WM QRS West Midlands Quality Review Service

NHS

Care of People with Stroke and Transient Ischaemic Attack (TIA) Pathway Review

Shropshire, Telford & Wrekin Health Economy

Visit Date: 2nd February 2017

Report Date: May 2017

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UKAS INSPECTION 8831

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INTRODUCTION

This report presents the findings of the review of Care of People with Stroke and Transient Ischaemic Attack (TIA) Pathway that took place on 2nd February 2017. The purpose of the visit was to review compliance with the following West Midlands Quality Review Service (WMQRS) Quality Standards:

- WMQRS Stroke & Transient Ischaemic Attack (TIA) Patient Pathway Quality Standards Version 2 (Draft 9)

The WMQRS Quality Standards for the Stroke and TIA Patient Pathway include sections for Primary Care, Emergency Departments and Acute Medical Units, Stroke Services and Commissioning. This review looked at the overall pathway but only reviewed compliance with the Quality Standards for Stroke Services. The Stroke Service at The Shrewsbury and Telford Hospital NHS Trust provided:

- Neuro-Vascular Assessment
- Hyper-Acute Stroke Unit
- Acute Stroke Unit
- Stroke Rehabilitation Service

Reviewers visited Wards 15 and 16 at Princess Royal Hospital and met staff, patients, carers and commissioners. Reviewers did not visit Ward 22-S at Royal Shrewsbury Hospital and this report does not cover the care provided there.

The aim of the standards and the review programme is to help providers and commissioners of services to improve clinical outcomes and service users' and carers' experiences by improving the quality of services. The report also gives external assurance of the care, which can be used as part of organisations' Quality Accounts. For commissioners, the report gives assurance of the quality of services commissioned and identifies areas where developments may be needed.

The report reflects the situation at the time of the visit. The text of this report identifies the main issues raised during the course of the visit. Appendix 1 lists the visiting team that reviewed the services in the Shropshire and Telford & Wrekin health economies. Appendix 2 contains the details of compliance with each of the standards and the percentage of standards met.

This report describes services provided or commissioned by the following organisations:

- The Shrewsbury and Telford Hospital NHS Trust
- NHS Shropshire Clinical Commissioning Group
- NHS Telford and Wrekin Clinical Commissioning Group

Most of the issues identified by quality reviews can be resolved by providers' and commissioners' own governance arrangements. Many can be tackled by the use of appropriate service improvement approaches; some require commissioner input. Individual organisations are responsible for taking action and monitoring this through their usual governance mechanisms. The lead commissioner for the service concerned is responsible for ensuring action plans are in place and monitoring their implementation, liaising, as appropriate, with other commissioners, including commissioners of primary care.

ABOUT WEST MIDLANDS QUALITY REVIEW SERVICE

WMQRS is a collaborative venture between NHS organisations in the West Midlands to help improve the quality of health services by developing evidence-based Quality Standards, carrying out developmental and supportive quality reviews (often through peer review visits), producing comparative information on the quality of services and providing development and learning for all involved.

Expected outcomes are better quality, safety and clinical outcomes, better patient and carer experience, organisations with better information about the quality of clinical services, and organisations with more confidence and competence in reviewing the quality of clinical services. More detail about the work of WMQRS is available on www.wmqrs.nhs.uk

ACKNOWLEDGMENTS

West Midlands Quality Review Service would like to thank the staff and service users and carers of the Shropshire and Telford & Wrekin health economies for their hard work in preparing for the review and for their kindness and helpfulness during the course of the visit. Thanks are also due to the visiting team and their employing organisations for the time and expertise they contributed to this review.

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STROKE AND TRANSIENT ISCHAEMIC ATTACK (TIA) PATIENT PATHWAY

SHREWSBURY AND TELFORD HOSPITAL NHS TRUST

Services for people with stroke and TIA from Shropshire and Telford & Wrekin were reconfigured in July 2013. At the time of this review visit (February 2017) hyper-acute and acute stroke services were provided at Princess Royal Hospital (PRH). Ward 15 had 24 beds staffed by a specialist stroke multidisciplinary team, and included the Hyper-Acute Stroke Unit (HASU bay), the Acute Stroke Unit (ASU) and a dedicated thrombolysis room. Ward 16 was an adjacent 18-bedded rehabilitation ward where patients with stroke, neurological and other conditions were treated. Further stroke rehabilitation beds were provided on Ward 22S at Royal Shrewsbury Hospital (RSH).

Between 900 and 1000 patients with stroke were admitted to The Shrewsbury and Telford Hospital NHS Trust each year, making this the second largest stroke service in the West Midlands. In 2016, 980 patients with stroke were admitted.

TIA outpatient clinics were run on weekdays and accessed via a referral system through the Care Co-ordination Centre.

Ambulances brought all FAST (Face, Arm, Speech, Time test) positive patients and others with symptoms suggestive of acute stroke to the Emergency Department at PRH where they were assessed by a stroke specialist team member. Thrombolysis was available 24 hours a day, seven days a week on the HASU. Patients for whom thrombolysis was not appropriate were admitted to Ward 15 if a bed was available but were often admitted to a general medical ward.

