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NHS Sheffield Clinical Commissioning Group

Sheffield Primary Care Guidelines for Stroke and Transient Ischaemic Attack February 2019 Version 3

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Stroke and Transient Ischaemic Attack Guidance

The following protocol is intended to provide GPs, community pharmacists, community based nurses and community therapists with guidance on the secondary prevention of stroke; high-light the specialist services available for those patients who are suspected of having a stroke or transient ischaemic attack (TIA); and provide information on how to refer to the specialist stroke service.

People with suspected stroke and TIA should be treated as a medical emergency.[1,2,3] Stroke services should ensure that all patients are seen by a stroke specialist as soon as they present at hospital. Those diagnosed with stroke should be transferred directly to a dedicated stroke unit, where they should spend at least 90% of their hospital stay (see appendix 1).
All suspected TIAs should be seen in a specialist TIA clinic see flow chart below.

Glossary

ASU	Acute Stroke Unit	**GCS**	Glasgow Coma Score
ARC	Assessment and Rehabilitation Centre	**FAST**	Face, arm, speech test
CST	Community Stroke Team	**HASU**	Hyper Acute Stroke Unit
CBT	Cognitive behavioural therapy	**NAU**	Neuro Assessment Unit
ED	Emergency Department	**SPARC**	Stroke Pathway Assessment and Rehabilitation Centre
ESD	Early Supported Discharge team		

Referrals to specialist stroke / TIA service

Referral to the in-patient stroke service

All the inpatient stroke service is based at the Royal Hallamshire Hospital (RHH).

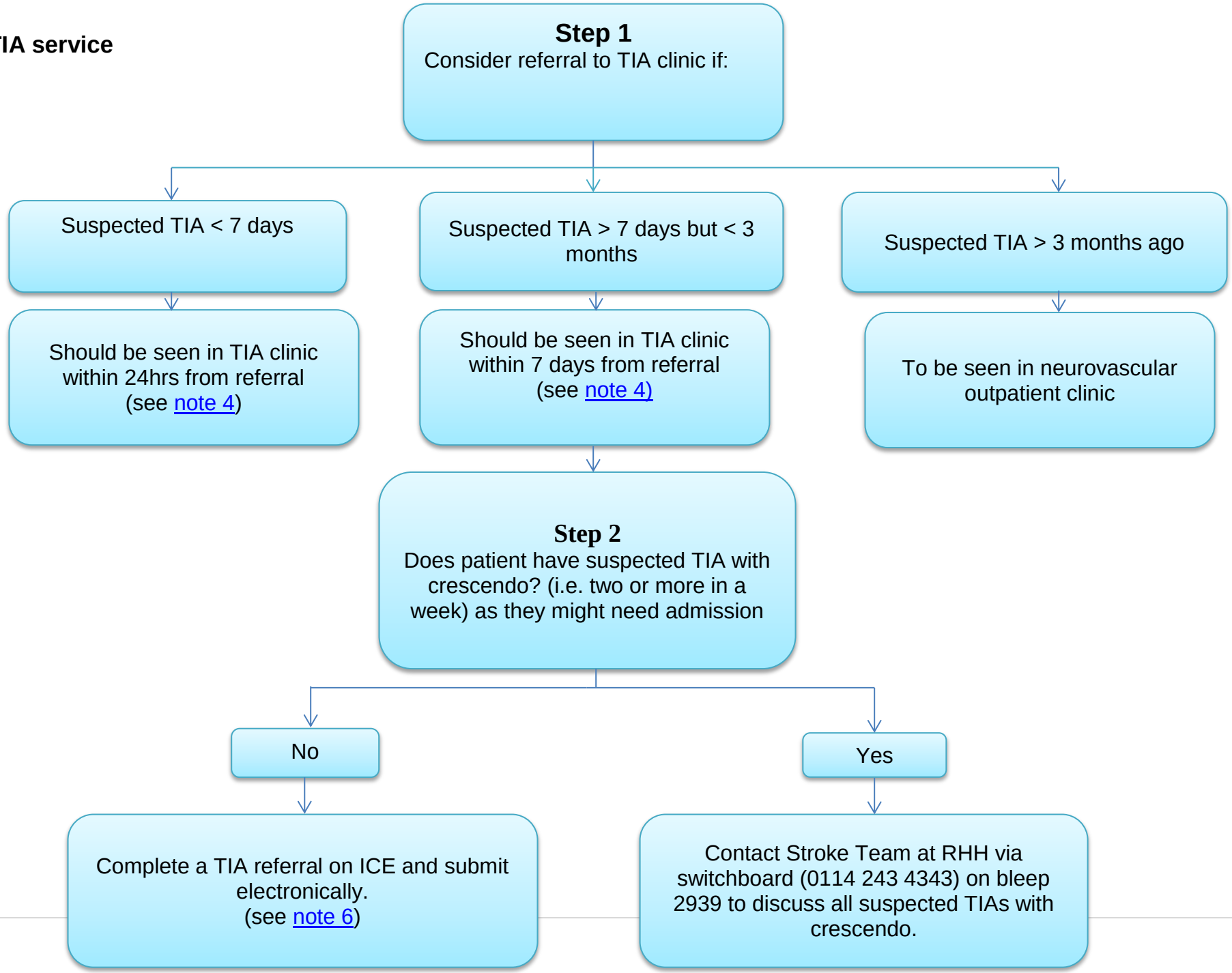
A local ambulance protocol has been developed to transfer all those patients suspected of having a stroke i.e. FAST positive, have sudden onset of a new, focal neurological deficit, and a GCS of 8 or above, to the Neuro Assessment Unit (NAU) which comprises 8 beds on L1 ward at the RHH. If a stroke is suspected, a 999 ambulance should be ordered for direct immediate patient transfer to the NAU. The GP can also contact the stroke service at any time by going through RHH switch board and asking for bleep 2939 which is held by a senior stroke clinician 24 hours a day 7 days a week.

