Haringey Council

NOTICE OF MEETING

Scrutiny Review - Stroke Prevention

WEDNESDAY, 19TH NOVEMBER, 2008 at 18:30 HRS – 20:30 HRS CIVIC CENTRE, HIGH ROAD, WOOD GREEN, N22 8LE.

MEMBERS: Councillors Winskill (Chair), Mallett, Vanier and Alexander

AGENDA

1. APOLOGIES FOR ABSENCE

2. URGENT BUSINESS

The Chair will consider the admission of any late items of urgent business. (Late items will be considered under the agenda item where they appear. New items will be dealt with at Item 5 below).

3. DECLARATIONS OF INTEREST

A Member with a personal interest in a matter who attends a meeting of the authority at which the matter is considered must disclose to the meeting the existence and nature of that interest at the commencement of that consideration, or when the interest becomes apparent.
A Member with a personal interest in a matter also has a prejudicial interest in that matter if the interest is one which a member of the public, with knowledge of the relevant facts, would reasonably regard as so significant that it is likely to prejudice the Member's judgement of the public interest and if this interest affects their financial position or the financial positions of a person or body as described in paragraph 8 of the Code of Conduct and/or of it relates to the determining of any approval, consent, licence, permission or registration in relation to them or any person or body described in paragraph 8 of the Code of Conduct.

4. STROKE PREVENTION: A MEDICAL PERSPECTIVE (PAGES 1 - 26)

To hear from two local General Practioners (Dr. V. Manheim and Dr. S. Pandya) and a Consultant Physician (Dr R. Luder).
Specifically in relation to the medical aspects of stroke prevention, both primary and secondary.

5. NEW ITEMS OF URGENT BUSINESS

6. DATE OF NEXT MEETING

Agenda Item 4

Haringey Council

Briefing for: **Prevention Scrutiny Review Panel**

Meeting Date: **19th November 2008**

Title: Summary of main relevant points from the Stroke: National Clinical guideline for diagnosis and initial management of acute stroke and transient ischaemic attack (TIA) guidelines.

Royal College of Physicians

Incidence and prevalence

Stroke is a major health problem in the UK. It accounted for over 56,000 deaths in England and Wales in 1999, which represent 11% of all deaths. Most people survive a first stroke, but often have significant morbidity. Each year in England, approximately 110,000 people have a first or recurrent stroke and a further 20,000 people have a TIA. More than 900,000 people in England are living with the effects of stroke, with half of these being dependent on other people for help with everyday activities.

Health and resource burden

In England, stroke is estimated to cost the economy around £7 billion per year. This comprises direct costs to the NHS of £2.8 billion, costs of informal care of £2.4 billion and costs because of lost productivity and disability of £1.8 billion. Until recently, stroke was not perceived as a high priority within the NHS. However, following the publication of the National Audit Office report in 2005, a National Stroke Strategy was developed by the DH in 2007. This outlines an ambition for the diagnosis, treatment and management of stroke, including all aspects of care from emergency response to life after stroke.

Key priorities for implementation

In people with sudden onset of neurological symptoms a validated tool, such as Face Arm Speech Test (FAST), should be used outside hospital to screen for a diagnosis of stroke or TIA.

People who have had a suspected TIA who are at high risk of stroke should have:

- aspirin (300 mg daily) started immediately
- specialist assessment and investigation within 24 hours of onset of symptoms
- measures for secondary prevention introduced as soon as the diagnosis is confirmed, including discussion of individual risk factors.

People with crescendo TIA (two or more TIAs in a week) should be treated as being at high risk of stroke, even though they may have an ABCD2 score of 3 or below.

All people with suspected stroke should be admitted directly to a specialist acute stroke unit following initial assessment either from the community or accident & emergency (A&E) department.

Brain imaging should be performed immediately (defined as 'ideally the next slot and definitely within 1 hour, whichever is sooner') for people with acute stroke if any of the following apply:

- indications for thrombolysis or early anticoagulation treatment (see sections 8.1 and 8.2)
- on anticoagulant treatment
- a known bleeding tendency
- a depressed level of consciousness (Glasgow Coma Score (GCS) below 13)
- unexplained progressive or fluctuating symptoms
- papilloedema, neck stiffness or fever
- severe headache at onset of stroke symptoms.

On admission, people with acute stroke should have their swallowing screened by an appropriately trained healthcare professional before being given any oral food, fluid or medication.

The rapid recognition of symptoms and Diagnosis

Pre-hospital prompt recognition of symptoms of TIA and stroke symptoms

Clinical introduction

People who present with acute stroke or TIA need immediate clinical assessment and treatment.

Few people have much awareness of the symptoms of stroke, and may delay seeking help as a result; hence the need for the UK Stroke Association's Act FAST campaign. A number of tools have been designed to help paramedics and other healthcare professionals recognise symptoms in the community. Other tools have been developed to improve the speed of diagnosis on arrival in the A&E department to avoid delay in the delivery of specialist assessment and management. It should be noted that some strokes (e.g. those affecting purely balance or cognition) may not be picked up by clinical assessment tools.

The clinical question addressed is whether emergency health professionals are able to use a clinical assessment tool to accurately identify those patients who have had a suspected stroke or TIA.

R1 In people with sudden onset of neurological symptoms a validated tool, such as Face Arm Speech Test (FAST), should be used outside hospital to screen for a diagnosis of stroke or TIA.
R2 In people with sudden onset of neurological symptoms, hypoglycaemia should be excluded as the cause of these symptoms.

R3 People who are admitted to accident & emergency (A&E) with a suspected stroke or TIA should have the diagnosis established rapidly using a validated tool, such as Recognition of Stroke in the Emergency Room (ROSIER).