Once a patient's condition had improved such that they no longer required the intensive nursing and close monitoring provided by HASU (typically within 72 hours), they were transferred to the ASU. Patients on the ASU with an expected length of stay of less than 10 days would usually remain there. Patients whose expected length of stay was longer would transfer to Ward 16 at PRH or Ward 22S at RSH, or to Powys Community Hospital at Newtown if appropriate.

Early Supported Discharge for appropriate patients was available, with further therapy support being delivered in patient's primary residence for up to six weeks following discharge. Patients aged between 18 and 65 could be referred to Shropshire's Community Neuro-Rehabilitation Team for further therapy input. Shropshire Clinical Commissioning Group (CCG) patients and their carers and families could access the Stroke Association's Advice and Support Service. This service offered practical and emotional support to stroke survivors and their families, including assessments of needs, information about the effects of stroke and secondary prevention and links to local support organisations. Telford and Wrekin CCG patients could access the information, advice and guidance service 'My Choices'.

General Comments and Achievements

The specialist Stroke Team were highly dedicated to the service and were passionate about providing good care for their patients. Good teamwork was clearly evident, with good links between different disciplines and between different parts of the service. Reviewers observed patient-centred care with staff attentive to patients' needs and active rehabilitation taking place.

The stroke wards, including the thrombolysis room, were well-designed and provided an appropriate environment for delivering care. Good equipment was available and was well-organised. A good display of Stroke Association information covered all aspects of living with a stroke. A Carers Support Group was in place and, in Shropshire, five Stroke Clubs were running, affiliated to the Stroke Association. Orthotic services provided good support for patients with stroke.

The progress made in achieving centralisation of stroke services and 24/7 availability of thrombolysis was also commended and the service had made significant progress since it was last reviewed (2010).

The review team identified several inter-related issues which are described in this report. Most of these issues stemmed from low staffing levels, in particular, insufficient medical and therapy staff. These staffing levels had implications at several points on the pathway of care for people with stroke and TIA.

Immediate Risks

1. **Non-Thrombolysis Pathway**

   Patients with stroke who were not eligible for thrombolysis, usually because they had arrived after the thrombolysis time 'window', were not receiving the same quality of care as other patients with stroke. All patients should have an assessment in the Emergency Department and, a CT scan, to exclude a bleed as soon as possible (ideally within one hour), and should start treatment and care on the hyper-acute stroke unit. At Shrewsbury and Telford Hospital NHS Trust, patients were assessed in the Emergency Department (unless the ward was busy so that the bleep-holder was unable to leave the ward – see concern 3 below). Other parts of the pathway were not as recommended:

   a. **Care by Specialist Stroke Team**

      If a bed on the stroke unit was not available, those who were not eligible for thrombolysis were admitted to the Acute Medical Unit but were not reviewed by a consultant stroke specialist or a senior member of the specialist stroke team until the next working day (unless a stroke consultant happened to be on call). These patients were admitted to the stroke unit as soon as possible but, until this time, did not have access to the stroke unit's multi-disciplinary care.

   b. **Imaging**

      Patients with stroke who were not eligible for thrombolysis did not routinely receive CT scans within four hours of admission. Patients admitted in the late afternoon, evening or night waited until the next morning for their scan. Inappropriate management might therefore be started, which could significantly affect patient outcomes. For example, patients presenting with a cerebral bleed might be given potentially harmful anti-platelet treatment while waiting for a scan. CT scanning was available but was accessed only for patients eligible for thrombolysis.

2. **Access to community-based rehabilitation and support**

   Robust arrangements for community-based stroke rehabilitation were not in place for all patients, which will affect their outcomes. Patients and carers commented on long waits for community-based therapies.

   a. Patients who had been in hospital for more than two weeks were unable to access Early Supported Discharge (ESD). Six weeks of rehabilitation and support was available from the ESD team for patients who were ready for discharge within two weeks of admission (and for those who were waiting for a care package).

   b. Patients aged 65 and over who were not eligible for ESD did not have access to community-based rehabilitation.

   c. Patients aged under 65 (whether or not they had accessed ESD) could be referred to the Community Neuro-Rehabilitation Service but, at the time of the review visit, waited up to two weeks for assessment and then up to 16 weeks before accessing therapy.

3. **Routing of referrals of patients with TIA through the Care Coordination Centre**

   Referrals of patients with TIA and, possibly also some patients with suspected stroke, were routed via the Care Coordination Centre which resulted in an additional step in the pathway and triage by staff who were not stroke specialists. Reviewers were told that this resulted in the care of some patients with high risk TIAs being delayed, a high proportion of inappropriate referrals to the TIA clinic and the potential for high risk patients to be missed. Current guidance is that all high-risk patients should be seen within 24 hours and all low- risk patients within seven days to prevent further strokes. The risk of stroke is highest within the first 24

to 48 hours following a TIA. Triage by the stroke team is needed to identify those patients who should be seen within 24 hours.

This issue was contributing to the low proportion of patients with carotid artery disease who were having surgery within 14 days from the date of their TIA or minor stroke. The benefit of surgery reduces significantly after 14 days.

Data on delays and the proportion of inappropriate referrals were not, however, available as they not being collected by the stroke team (see below in relation to data collection).