GPs should not administer any treatment e.g. antiplatelet medication without discussing with the stroke unit.

If it is not clear that the patient has suffered a stroke or the patient's GCS is 7 or below, they should be directed to ED department at the Northern General Hospital for assessment. See appendix 1- Sheffield Stroke/TIA Pathway

Referral to the TIA service - see flowchart on next page and accompanying notes on page 4

TIA service


Step 1
Consider referral to TIA clinic if:
Suspected TIA < 7 days
Suspected TIA > 7 days but < 3 months
Suspected TIA > 3 months ago
Should be seen in TIA clinic within 24hrs from referral (see note 4)
Should be seen in TIA clinic within 7 days from referral (see note 4)
To be seen in neurovascular outpatient clinic
Step 2
Does patient have suspected TIA with crescendo? (i.e. two or more in a week) as they might need admission
No
Yes
Complete a TIA referral on ICE and submit electronically. (see note 6)
Contact Stroke Team at RHH via switchboard (0114 243 4343) on bleep 2939 to discuss all suspected TIAs with crescendo.

Notes on TIA service flowchart

Systematic review of observational studies of the risk of stroke within 7 days of confirmed TIA (Giles and Rothwell, 2007) showed a risk of stroke at 2 days of between 2.0 and 4.1%, and at 7 days of between 3.9 and 6.5%. Early emergency treatment has shown to reduce the risk of stroke in TIA patients therefore it's important to refer them urgently.

1. All patients with **sudden onset** resolved neurological symptoms should be urgently referred to TIA clinic as per step 1. Note patients with a FAST negative test may have TIA if there is a **sudden onset** focal neurological event e.g visual disturbance, unsteadiness or sudden confusion.

2. Hypoglycaemia needs to be excluded in all patients with focal neurological symptoms.

3. Patient with symptoms suggestive of seizures/migraine should be referred to neurology rather than a TIA clinic.

4. All suspected TIA cases need to receive a loading dose of aspirin 300 mg (or clopidogrel 300 mg if intolerant to aspirin) from their first contact with the health care provider; this has to be continued until seen in the TIA clinic at a dose of aspirin or clopidogrel 75mg daily.