Early versus late assessment of people with TIA, and identifying those at high risk of stroke

Clinical introduction

Patients with transient neurological symptoms may underestimate their significance. They delay seeking specialist care or may wait days to see a general practitioner (GP). The Intercollegiate Working Party Guidelines set a standard for a time to specialist assessment in a rapid access TIA clinic of 14 days, a target that was widely seen at the time as difficult to achieve. By 2004, this target was 1 week. The National Sentinel Audit in 2006 showed that while 78% of Trusts had a designated neurovascular clinic, the average waiting time for a clinic appointment remained high at 12 days. Recent data from the Oxford Vascular Study (OXVASC) demonstrate that some patients are at high risk from completed stroke long before this time.

A systematic review of the risk of stroke within 7 days of TIA identified 18 independent cohorts. The outcomes of 15 people were reported at 2 days after TIA and 17 at 7 days. The pooled risk of stroke at 2 days was 3.1% and at 7 days 5.2%. Significant heterogeneity was reported between the studies reflecting the different study methodologies and clinical characteristics of the patient population.

Simple clinical scoring systems can identify patients at particularly high risk who require immediate investigation and management. Specialist assessment involves confirmation of the diagnosis of TIA (around 40–50% of all TIA clinic referrals may, after specialist assessment, be diagnosed as non-neurovascular) and its vascular territory, appropriate investigations (including brain and carotid imaging), and assessment and management of vascular risk factors. A number of models of specialist assessment have been developed including ‘rapid access’ TIA clinics, daily in some cases, a 24-hour clinic, and day-case admission to hospital. The clinical question addressed is whether scoring systems can accurately predict those patients with suspected TIA who need urgent referral for specialist assessment, and whether this early (immediate) assessment improves outcome.

R4 People who have had a suspected TIA (that is, they have no neurological symptoms at the time of assessment (within 24 hours)), should be assessed as soon as possible for their risk of subsequent stroke using a validated scoring system, such as ABCD2.
R5 People who have had a suspected TIA who are at high risk of stroke (that is, with an ABCD2 score of 4 or above) should have:

- aspirin (300 mg daily) started immediately
- specialist assessment and investigation within 24 hours of onset of symptoms
- measures for secondary prevention introduced as soon as the diagnosis is confirmed, including discussion of individual risk factors.

R6 People with crescendo TIA (two or more TIAs in a week) should be treated as being at high risk of stroke (as described in recommendation 5), even though they may have an ABCD2 score of 3 or below.

R7 People who have had a suspected TIA who are at lower risk of stroke (that is, an ABCD2 score of 3 or below) should have:

- aspirin (300 mg daily) started immediately
- specialist assessment and investigation as soon as possible, but definitely within 1 week of onset of symptoms
- measures for secondary prevention introduced as soon as the diagnosis is confirmed, including discussion of individual risk factors.

R8 People who have had a TIA but who present late (more than 1 week after their last symptom has resolved) should be treated as though they are at lower risk of stroke (see recommendation 7).

Imaging in TIA and non-disabling stroke

Suspected TIA – referral for urgent brain imaging

Clinical introduction

Recent evidence underlines the importance of immediate assessment and treatment of patients with TIA who are at high risk of completed stroke. Careful history taking and examination is essential to exclude other diagnoses (e.g. migraine, seizure, syncope, tumour) and to assess vascular risk factors including hypertension, diabetes and dyslipidaemia. Early carotid scanning is essential to exclude significant carotid stenosis in patients who would fulfil criteria for carotid endarterectomy . Not all patients with TIA need brain scanning. The selection of patients for urgent scanning is dependent on clinical features; it is important that brain scanning does not delay the institution of optimum secondary prevention or the detection and treatment of significant carotid stenosis. MR scanning is very much more sensitive than CT, particularly if performed early and using diffusion-weighted imaging (DWI); CT perfusion can also be used to detect small ischaemic lesions that might not be visible on standard CT.

The clinical question to be addressed is which patients with suspected TIA should undergo brain imaging.

R9 People who have had a suspected TIA (that is, whose symptoms and signs have completely resolved within 24 hours) should be assessed by a specialist (within 1 week of onset of symptoms) before a decision on brain imaging is made.

R10 People who have had a suspected TIA who are at high risk of stroke (for example, with an ABCD2 score of 4 or above, or with crescendo TIA) in whom the vascular territory or pathology is uncertain should undergo urgent brain imaging (preferably diffusion-weighted magnetic resonance imaging (MRI)).

R11 People who have had a suspected TIA who are at lower risk of stroke (for example, an ABCD2 score of less than 4) in whom the vascular territory or pathology is uncertain should undergo brain imaging (preferably diffusion-weighted MRI).

Cases where brain imaging is helpful in the management of TIA:

- people being considered for carotid endarterectomy (CEA) where it is uncertain whether the stroke is in the anterior or posterior circulation

- people with TIA where haemorrhage needs to be excluded, for example long duration symptoms or people on anticoagulants where alternative diagnosis (for example migraine, epilepsy or tumour) is being considered.

Type of brain imaging for people with suspected TIA

Clinical introduction

In 2006, 78% of hospitals had neurovascular clinics, with a median time between onset and review of 12 days. The key purpose of the clinic is to confirm the diagnosis of TIA (and manage those patients with an alternative diagnosis) and to ensure timely and appropriate secondary prevention. There has been little clarity over the need for brain scanning, with wide variations between clinics in the proportion of patients with TIA routinely scanned. Many clinicians have used CT because of lack of access to MR but availability of MR is now improving rapidly across the UK. Brain scanning may be used to detect stroke mimic (e.g. tumour) but diagnostic yields are low, unless there are suggestive clinical features. Although CT is very sensitive to haemorrhage early after the event, bleeds may be missed if scanning is delayed. Brain imaging is of value in determining the presence of vascular lesions (which may be helpful if there is diagnostic doubt)
and helping to establish vascular territory where this is not clear. MR scanning, especially with diffusion-weighted imaging/fluid-attenuated inversion recovery (DWI/FLAIR) performed early (ideally within 24 hours) has high sensitivity for the detection of small ischaemic lesions which may be missed on CT scan.