Concerns

1. **TIA Pathway**

   a. Neuro-vascular assessment was available on weekdays only. Patients with high risk TIAs at weekends were admitted to hospital.

   b. Sufficient carotid dopplers capacity was not always available for the TIA clinics.

   c. Carotid endarterectomy was taking place within about one month of onset of symptoms rather than the expected one week due to because of delays in neuro-vascular assessment. (Vascular services were able to respond quickly when patients were referred to them.)

   d. Six-week follow up of well-being, cognitive impairment and impact on work was not yet taking place.

2. **Pathway: All Stroke Patients**

   a. **Assessment of carers' confidence in tasks and equipment within 72 hours of patient being discharged**

   These assessments were in place for carers of 'Early Supported Discharge' (ESD) patients but not for those of other patients. Some training was provided while the patient was on the ward and carers could ring the ward for advice, but there was no formal system of contacting carers within 72 hours of discharge.

   b. **Screening for cognitive and mood changes six weeks after onset of symptoms**

   This was not happening routinely, especially for patients who were not under the care of the ESD team.

   c. **Follow up of care plans and review at least six months after discharge from hospital and annually thereafter.**

   Based on the information provided to reviewers, only 2% of patients received a review of their care plan at least six months after discharge. Patients and carers who met the visiting team commented that care plans were not reviewed after discharge from hospital. Follow up clinics were often cancelled when one of the consultants was on annual leave or away for any reason. Patients were discharged from the service nine months after discharge from hospital, even if they had not been seen in a follow up clinic.

3. **Thrombolysis Pathway (approx. 13% of patients)**

   A member of the specialist stroke team was not always available to assess patients for thrombolysis. At night, at weekends and on bank holidays the on-site thrombolysis service comprised the on-call Medical Registrar supported by a stroke specialist nurse, when available, or a nurse bleep-holder (usually the nurse in charge of the ward). If ward staffing was low then the bleep-holder was unable to leave the ward. Telephone advice was available from the regional consultant on call for thrombolysis.

4. **Stroke Service Staffing**

   Staffing of the stroke service did not reach recommended levels in several respects:

a. **Medical staffing**

Consultant stroke specialists (4 w.t.e) were available on weekdays only. Weekends and bank holidays were covered only when these consultants were on call for general medicine. As a result, a senior member of the stroke team was not available on all days when emergency admissions were accepted. Arrangements for thrombolysis were in place but, at weekends and bank holidays, patients admitted with stroke were not reviewed by a consultant stroke specialist and might not see a senior member of the specialist stroke team until the next working day. The service was also not able to offer neuro-vascular assessment every day.

The four consultants were also on call for general internal medicine and had responsibilities for care of older people. The amount of time available for the care of patients with stroke and TIA was therefore insufficient, especially given the large number of patients admitted with stroke.

b. **Physiotherapy and Occupational Therapy**

Physiotherapy and occupational therapy staffing levels were approximately half the recommended levels. These therapists were normally available only on weekdays. 'Winter pressures' funding was being used to provide cover on Saturday or Sunday mornings. This was sometimes paid as overtime but sometimes staff took 'time in lieu' on weekdays, which reduced weekday staffing levels.

c. **Speech and Language Therapy**

Two w.t.e. speech and language therapists were available for all the stroke patients in the hospital, which was significantly below the recommended staffing. No support workers were available for speech and language therapy.

d. **Psychological Support**

The service had no psychological support with time allocated for work with the stroke service (or cover for absences). A member of the Rapid, Assessment, Interface and Discharge (RAID) team was running a pilot study. Patients and carers commented to the review team that this left them feeling alone and unsure how to cope.

e. **Dietetics**

Only three sessions per week of a Band 5 dietician were available for the two stroke wards.

f. **Social Worker**

The service had no dedicated social worker with time allocated for work with the stroke service. No social worker was available to attend the daily 'board rounds'.

5. **Competences**

Competence frameworks detailing the expected competences for different roles were not yet in place. Staff did have access to training courses and e-learning, and annual study days were held. There was no evidence, however, of formal arrangements for 'sign off' of competences, including practical (rather than knowledge-based) assessment. Reviewers were particularly concerned about the lack of evidence of the following competences:

a. Medical registrars who were acting as senior decision-makers, including for thrombolysis: competences in assessment and management of patients with stroke. These doctors would have received general training on stroke management as part of their training programme but it was not clear if they had any further stroke-specific training.

b. Nursing staff: competences in 'management of the acutely ill and deteriorating patient', high dependency care including use of monitors, tube feeding and mobilisation.

c. Therapists: specialist stroke-specific competences.

6. **Data Collection**

   a. **TIA:** No data on patients with TIA were collected.

   b. **Stroke:** Reviewers were presented with examples of inconsistent data and it was not clear that all strokes, and the therapy provided, were being coded correctly. National audit programme data were not being regularly discussed and reviewed by the team. Stroke data were collected by the ward clerk but no member of the clinical team was taking an overview of the quality of these data. Reviewers' concerns included the way that 'No' was categorised as it appeared that this could mean any one of 'not applicable', 'data not available' or' not met'.

   c. In general, the service was not collecting the data that it needed in order to support future business cases.