5. Any patient with persistent neurological symptoms suggestive of acute stroke should be managed along the hyperacute stroke pathway rather than a TIA pathway.

6. Each referral will be accepted or rejected on ICE with a rejection reason or instructions to redirect the referral given. Patients will be contacted within 24 hours by the stroke service team with an appointment to attend the TIA clinic where appropriate.

The inpatient stroke service

The stroke service is located at Royal Hallamshire Hospital (RHH), there are no dedicated stroke beds at the Northern General Hospital (NGH). The stroke service comprises of 44 dedicated beds: 16 hyper-acute stroke beds - HASU - Hyper Acute Stroke Unit (plus 1 telemedicine bed for overnight thrombolysis cases) on L2 ward; and 28 acute stroke beds – ASU - Acute Stroke Unit on Q2 ward.

Suspected stroke patients are transferred by ambulance for their initial immediate specialist assessment on the Neuro Assessment Unit (NAU) on L floor. Some patients will either present or be taken to the NGH, the majority of whom will be transferred to the RHH. A stroke nurse practitioner will initiate the immediate assessment on NAU including specific investigations and assess suitability for thrombolysis/mechanical thrombectomy. The patient is then seen by a stroke consultant. The patient will then be transferred to HASU, where they will receive their initial specialist medical management and be monitored closely by a team of stroke nurses. They will remain on the HASU for up to 48/72 hours dependant on individual needs. A significant proportion of patients will be discharged direct from HASU to the community stroke service, see below. Some will be transferred to ASU on Q floor until they are medically stable. From ASU some patients may be discharged home and some transferred to the specialist community bed-based facility or the home based community stroke service.

Reorganisation of regional hyper-acute services (HASU) in South Yorkshire- i.e. up to the first 72 hours of stroke onset.

As part of the Integrated Care System (ICS), the 2 regional HASUs are Sheffield and Doncaster.

From 1st July 2019, Rotherham no longer has a HASU, and the majority of suspected stroke patients are transferred to Sheffield. The HASU in Sheffield has increased it's HASU capacity from 6 to 16 beds.

From 1st October 2019, Barnsley will no longer have a HASU, some suspected stroke patients will be transferred to Sheffield. . There will still be Acute Stroke Units and rehabilitation services in these areas, and stroke patients will be repatriated back to their local stroke service following their HASU care.

Community based specialist stroke beds – SPARC - Stroke Pathway Assessment and Rehabilitation Centre.

SPARC, which was opened in April 2018, is a 30 bedded mixed gender stroke rehabilitation facility based at Beech Hill and is supported by the specialist multidisciplinary team of stroke consultants, dedicated GPs, nurses and therapists. The facility provides specialist intensive rehabilitation for those patients who are medically stable but need a programme of 'inpatient' specialist rehabilitation, and who are not quite ready to be discharged home. It also provides specialist input for stroke patients who may have suffered a significant stroke and require less intensive rehabilitation.

SPARC Tel no: - 0114 2261760

Community stroke service

Early Supported Discharge Team - ESD and Community Stroke Team - CST
This service offers specialist home based treatment - which could be in the patient's own home or care home, in the provision of intensive or less intensive (dependent on the individual needs of the patient) multidisciplinary stroke rehabilitation. The specialist multidisciplinary team comprises of stroke nurses, occupational therapists, psychologists, speech and language therapists, physiotherapists and rehabilitation assistants, with support from pharmacy, orthoptics and dietetics.