The clinical question to be addressed is in those patients with TIA who require brain imaging whether MR or CT provides the most information to guide treatment.

R12 People who have had a suspected TIA who need brain imaging (that is, those in whom vascular territory or pathology is uncertain) should undergo diffusion-weighted MRI except where contraindicated, in which case computed tomography (CT) scanning should be used.

Early carotid imaging in people with acute non-disabling stroke or TIA

Clinical introduction

Carotid imaging is required to determine the presence and severity of carotid stenosis in those individuals who may be appropriate for carotid endarterectomy, i.e. those with a TIA or minor or recovered stroke involving the anterior circulation who are fit and willing for surgery. Doppler ultrasound, MR angiography and CT angiography can be used in the screening for and assessment of carotid stenosis. The urgency of the carotid imaging depends on the individual's risk of stroke. Furthermore the value of carotid surgery decreases with time from the event, surgery ceases to be of value after 12 weeks of the event in trials for men and 2 weeks for women. Imaging should therefore be done rapidly if appropriate patients are to be assessed for surgery in a timely manner.

The clinical question to be addressed is which patients with suspected stroke/TIA should be referred for urgent carotid imaging.

R13 All people with suspected non-disabling stroke or TIA who after specialist assessment are considered as candidates for carotid endarterectomy should have carotid imaging within 1 week of onset of symptoms. People who present more than 1 week after their last symptom of TIA has resolved should be managed using the lower-risk pathway.

Urgent carotid endarterectomy and carotid stenting in people with carotid stenosis

Clinical introduction

While the benefits of carotid intervention for symptomatic carotid stenosis of >50% according to the North American Symptomatic Carotid Endarterectomy Trial (NASCET) criteria and >70% according to the European Carotid Surgery Trial (ECST) criteria have been clearly described elsewhere. The benefit of early surgery (within 2 weeks of symptoms) may be outweighed by the risk of adverse events in patients with recent cerebral infarction, particularly those with significant neurological disability following a stroke or who have a high anaesthetic risk. However, patients with clinically defined high-risk TIA are clearly at highest risk of stroke within 2 days of the incident, implying that for some patients, very early endarterectomy might be most beneficial. Similarly, a case-series study reported no perioperative complications associated with early carotid stenting (<14 days) in patients with symptomatic carotid artery stenosis. The non-randomised EXPRESS study suggests that patients with TIA and minor stroke benefit considerably from a package of early medical interventions including antiplatelet agents, a statin and blood pressure treatment.

The clinical question is which patients with symptomatic carotid stenosis should be referred for early interventional procedures. It is of note that the lack of standardisation of the definition of significant carotid stenosis can be confusing. It is important that those reporting carotid imaging studies clearly state which criteria for diagnosis are being used.

R14 People with stable neurological symptoms from acute non-disabling stroke or TIA who have symptomatic carotid stenosis of 50–99% according to the North American Symptomatic Carotid Endarterectomy Trial (NASCET) criteria, or 70–99% according to the European Carotid Surgery Trialists' (ECST) Collaborative Group criteria, should:

- be assessed and referred for carotid endarterectomy (CEA) within 1 week of onset of stroke or TIA symptoms
- undergo surgery within a maximum of 2 weeks of onset of stroke or TIA symptoms
- receive best medical treatment (control of blood pressure, antiplatelet agents, cholesterol lowering through diet and drugs, lifestyle advice).

R15 People with stable neurological symptoms from acute non-disabling stroke or TIA who have symptomatic carotid stenosis of less than 50% according to the NASCET criteria, or less than 70% according to the ECST criteria, should:

- not undergo surgery

- receive best medical treatment (control of blood pressure, antiplatelet agents, cholesterol lowering through diet and drugs, lifestyle advice).

R16 Carotid imaging reports should clearly state which criteria (ECST or NASCET) were used when measuring the extent of carotid stenosis.

Specialist care in acute stroke

Specialist stroke units

Clinical introduction

Patients with stroke admitted to organised stroke care (usually a stroke unit) are less likely to die and more likely to leave hospital independent than those who are cared for in general (usually medical and care of the elderly) wards. The evidence for this, documented in a systematic review initially in 1997, was the catalyst for a marked change in stroke service organisation across the NHS. The National Service Framework for the Elderly recommended that all stroke patients should be admitted to organised stroke units. The National Audit Office Report in 2005 noted that there had been no increase in stroke beds between 2001 and 2004 in the National Sentinel Audits; in 2004, half of eligible patients were treated in a stroke unit at some point and only 41% spent most of their hospital stay there.
However, by 2006, 91% of Trusts in the UK had a stroke unit, 62% of patients were treated in a stroke unit at some point and 54% spent most of their hospital stay on a stroke unit. The development of thrombolysis and other acute treatments has led to an increased emphasis on acute management of stroke in addition to rehabilitation. 52% of UK Trusts now have an acute stroke unit, characterised by access to brain imaging within 24 hours, specialist ward rounds at least 5 times a week, and acute stroke protocols and guidelines. A significant proportion also have access to CT scanning within 3 hours, continuous physiological monitoring and policies for direct admission from A&E. There is much less trial evidence available for the efficacy of acute stroke units than for rehabilitation units.

The clinical question to be addressed is whether patients who are rapidly admitted to a specialist stroke unit have better clinical outcomes than those admitted through a general ward.

R17 All people with suspected stroke should be admitted directly to a specialist acute stroke unit following initial assessment either from the community or accident & emergency (A&E) department.

Definition of a stroke unit:

- a discrete area in the hospital
- staffed by a specialist stroke multidisciplinary team
- access to equipment for monitoring and rehabilitating patients
- regular multidisciplinary meetings occur for goal setting.