7. **Mixed Sex Wards**

   On the day of the review visit, at least two patients on the HASU did not appear to be receiving critical care and could have been cared for on a general ward. If so, these patients should have been in a single sex environment (or 'breaches' declared).

Further Consideration

1. Clinical staff were aware of the problems with the service and were keen to deliver a higher quality of care. They were, however, severely limited by the staffing resources and initiatives (including a re-writing of the Operational Policy and service specification were being pursued in a rather 'piecemeal' way. Senior Trust and commissioner support will be needed if the service is to improve. Reviewers suggested that all stakeholders (patient and carer representatives, primary care, specialist stroke service, rehabilitation services, voluntary sector, imaging services and commissioners) take some time out in order systematically to review the stroke pathway, identify the gaps and plan how and when these could be addressed. The aim of this work should be to ensure that all patients received the quality of care recommended by national guidance.

   Reviewers considered that there was significant potential for the service to improve, including through the development of a stroke prevention team in the Trust, more rapid TIA and stroke pathways, more efficient bed usage and an effective rehabilitation pathway. This should increase funding for the service through achievement of the Best Practice Tariff. An audit undertaken by commissioners had shown that 15% of patients did not need to be in hospital and 40% had stayed longer than necessary. There was also the potential to improve the skill mix through, for example, the development of rehabilitation support workers (rather than separate physiotherapy and occupational therapy assistants) and to ensure that all patients had access to voluntary sector advice and support.

2. Support from the Stroke Association was commissioned by NHS Shropshire CCG but not by Telford and Wrekin CCG, although Telford & Wrekin patients could access the information, advice and guidance service 'My Choices'. This service did not have an on-site presence or specialist stroke expertise. Reviewers suggested that further discussions with patients and carers about the need for specialist support, including support for carers, would help to develop this aspect of the service.

3. Patients and carers also commented to the visiting team on:

   a. The lack of 'day rooms', resulting in them having to stay on the ward especially if the weather was bad and the garden therefore not usable.

   b. Poor continuity of care agency staff, sometimes meaning that patients had several carers over a number of days.

   c. Transport difficulties for some patients wishing to attend the Stroke Club. A community car scheme was operating but did not appear to have sufficient capacity.

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APPENDIX 1 MEMBERSHIP OF VISITING TEAM

WMQRS Team		
Jane Bisiker	Clinical Specialist Occupational Therapist	The Royal Wolverhampton NHS Trust
Julie Booth	Clinical Quality Manager	NHS Solihull CCG
Bob Colclough	User Representative	
Seema Gudivada	Divisional Clinical Lead, Specialist Services Division and Lead Allied Health Professional, Rehabilitation	Birmingham Community Healthcare NHS Foundation Trust
Susan Jinks	Compliance Lead	Walsall Healthcare NHS Trust
Judith Mansfield	Physiotherapist (Community)	Heart of England NHS Foundation Trust
Dr Indira Natarajan	Consultant Stroke Physician	University Hospitals of North Midlands NHS Trust
Sophie Snape	Occupational Therapist	Staffordshire & Stoke on Trent Partnership NHS Trust

WMQRS Team		
Jane Eminson	Director	West Midlands Quality Review Service
Sarah Broomhead	Assistant Director	West Midlands Quality Review Service

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APPENDIX 2 COMPLIANCE WITH THE QUALITY STANDARDS

Analyses of percentage compliance with the Quality Standards should be viewed with caution as they give the same weight to each of the Quality Standards. Also, the number of Quality Standards applicable to each service varies depending on the nature of the service provided. Percentage compliance also takes no account of 'working towards' a particular Quality Standard. Reviewers often comment that it is better to have a 'No, but', where there is real commitment to achieving a particular standard, than a 'Yes, but' where a 'box has been ticked' but the commitment to implementation is lacking. With these caveats, table 1 summarises the percentage compliance for each of the services reviewed.

The WMQRS Quality Standards for the Stroke and TIA Patient Pathway include sections for Primary Care, Emergency Departments and Acute Medical Units, Stroke Services and Commissioning. This review looked at the overall pathway but only reviewed compliance with the Quality Standards for Stroke Services. The Stroke Service at The Shrewsbury and Telford Hospital NHS Trust provided:

- Neuro-Vascular Assessment
- Hyper-Acute Stroke Unit
- Acute Stroke Unit
- Stroke Rehabilitation Service

Table 1 - Percentage of Quality Standards met

Service	Number of Applicable QS	Number of QS Met	% met
Stroke Service	48	22	46

Pathway and Service Letters

CN-	Services for People with Stroke (Acute Phase) and Transient Ischaemic Attack

Topic Sections

Each section covers the following topics:

-100	Information and Support for Patients and Carers
-200	Staffing
-300	Support Services
-400	Facilities and Equipment
-500	Guidelines and Protocols
-600	Service Organisation and Liaison with Other Services
-700	Governance