Community stroke team/ESD (main base at SPARC)
Tel no: - 0114 3078320

Post Stroke Advice

Life-Style[4]
Advise lifestyle measures that reduce the risk of stroke and other cardiovascular disease events, including:

- Stopping smoking; non-smokers to avoid passive smoking.
- Adopting a cardio protective diet: eat at least five portions of fruit and veg a day and 2 portions of oily fish per week, reduce salt intake and reduce intake of saturated fats. Advise the person to minimise time spent sitting for long periods (unless there are contraindications). Individualised exercise programs for people with stroke should be prescribed, delivered and monitored by the rehabilitation team. Alcohol intake should be limited to 14 units a week, spread over at least three days.
- Achieving and maintaining a satisfactory body weight (BMI 19-25).

Because lifestyle changes can be a major challenge, consider measures to support behaviour change.

Driving [16,17]

- If a TIA or stroke is suspected, the patient must stop driving immediately until seen at the specialist clinic.
- When diagnosed with TIA or stroke, the patient should not drive for 4 weeks, the DVLA do not need to be informed within this time period.
- If only one TIA experienced, the patient can return to driving after 4 weeks, and there is no need to inform the DVLA.
- If the patient has had two or more TIAs within a week, they need to be TIA free for 3 months before returning to driving and the DVLA should be informed.
- If the patient has a large goods vehicle (LGV) or passenger carrying vehicle (PCV) licence (group 2) they have to inform DVLA if they have had a stroke or TIA; they cannot return to drive this type of vehicle for a year (this is also dependent on the patient's recovery if they can return at all).
- If the patient develops epilepsy, they need to be seizure free for a year, and the DVLA informed.
- Following a stroke, after a month, the DVLA should be informed if the GP has concerns and if there are ongoing effects from the stroke which might include

visual field loss, cognitive or memory problem and arm or leg weakness.

Guidance regarding driving changes frequently, it is advisable to always check on the DVLA website; www.dft.gov.uk/dvla for the latest information. A detailed fact sheet can also be down loaded from the Stroke Association website: https://www.stroke.org.uk/sites/default/files/user_profile/driving_after_stroke.pdf

Medical management in the secondary prevention of stroke and TIA

Antiplatelet therapy [6]

Antiplatelet therapy reduces the risk of further ischaemic stroke and TIA. If the patient has atrial fibrillation (AF), refer to AF section below.

a) For patients with ischaemic stroke [3,5]

- Generic clopidogrel (75mg daily) monotherapy is recommended for first line treatment for non-AF related ischaemic stroke and is continued long term.
- Aspirin 75mg daily plus dipyridamole MR 200mg twice daily (both long term) if clopidogrel is contraindicated or not tolerated.
- Dipyridamole MR monotherapy is recommended only if aspirin and clopidogrel are contraindicated or not tolerated (If patients experience headache on dipyridamole, consider simple analgesia such as paracetamol or dose titration using dipyridamole MR).
- Consider a proton pump inhibitor (PPI) when there is dyspepsia with clopidogrel or aspirin, or other significant risks of gastrointestinal bleeding in association with clopidogrel or aspirin. If prescribing a PPI with clopidogrel, lansoprazole is the PPI of choice due to the potential interaction between clopidogrel and omeprazole/ esomeprazole.
- Occasionally the combination of aspirin and clopidogrel will be used. Situations where this combination may be used include crescendo TIA, carotid stenting, early recurrent stroke (duration 1 month only) or carotid dissection (for a maximum of 3 months).
- Clopidogrel tablets may be crushed and mixed with water if difficult to swallow (unlicensed use).[7]

b) For patients with TIA [3,8]

- Long term clopidogrel 75 mg daily (unlicensed indication) is more cost effective and there is usually better compliance (reduced tablet load and less potential for headaches), than combination of aspirin 75mg daily plus dipyridamole MR 200mg twice daily.
- Use aspirin and dipyridamole MR if clopidogrel contraindicated or not tolerated. Use dipyridamole monotherapy only if aspirin and clopidogrel are contraindicated or not tolerated.
- Patients with crescendo TIA may receive a combination of aspirin and clopidogrel. This combination should be used for no longer than a month.

c) For patients with carotid stenosis with stent insert (unlicensed indication)