Brain imaging for the early assessment of people with acute stroke

Clinical introduction

Brain imaging is essential in stroke to exclude haemorrhage and stroke mimics. The 'National clinical guidelines for stroke' (2004) recommended scanning within 24 hours of onset of symptoms to confirm diagnosis. Only 42% of patients in the 2006 Sentinel Audit achieved this standard. This is unacceptably low. It is recommended that by the time of the 2008 audit, 100% of patients should be scanned within a maximum of 24 hours after admission. Access to brain scanning has been difficult in the past because of a perceived lack of urgency for scanning, problems with access to scanning, or a lack of radiology or radiography support. Even though scanner availability has increased in recent years, systems are clearly not routinely in place to allow immediate or rapid access to scanning throughout the UK. Changes in clinical practice (increased availability, changes in scan request and reporting procedures) will be required to implement the new recommendation.

The clinical question to be addressed is how quickly brain imaging should be performed following an acute stroke.

R18 Brain imaging should be performed immediately for people with acute stroke if any of the following apply:

- indications for thrombolysis or early anticoagulation treatment _ on anticoagulant treatment
- a known bleeding tendency
- a depressed level of consciousness
- unexplained progressive or fluctuating symptoms
- papilloedema, neck stiffness or fever
- severe headache at onset of stroke symptoms.

R19 For all people with acute stroke without indications for immediate brain imaging, scanning should be performed as soon as possible.

Pharmacological treatments for people with acute stroke

Thrombolysis in people with acute ischaemic stroke

Clinical introduction

Thrombolysis with alteplase in acute ischaemic stroke has been shown to significantly improve outcome in selected patients treated within 3 hours of onset of symptoms. It has been reviewed in detail in NICE Technology Appraisal (TA) and thus the evidence has not been reviewed again here. However, the Guideline Development Group did discuss the clinical context in which alteplase should be administered, in particular the availability of appropriately trained staff in acute stroke units. Immediate access to acute stroke care, diagnosis (including brain imaging) and rapid treatment (including thrombolysis where appropriate) is a vital component of the very considerable changes in the delivery of effective acute stroke care outlined in the National Stroke Strategy. One series of 1,135 patients treated in centres across Canada showed that 37% had an excellent outcome with a symptomatic intracerebral haemorrhage rate that was lower than in the published trials (4.6%). 1.3% developed angio-oedema. Symptomatic intracerebral haemorrhage was higher in those patients where the protocol was violated, underlining the importance of treatment within guidelines. The NICE TA

concludes that alteplase in addition to best supportive care is effective and safe in acute ischaemic stroke, provided that alteplase is only used in accordance with the marketing authorisation. In particular, it should be administered within 3 hours of onset of symptoms and only after brain haemorrhage has been definitively excluded using brain scanning. Thrombolysis in acute stroke is associated with an increased risk of haemorrhage (up to 6% of patients) and is therefore a treatment not without hazard. It was felt that staff in A&E departments, if appropriately trained and supported, can administer thrombolysis in acute stroke provided that
patients can be managed within an acute stroke service with appropriate neuroradiological and stroke physician support.

R20 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.
R21 Alteplase should only be administered within a well-organised stroke service with:

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

R22 Staff in A&E departments, if appropriately trained and supported, can administer alteplase for the treatment of acute ischaemic stroke provided that patients can be managed within an acute stroke service with appropriate neuroradiological and stroke physician support.
R23 Protocols should be in place for the delivery and management of thrombolysis, including post-thrombolysis complications.

Aspirin and anticoagulant treatment in people with acute ischaemic stroke

Clinical introduction

Acute ischaemic stroke is associated with mortality (up to 30% at 30 days) and morbidity (disability). It occurs secondary to thrombosis, usually from an atherothrombotic plaque, or to embolism, usually from the heart. Resultant blood clot or thrombus occludes an artery in the extra or intracranial cerebral vasculature to cause brain ischaemia. The size of the clot determines the diameter of the vessel occluded and thus the volume of brain affected. Ischaemic stroke, although initially not associated with haemorrhagic change on structural imaging at presentation, may undergo a process called haemorrhagic transformation, where blood becomes visible within the infarct on scanning. This may be asymptomatic and only detected by chance on subsequent scans, or symptomatic and associated with a clinical deterioration. Symptomatic haemorrhagic transformation is more commonly associated with larger infarcts, usually within the first 2 weeks after presentation. Antiplatelet agents and anticoagulants may increase the risk of haemorrhagic transformation of cerebral infarction.

Following a stroke, patients may be immobile and thus at increased risk of venous thromboembolism (deep venous thrombosis and pulmonary embolus), the incidence of

which is reduced by antiplatelet agents and anticoagulants. However, patients may also be at increased risk of bleeding complications (for example upper gastrointestinal bleeding) particularly on aspirin, and existing bleeding disorders (e.g. peptic ulceration) may be exacerbated by anticoagulants. There is a balance between the potential therapeutic effects of antiplatelet agents and anticoagulants in the treatment of patients with acute ischaemic stroke and the reduction in thromboembolic complications, against the risk of haemorrhagic transformation of infarction and exacerbation of extracranial bleeding.

The clinical questions to be addressed are how safe and effective are antiplatelet agents and anticoagulants after an acute ischaemic stroke.

R24 All people presenting with acute stroke who have had a diagnosis of primary intracerebra haemorrhage excluded by brain imaging should, as soon as possible but certainly within 24 hours, be given:

- aspirin 300 mg orally if they are not dysphagic, or
- aspirin 300 mg rectally or by enteral tube if they are dysphagic.

Thereafter aspirin 300 mg should be continued until 2 weeks after the onset of stroke symptoms, at which time definitive long-term antithrombotic treatment should be initiated. People being discharged before 2 weeks can be started on long-term treatment earlier.

R25 Any person with acute ischaemic stroke for whom previous dyspepsia associated with aspirin is reported should be given a proton pump inhibitor in addition to aspirin.

R26 Any person with acute ischaemic stroke who is allergic to or genuinely intolerant of aspirin should be given an alternative antiplatelet agent.

R27 Anticoagulation treatment should not be used routinely for the treatment of acute stroke.