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Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-101	**Service Information** Each service should offer patients and their carers written information covering: a. Organisation of the service, such as opening hours and clinic times b. Staff and facilities available c. How to contact the service for help and advice, including out of hours **In-patient services only:** d. What patients need with them e. Ward routine and visiting times f. Facilities for relatives g. Moving on from the Unit	Y	Information was also available on the intranet but the site was new and contained relatively little information. Plans were in place for improving the information available.
CN-102	**TIA Patient Information** Information should be offered to all patients with a confirmed TIA covering at least: a. Transient Ischaemic Attack, its causation and potential impact b. Investigations and treatment options available c. Research trials available (if any) d. Driving advice and DVLA notification e. Promoting good health, including diet, exercise and smoking cessation f. Symptoms and action to take if become unwell g. Follow-up arrangements h. Sources of further advice and information	Y	
CN-103	**Stroke Patient Information** Information should be offered to all patients with stroke and their carers covering at least: a. Stroke, its causation and potential impact b. Investigations and treatment options available c. Research trials available (if any) d. Driving advice and DVLA notification e. Promoting good health, including diet, exercise and smoking cessation f. Symptoms and action to take if become unwell g. Access to benefits advice h. Support groups available i. Expert Patients Programme (if available) j. Sources of further advice and information	Y	A good display of Stroke Association information was available covering all aspects of the QS.
CN-104	**Communication Aids** Communication aids should be available to enable patients to participate as fully as possible in decisions about their care.	Y	

