pre and post-72 hour beds if not.	**Add scores together and divide (0-8), divide by 8 and multiply by 100 for 0-100 score.**	7 features
Level of thrombolysis provision – hours per day and days per week on- and off-site (1.6, 1.11(d))	Less than 7 day service = 0.5, <24 hrs everyday = 1, 24/7 = 2. Sites that do not provide any thrombolysis (onsite or in collaboration) but do provide pre 72-hour care are scored 0.			24/7 on- and/or off-site
Number of registered nurses on duty at 10am weekends (2.8, 2.18)	Ratio (rounded to 2pd): average of those usually on duty at 10am weekends x10 total no. of type 1 and type 3 beds 0-1.9 = 0, 2-2.9 = 1 and 3+ = 2	Type 1 and 3 nurses on the average of Saturday and Sunday per 10 Type 1 and 3 beds.		3+
Score domain 1		**8**		100
Domain inclusion/exclusion criteria	**16 sites which do not treat patients during the first 72 hours after stroke have been allocated the Domain 1 score of the site where their patients are treated during this initial phase**			

* continuous monitoring (2.4, 2.20), access to immediate scanning (2.6, 2.22), admission procedure (2.3, 2.19), specialist ward rounds 7 days a week (2.5, 2.21), protocols/guidelines (2.7, 2.23), nurses trained in swallow screening (2.9, 2.25), nurses trained in assessment/management (2.9, 2.25)

Domain 2: Specialist roles				
Domain element (and relevant question)	**Question Scoring**	**Key indicator inclusion/exclusion criteria**	Domain score calculation	Maximum score if,
Frequency of consultant ward rounds per week* (2.5, 2.13, 2.21)	7 days a week = 2, 4-6 days = 1, <4 days = 0 If there are more than one type of SU bed the type 1 beds dominate the scoring and then the type 3 beds.	16 that do not treat within the first 72-hours are removed from the denominator for this element of the score.	**Add scores together (0-10), and multiply by 10 for 0-100 score.** **For 16 SUs, add scores together (0-8), divide by 8 and multiply by 100 for 0-100 score.**	on 7 days a week
Presence of senior nurses and therapists (band 7 or above) on the SU (6.3)	Score 2 if band 7-8 nurses AND ANY band 7-8 clin.psy, dietician, OT, PT or SALT, No =0			Yes
Access within 5 days to social work expertise, orthotics, orthoptics, podiatry (3.1)	Yes to all = 1, If not yes to all = 0			Yes to all four specialties
Palliative care patients treated on the SU (3.8)	Yes = 1, No = 0			Yes
Access to clinical psychologists and provision of following aspects of psychological care (3.2(b)) i. mood assessment ii. higher cognitive function assessment iii. mood treatment iv. higher cognitive function treatment v. non-cognitive behavioural problems assessment and/or treatment	Score separately for inpatients/outpatients Access to clinical psy and all aspects provided = 2 Access to clin.psy and not all provided aspects = 1.5 Access to clin.psy but no aspects provided = 0.5 No access to clin.psy = 0 Sum together the two scores for inpatients and outpatients out of a total of 4 and divide by 2 for a score 0-2			Access and all five aspects of psychological care provided for inpatients and outpatients
i. Provision of service which supports stroke patients to remain in, return to or withdraw from work (6.4(a)) and/or ii. Provision of educational or vocational training (6.4(b))	Yes to one= 1, No to both = 0			Yes to either services provided
Patients stay in bed until assessed by physiotherapist (3.5)	No = 1, Yes = 0			No
Score domain 2		**10**		100
Domain inclusion/exclusion criteria	**If there is more than one type of SU bed the pre-72 hour beds dominate the scoring, then the pre-and post-72 hour bed and then the post 72-hour beds.**			

Domain 3: Interdisciplinary services (stroke unit)

Domain element (and relevant question)	Question Scoring	Key indicator inclusion/exclusion criteria	Domain score calculation	Maximum score if,
Qualified nurses on duty at 10 am weekdays per 10 SU beds (2.8, 2.14, 2.24)	Ratio = sum of those usually on duty at 10am weekday x10 / total no. of SU beds Score using formula based on 2014 variation (median & IQR) Ratios rounded to 2 decimal places before scoring applied. Any WTE of 0.00 has been scored as Zero.		**Add the scores together, and divide by 12 for 0- 100 score.**	2.308 or more
Care assistants on duty at 10 am weekdays per 10 SU beds (2.8, 2.14, 2.24)				1.702 or more
Qualified therapy staff availability in WTE (Whole Time Equivalents) per 10 SU beds (3.3)				

	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
Ratio	>0-1.666	1.667-1.943	1.944-2.307	2.308+
Score	0.25	0.5	0.75	1

	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
Ratio	>0-1.249	1.250-1.485	1.486-1.701	1.702+
Score	0.25	0.5	0.75	1

Domain 3: Interdisciplinary services (stroke unit)

Clinical psychology

Ratio =
Staff availability (WTE) x10
Total no. of SU beds

Score uses formula based on 2014 site variation (median & IQR)

	Third Quarter	Second Quarter	First Quarter
Ratio	>0-0.035	0.036-0.191	0.192+
Score	0.5	0.75	1

0.192 or more

Dietetics

	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
Ratio	>0-0.108	0.109-0.187	0.188-0.285	0.286+
Score	0.25	0.5	0.75	1

0.286 or more

Occupational Therapy

	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
Ratio	>0-0.832	0.833-1.124	1.125-1.499	1.500+
Score	0.25	0.5	0.75	1

1.500 or more

Domain 3: Interdisciplinary services (stroke unit)