Glossary

Dyslipidaemia - a disruption in the amount of lipids in the blood

Doppler Ultrasound – A form of ultrasound that can detect and measure blood flow

Cerebral infarction - blockage of the flow of blood to the cerebrum, causing or resulting in brain tissue death. Blockage may be caused by a thrombosis, an embolism, a vasospasm, or a rupture of a blood vessel. Type of stroke or cerebrovascular accident (CVA).

Diffusion-weighted imaging (DWI) - A form of Magnetic Resonance Imaging

Diffusion-weighted MRI **-** a magnetic resonance imaging (MRI) method that produces images of biological tissues weighted with the local microstructural characteristics of water diffusion

Papilloedema - swelling that is caused by increased intracranial pressure. The swelling is usually bilateral and can occur over a period of hours to weeks. Papilledema has many possible causes but is known to occur in approximately 50% of those with a brain tumor.

Angio-oedema - a condition that can cause swelling of:

- the deeper layers of the skin. That is, the dermis and subcutaneous tissues. Also,
- the tissues just under the lining of the airways, mouth and gut. That is, the submucosal tissues.

Embolism - when an object (the **embolus**, plural **emboli**) migrates from one part of the body (through circulation) and causes a blockage (occlusion) of a blood vessel in another part of the body.

Thromboembolism – the formation in a blood vessel of a clot (thrombus) that breaks loose and is carried by the blood stream to plug another vessel

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Haringey Council

Briefing for: **Members of the Stroke Prevention Scrutiny Review Panel**

Meeting Date: **October 2008**

Title: Summary of relevant Action points and Quality Markers from the National Stroke Strategy

Ten point action plan

1 Awareness: what action is your local area taking to improve public and professional awareness of stroke symptoms?

2 Preventing Stroke

How effectively is your area supporting healthier lifestyles and taking action to tackle vascular risk, for example hypertension, arterial fibrillation and high cholesterol.

4 Acting on the warnings

TIAs are a clear warning sign that a further stroke may occur and the time window for action is very short, in about half the cases this is a matter of days. Has your local area put in place a system that responds quickly to people who have had a TIA (meaning within 24hrs for the group most at risk of stroke)?

7 Rehabilitation and community support

Intensive rehabilitation immediately after stroke, operating across the seven-day week, can limit disability and improve recovery. Specialised rehabilitation needs to continue across the transition to home or care home, ensuring that health, social care and voluntary services together provide the long-term support people need, as well as access to advocacy, care navigation, practical and peer support. Is commissioning and planning integrated across the whole care pathway in your area?

9 Workforce

People with stroke need to be treated by a skilled and competent workforce. Resources to assist services in planning their workforce requirements are signposted in this strategy. Has your local area undertaken a local needs assessment and developed a workforce action plan?

Quality Markers

QM1. Awareness raising

Marker of a quality service

• Members of the public and health and care staff are able to recognise and identify the main symptoms of stroke and know it needs to be treated as an emergency.

Rationale

We know that a fast response to stroke reduces the risk of death and disability (see Chapter 2). However, this cannot be delivered without recognition of the symptoms of stroke and without responsive systems. To initiate an emergency response to a suspected stroke, it is crucial that staff who have contact with the public (including GP receptionists, NHS Direct call handlers, ambulance control call handlers, hospital triage staff, social care staff and allied health professionals) are able to recognise the symptoms of stroke or TIA, even when they cannot see the individual, and that they all share a common understanding of the importance of dealing with stroke as rapidly as possible.

Commissioners have a role to play in raising both public and professional awareness of stroke, and in doing so to ensure that people receive the right care. Part of building a good stroke service means including stroke awareness as part of staff training (see Chapter 4). Initially the focus may be on frontline staff. Many voluntary organisations already support this process at a local level, providing information, such as leaflets advising on stroke prevention, and support for those who have had a stroke and their carers.

Action needed

- Review local training plans for key frontline staff to ensure that training includes the use of the FAST test to recognise stroke symptoms (see Chapter 2 for importance of FAST response).
- Establish local initiatives to support the national programme

Measuring success

- Greater proportion of individuals who seek medical attention within two hours of stroke symptom onset
- Greater proportion of individuals with a suspected acute stroke seen within the recommended time window (currently three hours)
- Greater proportion of individuals with a suspected stroke receiving Category A, or at least Category B, response from ambulance crews[16]

QM2. Managing risk

Markers of a quality service

- Those at risk of stroke and those who have had a stroke are assessed for and given information about risk factors and lifestyle management issues (exercise, smoking, diet, weight and alcohol), and are advised and supported in possible strategies to modify their lifestyle and risk factors.

- Risk factors, including hypertension, obesity, high cholesterol, atrial fibrillation (irregular heartbeats) and diabetes, are managed according to clinical guidelines, and appropriate action is taken to reduce overall vascular risk.

Rationale

Promoting healthy living is very important in helping to prevent stroke, particularly in disadvantaged areas and groups. Healthy lifestyles and management of specific risk factors reduce the risk of an initial stroke and the risk of a subsequent stroke. It is estimated that 20,000 strokes a year could be avoided through preventive work on high blood pressure, irregular heartbeats, smoking cessation, and wider statin use. Preventing strokes can not only reduce the associated suffering, morbidity and mortality caused by strokes; it may also lead to NHS savings, as each stroke costs approximately £15,000 to treat over five years.

For those who have already had a stroke or TIA, prevention advice is even more important. This means assessing individuals for their risk factors and giving them information about possible strategies to modify their lifestyle that can reduce their risk. GPs need to actively manage these conditions in line with national guidelines (see Annex B: 'Key resources').