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-105	**TIA Management Plan** All patients with a confirmed TIA should have their management plan discussed with them and should be offered a written copy of their management plan. Arrangements should be in place to ensure a copy of this plan is received by the patient's GP within one week of the neuro-vascular assessment.	Y	Compliance based on self-assessment that patients were given copies of their outpatient clinic letters or discharge summaries (if admitted). Evidence of compliance was not seen by reviewers.
CN-106	**Stroke Care Plan** Each patient and, where appropriate, their carer should discuss and agree their Care Plan, and should be offered a written record covering at least: a. Agreed goals, including life-style goals b. Self-management c. Planned assessments ,therapeutic and/or rehabilitation interventions, including information on medications d. Social care needs and how these will be met e. Housing needs f. Early warning signs of problems and what to do if these occur g. Planned review date and how to access a review more quickly, if necessary h. Who to contact with queries or for advice The Care Plan should be communicated to the patient's GP and to relevant other services involved in their care.	Y	In-patients could access the care plan at the end of their bed and were given their discharge letter at discharge.
CN-107	**Review of Care Plan** A formal review of the patient's Care Plan should take place as planned. This review should involve the patient, where appropriate, their carer, and appropriate members of the multi-disciplinary team. The outcome of the review should be communicated in writing to the patient and their GP.	N	See main report: Pathway (All Stroke Patients): of care plans
CN-108	**Training for Carers** Prior to the patient's discharge, carers should be offered training in the tasks and equipment needed to enable the patient to go home. Carers' confidence in these tasks and use of equipment should be assessed within 72 hours of the patient being discharged and, if necessary, additional training and support should be offered.	N	Robust arrangements for training for carers, including follow up within 72 hours of discharge, were not yet in place. The QS was met for patients under the care of the Early Supportive Discharge team. Other carers received some training while the patient was on the ward and could ring the ward for advice but there was no formal system of contacting carers within 72 hours of discharge.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-196	**Discharge Plan** On discharge from in-patient care or from the service, patients and their carers should be offered written information covering at least: a. Care after discharge b. Ongoing self-management c. Possible complications and what to do if these occur d. Who to contact with queries or concerns	Y	This QS was met for patients discharged from in-patient care. A good discharge letter went with the patient, with copies to the GP and the main carer. It was not clear that this QS was met for patients discharged from the service, especially those who did not have a follow up appointment.
CN-197	**General Support for Patients and Carers** Patients and carers should have easy access to the following services and information about these services should be easily available: a. Interpreter services, including British Sign Language b. Independent advocacy services c. Complaints procedures d. Social workers e. Benefits advice f. Spiritual support g. HealthWatch or equivalent organisation h. Relevant voluntary organisations providing support and advice	Y	This support was available although relatively little information was displayed on the wards. The Stroke Association coordinator provided advice and support to NHS Shropshire CCG patients.
CN-198	**Carers' Needs** Carers should be offered information on: a. How to access an assessment of their own needs b. What to do in an emergency c. Services available to provide support	Y	Carers were offered this information. A Hospital Link Worker for Carers was in place. A Carers Support Group was also running.
CN-199	**Involving Patients and Carers** The service should have: a. Mechanisms for receiving regular feedback from patients and carers about treatment and care they receive b. Mechanisms for involving patients and carers in decisions about the organisation of the service c. Examples of changes made as a result of feedback and involvement of patients and carers	Y	The 'Friends and Family' test was in place. Examples of changes made as a result of feedback were seen. A patient representative attended the monthly Stroke Strategy meetings.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-201	**Lead Clinician/s** A nominated lead clinician should have responsibility for staffing, training, guidelines and protocols, service organisation, governance and for liaison with other services. The lead clinician should be a registered healthcare professional with appropriate specialist competences in this role and should undertake regular clinical work within the service. Hyper-acute Stroke Units and Stroke Units should have both a lead consultant and lead nurse with these responsibilities.	Y	
CN-202	**NVA: Staffing** Neuro-vascular assessment should be available daily staffed by at least: a. A healthcare professional who is a member of the stroke team and has competences in neurovascular assessment b. A member of staff with competences in vascular ultrasound c. A consultant stroke physician available for advice.	N	Neuro-vascular assessment was available on weekdays only.
CN-203	**HASU: Senior Staffing** A senior healthcare professional with specialist training and experience in stroke diagnosis and stroke thrombolysis should be available on site at all times.	N	At night, at weekends and on bank holidays on-site staffing was the on-call Medical Registrar supported by either a stroke specialist nurse, when available, or a nurse bleep holder (usually the nurse in charge of the ward). If ward staffing was low then the bleep holder was unable to leave the ward. A regional thrombolysis rota provided advice from a stroke consultant on whether to thrombolyse a patient, on the basis of the results of a CT head scan.
CN-204	**HASU: Consultant Availability** A consultant stroke specialist should be available at all times.	N	A consultant stroke specialist was available on weekdays. Weekends were covered only when a consultant stroke specialist was on call for general medicine.
CN-205	**Stroke Units: Senior Staffing** A consultant stroke specialist should be available on weekdays. A senior member of the stroke team should be available on all days when emergency admissions are accepted and the following day.	N	A senior member of the stroke team was available only on weekdays and not at weekends or on bank holidays.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-206	**Staffing Levels and Skill Mix** Sufficient staff with appropriate competences in the care of people with stroke and stroke rehabilitation should be available for the: a. Number of patients usually cared for by the service and the usual case mix of patients b. Service's role in the patient pathway and expected timescales The skill mix of staff should include: i. Medical staff ii. Nursing staff Specialist rehabilitation team comprising staff with competences in: iii. Physiotherapy iv. Occupational therapy v. Speech and language therapy (for both swallowing assessment and communication) vi. Psychological support vii. Social work viii. Support workers All staff should have time allocated in their job plan for work with the stroke service. Cover for absences should be available so that the patient pathway is not unreasonably delayed, and patient outcomes and experience are not adversely affected, when individual members of staff are away.	N	See main report: Stroke Service Staffing
CN-207	**Service Competences and Training Plan** The competences expected for each role in the service should be identified. A training and development plan for achieving and maintaining competences should be in place.	N	See main report: Competences. Individual staff appraisals and development plans were in place.
CN-208	**In-patient Stroke Services: Nurse Staffing** Nurses and HCAs should have appropriate competences in acute care of patients with stroke including at least: a. Management of acutely ill and deteriorating patients (HASU & SU only) b. High dependency care (HASU & SU only) c. Swallowing screening (HASU & SU only) d. Complications associated with stroke thrombolysis (HASU only) e. Mobilisation f. Tube feeding	N	See main report: Competences. Some staff had undertaken intermediate life support training (ILS) and swallow screening.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-209	**Swallow screening** At least one healthcare professional on each shift should have competences in swallowing screening.	Y	This was met on the day of the visit as nurses had just completed training.
CN-210	**Management of acutely ill and deteriorating patients** At least one nurse on each shift should have competences in the management of acutely ill and deteriorating patients.	N	See main report: Competences. In practice a trained stroke nurse was rostered for each shift.
CN-211	**Coordinator** A member of staff with responsibility for coordination and for liaison with other services should be available and there should be arrangements for cover for this role.	N	One stroke coordinator was in post but arrangements for cover for absences were not clear. (A second stroke coordinator was no longer in post.). Some cover was available from the ward
CN-298	**Competences – All Health and Social Care Professionals** All health and social care professionals working in the service should have competences appropriate to their role in: a. Safeguarding children and/or vulnerable adults b. Recognising and meeting the needs of vulnerable children and/or adults c. Dealing with challenging behaviour, violence and aggression d. Mental Capacity Act and Deprivation of Liberty Safeguards e. Resuscitation	N	'c' Staff were not up to date with dealing with challenging behaviour, violence and aggression, partly because the interval between refresher courses had been increased to three years. Other aspects of the QS were met. 'a & b' were covered during ward study days. 'd' The majority of staff had completed training in the Mental Capacity Act and Deprivation of Liberty Safeguards. 'e' Resuscitation was covered by Trust mandatory training.
CN-299	**Administrative, Clerical and Data Collection Support** Administrative, clerical and data collection support should be available.	Y	
CN-301	**MRI / CT for Patients with Suspected TIA** MRI / MRA with diffusion weighted imaging and gradient echo sequences should be available within 24 hours for patients at high risk of subsequent stroke and within seven days for those at lower risk. CT / CTA should be available for patients where MRI is contra-indicated.	N	MRI was available only on weekdays. Only two MRI slots per week were available. Reviewers considered that this was insufficient for the number of patients with stroke.
CN-302	**CT Scanning for Patients with Stroke** CT scanning should be available on-site at all times. The service should be staffed by healthcare professionals with training and expertise in performing and interpreting brain CT scans and should meet The Royal College of Radiologists Standards for quality assurance of CT.	Y	See main report: Non-Thrombolysis Pathway: Imaging. CT scanning was available but was not accessed for all patients.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-303	**Other Support Services** The following services should be available for patients with stroke and TIA: a. Dietetics (including staff with competences in nutritional screening) b. Smoking cessation c. Orthotics d. Equipment supply, including supply of assistive technology	N	A Dietitian was available but did not have specific time allocated to their work with the Stroke Unit. Other aspects of the QS were met and reviewers commented on the very good orthotic service that was available.
CN-304	**Critical Care** Level 3 critical care facilities should be available on the same hospital site.	Y	
CN-401	**Ultrasound duplex devices** Ultrasound duplex devices should be available for all neuro-vascular assessments.	N	Neuro-vascular assessment was available on weekdays only and carotid Dopplers were not always available during the TIA clinics. Patients therefore sometimes had to return at a later date.
CN-501	**Neuro-Vascular Assessment Guidelines** Clinical guidelines on neuro-vascular assessment should be in use covering: a. Clinical assessment b. Choice of imaging, including indications for carotid Doppler, CTA and MRA c. Other investigations, including blood tests, echo and 24 hour ECG d. Pharmacological treatment, including initiation of aspirin, statins and blood pressure management (see note 2) e. Indications for admission f. Indications for referral to lifestyle management services (dietician, smoking cessation, psychology) g. Indications for referral to vascular services for consideration of carotid endarterectomy. If indicated, carotid endarterectomy should be performed within one week of onset of symptoms where TIA has been confirmed. h. Indications for referral to cardiology services, including arrhythmia services. i. Arrangements for six week follow up of well-being, cognitive impairment and impact on work	N	Guidelines did not cover arrangements for six-week follow up.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-502	**Clinical Guidelines: Acute Stroke Care** Clinical guidelines on the management of patients with stroke should be in use covering: a. Clinical assessment, including assessment of cognitive and perceptive problems b. Choice of imaging, including indications for CT, MRI, carotid Doppler and more complex imaging investigations c. Indications for thrombolysis or early anticoagulation treatment d. Other investigations e. Pharmacological treatment, including aspirin or alternative anti-platelet agent f. Recognition of deteriorating patients and transfer to intensive care g. Provision of high dependency care, including communication with critical care services and indications for referral for critical care h. Intensity of daily therapy, including a minimum of 45 minutes of each therapy that is required for a minimum of 5 days a week for as long as they are continuing to benefit from it i. Indications and arrangements for referral to vascular services for consideration of carotid endarterectomy j. Indications and arrangements for referral to neuro-surgery	N	The Stroke Unit Operational Policy was out of date and was being re-written. The policy did not meet the requirements of the QS, especially for people who were not eligible for thrombolysis.
CN-503	**Thrombolysis Protocol** A thrombolysis protocol should be in use covering: a. Delivery and management of thrombolysis b. Management of post-thrombolysis complications.	Y	A robust thrombolysis protocol was in place.
CN-504	**Clinical Guidelines: Other Conditions** Clinical guidelines should be in use covering the immediate management of patients with: a. Intracerebral haemorrhage b. Sub-arachnoid haemorrhage c. Arterial dissection d. Central venous thrombosis. e. Vertebral artery disease f. Intracranial arterial disease g. Patent foramen ovale h. Cerebral venous sinus thrombosis i. Antiphospholipid syndrome	N	Some guidelines were available but there were no guidelines for the immediate management of sub-arachnoid haemorrhage, arterial dissection or antiphospholipid syndrome.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-505	**Clinical Guidelines: Underlying Conditions** Clinical guidelines should be in use covering the management of: a. Hypertension b. Obesity c. High cholesterol d. Atrial fibrillation e. Diabetes f. Fever g. Carotid stenosis (symptomatic and asymptomatic)	N	Some guidelines were available but these did not cover all aspects of the QS.
CN-506	**Clinical Guidelines: All Stroke Services** The following guidelines should be in use: a. Prevention and management of venous thrombosis b. Physiological and neurological monitoring c. Nutrition and feeding, including tube feeding d. Mobilisation e. Pain management f. Screening for cognitive and mood changes six weeks after onset of symptoms g. Indications for referral to lifestyle management services (dietician, smoking cessation, psychology)	N	The intranet linked to RCP and NICE guidelines but these had not been localised to show how they were to be implemented locally. Screening for cognitive and mood changes six weeks after onset of symptoms was not yet taking place routinely.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-507	**Rehabilitation Guidelines** Guidelines should be in use covering rehabilitation for: a. Loss of motor control b. Loss of sensation c. Gait retraining, including walking aids d. Balance improvement, falls risk assessment and falls prevention interventions e. Impaired tone (spasticity and spasm) and prevention and treatment of contractures f. Improving communication g. Swallowing problems h. Oral health problems i. Nutrition assessment and management j. Urinary and faecal incontinence k. Visual impairment l. Memory and cognitive impairment, including spatial awareness problems m. Attention and concentration problems n. Depression and anxiety o. Fatigue p. Personal and extended activities of daily living q. Sexual dysfunction	N	An assessment form was available but there were no clear, localised guidelines covering rehabilitation. In practice staff would access the RCP guidelines.
CN-508	**Driving** A protocol on driving advice should be in use, covering establishing the type of licence and giving appropriate advice on DVLA notification.	Y	