Physiotherapy		Fourth Quarter	Third Quarter	Second Quarter	First Quarter	1.632 or more
	Ratio	>0-1.110	1.111-1.332	1.333-1.631	1.632+	
	Score	0.25	0.5	0.75	1	
Speech & Language Therapy		Fourth Quarter	Third Quarter	Second Quarter	First Quarter	0.750 or more
	Ratio	>0-0.344	0.345-0.516	0.517-0.749	0.750+	
	Score	0.25	0.5	0.75	1	
Pharmacy		Fourth Quarter	Third Quarter	Second Quarter	First Quarter	0.238 or more
	Ratio	>0-0.091	0.092-0.157	0.158-0.237	0.238+	
	Score	0.25	0.5	0.75	1	
6 or 7 day working for occupational therapy, physiotherapy, speech and language therapy (3.3)		6 or 7 day working = Score 2 if at least 2 disciplines 6 or 7 day working = Score 1 if 1 discipline 6 or 7 day working = Score 0 if any discipline				6 or 7 day working for at least 2 disciplines
Frequency of formal team meetings (3.7)		>twice a week = 1, Once or twice a week = 0.5, <once a week = 0				more than twice a week
Members of the team**(3.7(a))		Count over eight disciplines and divide by 8 for a 0-1 score				8 members
Score domain 3				**12**		100
Domain inclusion/exclusion criteria						

**Clinical psychology, Dietetics, Medicine (senior doctor), Nursing, Occupational Therapy, Physiotherapy, Social Work, Speech and Language Therapy*

Domain 4: TIA/Neurovascular clinic				
Domain element (and relevant question)	**Question Scoring**	**Key indicator inclusion/exclusion criteria**	Domain score calculation	Maximum score if,
TIA service can see, investigate & initiate treatment for ALL **HIGH**-RISK patients within 24 hours (5.3)	Same and next day (7 days) = 1, Same and next day (5 days) = 0.5, >more than next weekday = 0	4 sites with no high-risk TIA service to be excluded.	**Add the four scores together and multiply by 25 for 0-100 score.** **For 4 sites with no high risk TIA service and multiply by 50 for 0-100 score.**	Same or next day (7 days a week)
TIA service can see, investigate & initiate treatment for ALL **LOW**-RISK patients within one week (5.4)	Within a week = 1, Longer than a week = 0			Within a week
Usual waiting time to get carotid imaging (**HIGH-RISK** TIA) (5.2(a))	Same and next day (7 days) = 1 Same and next day (5 days) = 0.5 >more than next weekday = 0	4 sites with no high-risk TIA service to be excluded.		Same or next day (7 days a week)
Usual waiting time to get carotid imaging (**LOW-RISK** TIA) (5.2(b))	Within a week = 1, Longer than a week = 0			Within a week
Score domain 4		**4**		100
Inclusion/exclusion criteria	**If no TIA service is provided onsite, these scores are obtained from the hospital providing this service for the site.** **Q5.3 & 5.4 can apply to both inpatient and outpatient services. If site has both services then score for which has the BEST times**			

Domain 5: Quality improvement, training and research				
Domain element (and relevant question)	**Question Scoring**	**Key indicator inclusion/exclusion criteria**	Domain score calculation	Maximum score if,
Report on stroke service produced for trust board (e.g. on audit results) (7.1)	Yes = 1, No = 0			Yes
Members of strategic group responsible for stroke (7.3(a))	Score each as 1 if yes and then divide by 7 for 0-1 score.	Strategic group members – Score each of group members, add scores (0-7) and divide by 7 for 0-1 score.		
Ambulance trust representative				Yes
Clinician				Yes
Patient representative				Yes
PCT commissioner				Yes
Social services				Yes
Stroke Network representative				Yes
Trust board member			**Add 7 scores together and multiply by 100 for 0-100 score.**	Yes
Funding for external courses available for nurses & therapists and at least 10 study days funded between April 2013 and March 2014 (7.4)	Yes and at least 10 study days funded = 1 Yes and 5-9 study days funded = 0.5 No funding or less than 4 study days funded =0			Yes
Clinical research studies (7.10)	5 or more = 1, 4 = 0.75, 1-3 = 0.5			5 or more
Formal links with patients and carers organisations on ALL of the following: services provision, audit, and service reviews and future plans (Q8.4).	ALL = 1, 1 or 2 = 0.5, No links = 0			Yes
Patient/carer views sought on stroke services (Q7.6)	Continuous or >4 times a year = 1 1-4 times a year = 0.5 <once a year = 0			Continuous or more than 4 times a year
Report produced within past 12 months which analysed views of patients (Q7.7)	Yes = 1, No = 0			Yes
Score domain 5		**7**		100
Domain inclusion/exclusion criteria				

Domain 6: Planning and access to specialist support				
Domain element (and relevant question)	**Question Scoring**	**Key indicator inclusion/exclusion criteria**	Domain score calculation	Maximum score if,
Availability of patient information on each of the following topics for stroke units & outpatients (Q8.2) • Patient version of national or local guidelines/standards • Social services • Benefits agencies • Secondary prevention advice	Score each as 1 if yes, add scores and divide by 8 to get 0-1 score.		**Add these scores together, divide by 8 and multiply by 100 for 0-100 score.**	Yes on both Yes on both Yes on both Yes on both
Patients are given a personalised rehabilitation discharge plan (Q8.3)	Yes = 1, No = 0			Yes
Access to a stroke/neurology specialist early supported discharge (ESD) multidisciplinary team (4.1)	Yes = 3, Non-specialist only = 1.5, No = 0			Yes
Access to a stroke/neurology specialist community team for longer term management (4.3)	Yes = 3, Non-specialist only = 1.5, No = 0			Yes
Score domain 6		**8**		100
Inclusion/exclusion criteria				