We know that some groups (e.g. people from black and minority ethnic communities and the economically disadvantaged) are at greater risk, and for example South Asian people are less likely to have hypertension managed.[19] This means that targeting prevention work at those groups has the potential to lead to significant results. However, more innovative ways of working may be needed to ensure that the message is received by those who need it. That may mean taking services closer to the community and greater voluntary sector involvement in service planning and provision at all levels. Targeted prevention schemes can be very effective. For example, a Stroke Association health promotion scheme in Hull provides intensive follow-up and support to help individuals make necessary changes to their lifestyle, thus reducing the risk of stroke or recurrent stroke. The scheme has had a proven positive effect in terms of an increase in stroke prevention knowledge, and changes in attitude and behaviour.[20]

Primary care services are at the forefront of activity to encourage people to change their lifestyle in order to reduce the risk of ill-health, including stroke, as GPs manage risk factors according to national guidelines.[21] It is important that all primary care professionals (e.g. GPs, nurses and allied health professionals) update and maintain their knowledge of these guidelines and implement them in their practice, specifically targeting higher-risk groups. The Quality and Outcomes Framework (part of the GPs' contract) includes a number of quality indicators relating to measurement of risk associated with vascular disease, for example a section devoted to recording diagnosis and ongoing management of high blood pressure. This has already had a positive impact on management of hypertension in primary care. Social care services also work

in partnership with primary care and the voluntary sector to deliver healthy living support, for example by using day services and other commissioned services.

Commissioning framework for health and well-being set out ways in which practice-based commissioners can use NHS money flexibly on non-health interventions to improve health and well-being outcomes.[22] This could include exercise classes, or weight management programmes. Further details about these flexibilities will be set out in the practice-based commissioning clarifying guidance, which will be published alongside the 2008/09 NHS operating framework.

Adult social care workers, along with staff in the voluntary sector, can be key providers of generic healthy living information, specific information on stroke, and delivery of services for those who have had a stroke and their carers. A partnership approach across services is likely to deliver the best results. For example, social services and the NHS are already working together to develop 'information prescriptions' providing a structure around information provision, and in the provision of equipment and minor adaptations.

ASSET 2 and *Improving Stroke Services: a guide for commissioners* can assist commissioners when they are assessing how best to organise multidisciplinary services. ASSET shows how many lives could be saved through improved prevention measures.[23]

Action needed

Commissioners and providers use ASSET to establish a baseline and to ensure that there are systems in place locally for the following key prevention measures:

- – managing hypertension so systolic blood pressure is below 140 mmHg;
- – warfarin for individuals with atrial fibrillation;
- – statin therapy for all people with more than 20 per cent risk of cardiovascular disease within ten years; and
- – smoking cessation for all individuals who have had a stroke or TIA.

Review information and advice strategies to ensure that clear, consistent, culturally sensitive messages are being given to those who have had a stroke, their families and those at high risk.

Ensure that stroke features in local needs assessment activities (see Chapter 5 in relation to Joint Strategic Needs Assessments).

Directors of Public Health support the prevention message, particularly in disadvantaged areas and groups, and incorporate stroke into existing healthy lifestyle or information programmes. Where appropriate, links could be made to the forthcoming cross-government strategy for tackling obesity.

As part of the Quality and Outcomes Framework, participating GPs produce a register of patients who have had a stroke or TIA, which forms the basis of a suite of indicators to provide quality of care. GPs should maintain the stroke register in line with the business rules and guidance that support the Quality and Outcomes Framework.

Measuring success

- Greater proportion of individuals who have a history of stroke or cardiovascular disease, or who are at a high risk, who have had advice and/or are receiving treatment

QM3. Information, advice and support

Marker of a quality service

• People who have had a stroke, and their relatives and carers, have access to practical advice, emotional support, advocacy and information throughout the care pathway and lifelong.

Rationale

Individuals who have had a stroke, and their relatives and carers, want to be kept informed, be included and have a clear, consistent point of contact throughout the care pathway, for as long as they live with the effects of stroke, which for many people will be life-long. Stroke can affect all aspects of life and may require considerable changes in daily activity. People who have experienced stroke and their carers benefit from consistent support in accessing information about their condition, and knowing how to access a full range of services from the NHS, social care and others. They also ask for more support in navigating the health and social care systems. This is important whether people are returning to their own home or going into a care home.

Service providers often work closely with voluntary sector organisations, which have traditionally undertaken this information and navigation role in some areas. This may take the form of a support worker, who can provide practical advice, information, signposting, advocacy and emotional support on a short- or long-term basis both to individuals who have had a stroke and to their carers. A national helpline and website with a variety of information and support are available to individuals and their carers from the Stroke Association.[24] Another example is the Brain and Spine Foundation Information Access Toolkit for professionals and individuals and their families to access information.[25]

The information needs of people who have had a stroke and their carers are diverse and change over time. Quality information and education, provided at the right time and in an accessible format, can improve opportunities for choice and levels of independence.[26] It can also enhance morale, confidence and well-being.

Good information needs to be tailored to individual requirements, sensitive to cultural needs, and flexible enough to meet the different requirements of different people. A significant proportion of people have aphasia as a result of stroke, which means they find it difficult to speak, read, write or understand what people are saying, especially if they are rushed or under pressure. It is important to provide information in a variety of ways, for example by supporting verbal information with written information or

diagrammatic material. Good examples of accessible information include Connect's *Stroke Talk* and *The Stroke and Aphasia Handbook*.[27]

This is an important area for local authorities, health services and the voluntary sector to work on together, and they should consult people who have had a stroke and their carers on the relevance, suitability and completeness of materials to meet their individual needs.

Action needed

• Commissioners ensure that people who have had a stroke, and their families and carers, are informed and empowered to take control of their care and support, by:
  – reviewing current information, advice and support;
  – involving voluntary sector organisations;
  – ensuring that service is in place to support people – providing information, advice and practical support;
  – including information to signpost people back into services if their needs change; and
  – ensuring that messages are consistent across health and social care services.

Measuring success

- Systems in place to provide prompt, sensitive information in a variety of formats accessible to all those who have experienced a stroke, and their carers, with clear routes to accessing information life-long, where needed
- Survey to determine if advice and support matches individual needs

QM4. Involving individuals in developing services

Marker of a quality service

• People who have had a stroke and their carers are meaningfully involved in the planning, development, delivery and monitoring of services. People are regularly informed about how their views have influenced services.