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-598	**Discharge Planning Guidelines** Discharge planning guidelines should be in use covering, at least: a. Discharge to a Stroke Unit closer to the patient's home (HASU only) b. Discharge to a stroke rehabilitation facility c. Discharge home with support from specialist stroke rehabilitation services d. Follow-up arrangements, including: i. Assessment by specialist stroke rehabilitation staff within 72 hours of discharge for all patients discharged home with residual stroke-related problems ii. Assessment of carers' ability to cope with managing the patient at home and referral for carers' needs assessment Guidelines should be specific about: i. Criteria and arrangements for Early Supported Discharge ii. Arrangements for clinical handover iii. Communication with the patient's GP	N	Discharge criteria were outlined in the Stroke Unit Operational Policy and in the ESD Standard Operating Procedure but these were not clear and did not have the level of detail expected by the QS.
CN-599	**Care of Vulnerable People** Guidelines for the care of vulnerable adults should be in use, in particular: a. Restraint and sedation b. Missing patients c. Mental Capacity Act and the Deprivation of Liberty Safeguards d. Safeguarding e. Information sharing f. Palliative care g. End of life care	Y	Compliance based on self-assessment.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-601	**Operational Policy** An operational policy should be in use whichensures: a. An alert system ensures rapid availability of clinical and imaging staff for assessment of eligibility for thrombolysis (HASU only) b. Care plans are in place for all patients and reviewed regularly (all stroke services) c. A ward round or review of all patients by a senior member of the stroke team takes place daily (HASU: 7/7; SU: 5/7) d. A neuro-radiology multi-disciplinary team meeting is held at least weekly (all acute stroke services) e. A multi-disciplinary team meeting to review the care of patients with stroke is held at least weekly involving at least: i. Stroke specialists ii. Stroke coordinator iii. Specialist rehabilitation team (all acute stroke services) f. Arrangements for multi-disciplinary discussion of patients' suitability for surgery involving a stroke specialist, radiologist, vascular surgeon and stroke coordinator or lead nurse (all services)	N	The Stroke Unit Operational Policy was being re-written and did not cover 'c': daily ward rounds 7/7 or 'd': weekly neuro-radiology meeting. Other aspects of the QS were met.
CN-701	**TIA Data Collection** Collection of data on activity and monitoring of outcome indicators should be in place, including: a. Carotid endarterectomy within one week of onset of symptoms, if indicated	N	TIA data were not collected.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-702	**Stroke Data Collection** Patient pathway data should be collected including: **Hyper-acute stroke services:** a. Brain imaging for urgent patients, including those where thrombolysis is being considered, within 30 minutes of admission (at the latest, within 60 minutes of admission) b. Thrombolysis within 60 minutes of admission in appropriate patients **Acute stroke services:** c. Brain imaging for all patients, within four hours of admission and, at the latest, within 24 hours of admission d. Swallowing screening within four hours of admission and prior to administration of any drinks, food or oral medication e. Specialist swallowing assessment within 24 hours of admission (if indicated on admission screening) f. Rehabilitation assessment by at least one member of the specialist rehabilitation team (physiotherapy, speech and language therapy or occupational therapy) within 24 hours of admission, if required g. Provision of a minimum of 45 minutes of each therapy that is required at least five days a week for as long as the patient continues to benefit from it h. Assessment by any member of the specialist rehabilitation team, if required, within five days of admission i. Screening for cognitive and mood changes six weeks after onset of symptoms j. Follow-up six weeks after discharge home k. Follow up at least six months after onset of symptoms and at least annually thereafter	Y	These data were collected but see the main report in relation to the quality and use of the data.
CN-703	**National Audit Programme** The service should submit data to the Sentinel Stroke National Audit Programme and should regularly review national comparisons, including achievement of relevant NICE Quality Standards.	Y	As QS CN-702.
CN-704	**Research** The service should actively participate in stroke-related research.	Y	