- Generic clopidogrel 75mg daily plus aspirin 75mg daily for 1 month, then clopidogrel only long term.

d) For carotid endarterectomy patients

- Generic clopidogrel 75mg daily long term.
- Any other treatment combinations should be confirmed in writing by the stroke specialists or neurologists.

e) For patients with chronic kidney disease for secondary prevention of stroke and TIA

- Offer antiplatelet drugs but be aware of the increased risk of bleeding.[9]

Antihypertensives for secondary prevention of stroke and TIA

- Check BP for all patients. Treatment should follow NICE guidelines.[10]
- All patients with raised blood pressure should be given appropriate lifestyle advice (leaflets/fact sheets can be down loaded from the Stroke Association Website, www.stroke.org.uk).
- Beta blockers should not usually be started 1st or 2nd line for preventing recurrent stroke, unless there are specific clinical indications.
- Target BP post stroke <130/80 mmHg; except for people with severe bilateral carotid artery stenosis, for whom a systolic blood pressure target of 140–150 mmHg is appropriate.[3]
- BP targets should be individualised to take into account patients age and frailty.

Statins for secondary prevention of ischaemic stroke and TIA [11,12]

- Start statin treatment with atorvastatin 80mg unless contraindicated.
- Use lower dose if potential drug interactions, high risk of adverse drug effects, chronic kidney disease or patient preference.
- If intolerant of 3 different statins seek specialist advice.
- Statins should be avoided in most patients post haemorrhagic stroke. Consideration should be given to their benefit only on an individual patient basis.

Atrial fibrillation (AF) [13,14]

- All patients with ischaemic stroke or TIA who have AF should be considered for long-term anticoagulation, unless they have a clear contraindication.
- Direct acting oral anticoagulants (DOACs), formerly referred to as non-vitamin K oral anticoagulants (NOACs), are available as an alternative to warfarin.
- See Sheffield Anticoagulation for Stroke Prevention in Non-Valvular Atrial Fibrillation (SPAF): Joint primary and secondary care guidance.
- NICE has produced a patient decision aid on anticoagulants to reduce risk of stroke in atrial fibrillation: https://www.nice.org.uk/guidance/cg180/resources/patient-decision-aid-pdf-243734797
- The choice of anticoagulant should be made following a discussion with the patient and the clinician.
- Do not offer aspirin monotherapy solely for stroke prevention to people with atrial fibrillation.

Depression and Anxiety

Many people who have suffered a stroke experience depression, and / or severe anxiety. Much depression goes unrecognised especially when the stroke has affected communication, cognition, or caused emotional liability.

- All clinicians should be alert to the signs and symptoms of depression and anxiety in patients with stroke.
- All patients should be screened for mood difficulties at regular intervals, and their mood kept under review.
- Patients diagnosed with depression should be offered individual or group based psychological therapeutic interventions. These can be accessed as follows: stroke specialist clinical psychologists work across the stroke care pathway; clinical psychologists specialising in working with older people throughout the Community Mental Health Teams; non -stroke specific psychological therapy, counselling and CBT can be accessed through IAPT and the Health & Wellbeing Service; counselling through the Stroke Association based in Sheffield.
- Drug treatment should be considered in line with NICE guidance on treating depression in adults with a chronic physical health problem (CG91).[15]
- Carers may also experience depression.

Follow up and review clinics

Short-term specialist reviews

- All stroke patients who have been admitted to STH will receive a 6 week follow up review by the stroke service
- All TIA patients are reviewed at 4 weeks by the stroke service.
- GPs can refer to the stroke consultants if needed, e.g. in cases where there are clear strokes which have occurred in other hospitals outside Sheffield, and who still need a medical work up. Or previous stroke patients who are experiencing problems related to their stroke, or if the GP feels the patient needs a specialist assessment.
- Carer stroke support group- a fortnightly meeting is held at the Carers Centre, at Concept House, the Moor, Sheffield City Centre- contact number: 0114 2788974.