Rationale

The Government's 2005 White Paper on health and social care, *Our health, our care, our say*, and the *Commissioning framework for health and well-being* emphasised the need for people's voices to be heard at a local level where spending decisions are taken, and it will be important to include those who have had a stroke in these discussions.

Involving people who have had a stroke and their carers in the development of services at the outset can help drive improvement and tackle problems.[28] For example, consulting people with stroke and their carers on the relevance, suitability and completeness of services and resources to meet their individual needs will improve the quality of information that services provide. Regular audits involving people with stroke

and their carers, including people with communication and cognitive difficulties, should improve the effectiveness of information provision. Voluntary sector organisations can be effective in supporting this.

Some people may have specific support needs (e.g. those with aphasia, or hard-toreach groups such as people who do not have English as their first language) which need to be met to enable them to be involved in service development. Commissioners should take into account the needs of all the community in their planning.

This includes conducting an Equality Impact Assessment identifying how the different needs of their communities will be met in implementing changes. Strategic health authorities have a role in performance managing primary care trusts on their production of the Equality Impact Assessment and can check whether services are developing in line with any actions identified.

Action needed

- Establish a mechanism for regular consultation and involvement of those who have had a stroke and their carers.
- Ensure that this facilitates the involvement of all groups who are affected by stroke.

Measuring success

• Regular opportunities for people who have experienced stroke and their carers to have an effective voice in the development, delivery, quality and further assessment of stroke services.

QM5. Assessment – referral to specialist

Markers of a quality service

- Immediate referral for appropriately urgent specialist assessment and investigation is considered in all patients presenting with a recent TIA or minor stroke

- A system which identifies as urgent those with early risk of potentially preventable full stroke – to be assessed within 24 hours in high-risk cases; all other cases are assessed within seven days

- Provision to enable brain imaging within 24 hours and carotid intervention, echocardiography and ECG within 48 hours where clinically indicated.

Rationale

Judging the likely early risk of a recurrent stroke will determine the response to a TIA or minor stroke. This will represent a challenging step change in the handling of TIA and minor stroke cases. The evidence for treating TIA has developed significantly in the past few years: the time in which there is a significant risk of having a major stroke is now

acknowledged as much shorter, which means the response needs to be urgent. For those individuals attending primary care, advice needs to be given about taking aspirin and avoiding driving following a suspected TIA, in addition to rapid referral to emergency care.

All patients with minor stroke and all higher-risk patients with TIA and minor stroke (e.g. ABCD2 score >_4 – see Glossary) need to be assessed by a specialist and treated within 24 hours. Patients assessed as an emergency in the community should be taken by ambulance to an appropriate acute stroke service if their symptoms have not resolved, or if they are otherwise considered to be at high risk of stroke. Patients who attend emergency departments, out-of-hours treatment centres or similar providers soon after a TIA or minor stroke must be treated and must not be sent home and simply told to see their GP in due course.

An urgent assessment service provided by secondary care that allows same-day access for high-risk cases may best be achieved by allowing open-access for GPs, emergency department staff, paramedics and other providers. Appointment-based systems may introduce administrative delays.

Those at highest risk may justify immediate hospital admission. High-risk patients who are not felt to require immediate hospital admission have better outcomes if they are assessed, investigated and treated no later than 24 hours after referral (including cases presenting on weekends or public holidays). Treating TIA and minor stroke in this way will not only save lives, but can represent savings in the long term, because of fewer acute strokes and heart attacks. The ambition is for a twenty-four hour, seven day a week service to be available.

Lower risk patients with TIA or minor stroke are best investigated within seven days of the event.[35] Non-urgent referral for TIA or minor stroke is appropriate only for very low-risk patients, such as those presenting with events that occurred several weeks or months previously.

Imaging

High-quality imaging of the brain and blood vessels is a key part of a successful stroke service. Currently, computed tomography (CT) scans are sufficient to determine whether a stroke is due to a clot or a bleed, but the higher spatial resolution of magnetic resonance imaging (MRI) is better for determining whether the diagnosis for TIA is correct and how large any infarction may be. Both MRI and CT imaging will continue to have a role in the immediate term, but it is inevitable that advances will be made and therefore imaging for both stroke and TIA needs to be kept under review. It is a rapidly changing field and any definitive answer will soon be out of date. The Department of Health (DH) will be developing a stroke and TIA imaging guide to assist local decision-makers and to give further opportunity for the options to be discussed.

About 80 per cent of TIAs and minor strokes require scanning of the arteries around the throat, which provide blood supply to the brain. ‘Carotid imaging’ (Doppler ultrasound,

magnetic resonance angiogram (MRA) or a computed tomography angiogram (CTA)[36]) should ideally be performed at initial assessment and should not be delayed for more than 24 hours after first clinical assessment in TIA or minor stroke patients at higher risk of stroke (e.g. ABCD2 score >_4) or in patients with non-cardioembolic carotid-territory minor stroke. DH recognises that this is an ambitious vision and is in discussion with the relevant professional colleges and societies on ways to translate it into reality.

MRI, including diffusion-weighted imaging (DWI), gradient echo imaging (GRE) and MRA, is the most useful imaging for TIA and minor stroke. Rapid (i.e. with 24 hours of referral) MRI needs to be performed in all patients seen acutely after a TIA or minor stroke in whom there is uncertainty about the diagnosis, vascular territory or underlying cause.

In those patients with a clinical need, echocardiography and 24-hour electrocardiogram (ECG) should be performed within 48 hours of initial assessment and the results acted upon immediately in cases where anticoagulation is required.

These markers are supported by quality requirements 2 and 3 of the *National Service Framework for Long-term Conditions*: 'early recognition, prompt diagnosis and treatment' and 'emergency and acute management'.

Action needed

- Local referral protocols should be agreed between primary and secondary care to facilitate the timely assessment of people who have had a TIA or minor stroke.
- Review access to brain imaging.
- Estimate the likely impact on demand for brain imaging.