Ref	Quality Standards	Met? Y/N	Reviewer Comments
CN-705	**Primary Care Education** The service should offer an educational session on the assessment and care of patients with stroke and TIA to local GPs at least annually.	N	Some talks had been provided at GP Forums but these did not take place at least annually.
CN-706	**HASU: Network Review and Learning** The service should coordinate an educational session for linked Stroke Units on the assessment and treatment of patients with stroke at least annually. This session should include: a. Review of the care of patients where thrombolysis was indicated but not administered within three hours of onset of symptoms. b. Review of arrangements for discharge of patients to local Stroke Units.	N/A	The HASU and ASU were part of the same service and the HASU did not have links with another local Stroke Unit.
CN-707	**Stroke Units: Network Review and Learning** The service should participate in the educational session run by the HASU from which patients are usually referred.	N/A	As QS CN-706
CN-798	**Multi-disciplinary Review and Learning** The service should have multi-disciplinary arrangements for a. Review of and implementing learning from positive feedback, complaints, outcomes, incidents and 'near misses'. This should include review of patients where thrombolysis was indicated but not administered within three hours of onset of symptoms b. Review of and implementing learning from published scientific research and guidance c. Ongoing review and improvement of service quality, safety and efficiency	Y	Thoughtful Thursdays took place which met the requirements of the QS. Stroke and clinical governance meetings also took place although the OT and physiotherapist did not always attend these.
CN-799	**Document Control** All policies, procedures and guidelines should comply with Trust (or equivalent) Document control procedures.	N	The Operational Policy was a year out of date. The Therapy Policy and Rehabilitation Policy were in draft form. (The service specification was also being re-written.)

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