Longer-term stroke rehabilitation, support and review

- There have been some recent changes to the provision of longer-term stroke rehabilitation. Previously, patients who needed longer-term rehabilitation (i.e. more than 12 weeks input) would have been referred to the Assessment and Rehabilitation Centre (ARC) at Nether Edge. The community stroke team now provide this specialist longer-term home-based rehabilitation, to appropriate patients, where it is felt they would benefit from longer-term specialist input.
- All stroke patients are also offered a 6-month review by the community stroke service; either by telephone or a home visit for those patients who have cognitive, communication or hearing difficulties, where a telephone review would not be appropriate
- The Assessment and Rehabilitation Centre, continue to provide support for patients who have been discharged from the stroke service, but who may have deteriorated, or are experiencing problems which may be related to their stroke.

Community stroke team Tel no: - 0114 3078320

There are various support services by the Stroke Association, such as a counselling service, re-ablement service, carer programme and peer support. Either contact Amanda Jones 2261141 for sign posting, or email the Sheffield Stroke Association direct on: sheffield@stroke.org.uk.

Version History

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Appendix 1

Sheffield Stroke/TIA Pathway

	The Hospital Stroke Service in Sheffield is based at the Royal Hallamshire Hospital (RHH), non A&E site	Information
	Primary Prevention:- GP register; detection and management of atrial fibrillation, hypertension, diabetes, high cholesterol, smoking cessation, weight reduction, exercise. **Secondary Prevention** - see guideline	Registered on Primary Care Register
Acute Hospital Care; Stroke/TIA	**Stroke – 999** **TIA complete referral on ICE** **TIA with crescendo –** Bleep **2939** via RHH switchboard Ambulance GCS below 8 Pre alert A&E **Stroke research nurse** FAST Positive Pre alert NAU AAU Inpatient strokes at NGH – inform and contact stroke team via bleep **2939** and transfer **Daily One Stop TIA Clinic** 8 bedded Neuro Assessment Unit (NAU) **L1** ward, for Immediate Stroke Nurse Practitioner assessment and triage Strokes who present at A&E for transfer to RHH as soon as possible **Stroke research nurse** Hyper-acute Stroke Unit **(HASU) L2** ward: 16 monitored beds & 1 **Telemedicine** bed Assessed in A&E, if too ill to transfer to RHH remain in NGH until stabilised then arrange transfer **Stroke pathway coordinator** Acute Stroke Unit **(ASU) Q2** ward – 28 beds If needed, to Critical Care NGH, until stable, then transfer to RHH **Stroke research nurse** **Stroke pathway coordinator**	**All confirmed stroke patients registered on hospital stroke database (SSNAP)** **All patients/carers receive local stroke information pack** **All patients/carers given a stroke discharge letter when leaving hospital with information on any further health and social care input and point of contact**
Specialist Community based rehabilitation	**SPARC – Stroke Pathway Assessment and Rehabilitation Centre** – 30 beds average los 28 days **Community home based stroke service** **Early Supported Discharge Team – ESD** **Community Stroke Team – CST** MDT less intensive ongoing rehabilitation **6-month telephone review or home visit if required** (e.g. for patients with cognitive/communication difficulties)	
Short term Review and follow up	**TIA 4 week review clinic** by stroke service **Specialist Stroke Review Clinics at 6 weeks post discharge** **Stroke research nurse**	Orthoptic review
Longer term therapy and reviews	**Community Therapy (non-specialist)** - Speech and Language Therapy (SLT) and Physiotherapy **Assessment and Rehabilitation Centre – ARC** Provide support to stroke patients post discharge.	Orthoptic review
Longer term support; formal and informal	**Stroke Association Re-enablement service** **Aphasia Centre** **Conversation partners led by SLT** **Specialist Psychology Clinics** (More complex patients-referrals from stroke consultants) **Stroke survivors and carers support groups**	Orthoptic review

Key

Community setting
Hospital Inpatient

Hospital based clinics
Stroke Association/ Carers Centre

Amanda Jones
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