Measuring success

- Greater proportion of people who have had a TIA or minor stroke who have received a specialist assessment and brain scan within 24/48 hours or seven days, according to risk
- Reduced average time to carotid imaging
- Lower proportion of patients having a major stroke prior to investigation
- Greater proportion of people started on aspirin immediately

QM6. Treatment

Marker of a quality service

- All patients with TIA or minor stroke are followed up one month after the event, either in primary or secondary care.

Rationale

All patients with suspected TIA or minor stroke who are not already taking regular aspirin should be given 300mg aspirin immediately, or other agents as further evidence emerges.[37]

Carotid intervention for recently symptomatic severe carotid stenosis should be regarded as an emergency procedure in patients who are neurologically stable, and should ideally be performed within 48 hours of a TIA or minor stroke.

Investing in services to diagnose TIA and minor stroke and manage subsequent risk of stroke will result in savings to acute care costs, as more strokes will be prevented.

People who have had a stroke or TIA also need information and advice, particularly on smoking cessation, diet, exercise, alcohol, driving and what to do in the event of a recurrent TIA or stroke. Action may also be needed to manage other risk factors such as diabetes, hypertension, hyperlipidaemia or ischaemic heart disease. Individuals can be encouraged to take responsibility for monitoring and treating their own vascular risk factors by provision of personalised risk factor profiles, individualised targets and record sheets for ongoing monitoring of risk factors.

A follow-up one month after the event, either in primary or secondary care, means that medication and other risk factor modification can be assessed, and screening for cognitive or other subtle neurological impairments should be performed. Any neurological deterioration or recurrence should trigger further investigation.

These markers are supported by quality requirements 2 and 3 of the *National Service Framework for Long-term Conditions*: 'early recognition, prompt diagnosis and treatment' and 'emergency and acute management'.

Action needed

- Establish a clear pathway for managing TIA and minor stroke cases – high-risk and others.
- Establish a pathway for urgent carotid intervention.

Measuring success

- Greater proportion of people who have had a TIA or minor stroke who have received treatment within 24/48 hours.
- Greater proportion of people who receive a carotid intervention within 24/48 hours, according to risk.
- Smaller proportion of people having a major stroke prior to treatment.

QM16. Return to work

Marker of a quality service

• People who have had a stroke and their carers are enabled to participate in paid, supported and voluntary employment.

Rationale

Studies show that work is good for physical and mental health.[67] The inter-relationship between health, work and well-being was recognised by the *Commissioning Framework for Well-being.*[68] The workplace allows people both economic benefits and valuable social relationships. Many workplaces could offer simple, reasonable adjustments to enable people who have had a stroke to return to work, and are required to do so under the Disability and Discrimination Act 1995.

The workplace is also one of the best forms of rehabilitation.[69] Many people who have had a stroke will not be ready to return to work in the short term, but may be able to do so in the longer term and so can benefit from arrangements to give access to rehabilitation and support for return to work weeks, months or years post-stroke, as appropriate for the individual. There is evidence that this can be achieved by offering vocational rehabilitation to people after a stroke, and this may need to begin when they are in hospital.[70] It will also include access to government schemes for return to work. Volunteering can also provide both a means of trialling return to work and a satisfying alternative to paid employment for some people. Connect provides guidance about volunteering both for people with stroke and for voluntary organisations who want to involve volunteers with stroke and aphasia.[71]

Carers may also need support either to return or continue to work. In April 2003, the Government introduced a new right for parents of children up to age six and disabled children up to 18 to request flexible working and put a duty on the employer to consider their request seriously. The Work and Families Act extends the right to carers of adults from April 2007.

It may also be important to offer support for employers and voluntary organisations in adapting working conditions, especially for people with physical, communication and cognitive difficulties. This may include offering guidance on how to educate co-workers about the condition and what it means in practice for the individual's role in an organisation. Alternatively, support may be needed to facilitate, for example, reduced hours, and part-time working initially.

This marker is supported by quality requirement 6 of the *National Service Framework for Long-term Conditions*: 'vocational rehabilitation'.

Action needed

- Ensure support is offered to both individuals and their carers to enable them to return to work or to other opportunities such as volunteering.
- Establish partnership with Pathways to Work locally.

Measuring success

- Greater proportion of individuals and carers who return to paid work
- Greater proportion of individuals and carers volunteering

QM20. Research and audit

Marker of a quality service

- All trusts participate in quality research and audit, and make evidence for practice available.

Rationale

Provision of evidence-based services and participation in the development of research evidence for practice are key tenets of high-quality stroke service provision. The Stroke Research Network aims to facilitate stroke research by bringing about focused, effective investment to enhance NHS research infrastructure for stroke, and to increase collaborative working between academics, stroke clinicians, stroke service users and research funders. Local development of a co-ordinated infrastructure, including a workforce with the capacity and capability to participate is key.

The RCP National Sentinel Audit of the organisation of stroke care and its clinical audit has been carried out in two-yearly cycles since 1998. This enables providers to benchmark the quality of their services and assess progress on delivery of national guidelines and standards.

Action needed

- Strategic health authorities, providers and commissioners of services may need to:
  – ensure participation in high quality research, and audit.
  – consider roles, and ensure relevant research focuses on professional development.
  – ensure access to training for staff wishing to participate.
  – ensure user/carer involvement in setting priorities for participation in research.

Measuring success

- Development of links with local research networks for stroke
- Greater proportion of staff participating in UK Clinical Research Network, Stroke Research Network and local research network research training
- Greater proportion of staff with undergraduate, and/or postgraduate education and training in research
- Greater proportion of staff completing good clinical practice (GCP) training (in research)
- Greater proportion of patients recruited into trials, and other well-designed studies adopted by the Stroke Research Network

- Review knowledge of evidence for practice of staff
- Evidence of patient and public involvement mechanisms
- All trusts participating in the RCP Sentinel Audit

Source: National Stroke Strategy