MINUTES OF THE SCRUTINY REVIEW - STROKE PREVENTION
WEDNESDAY, 19 NOVEMBER 2008

Councillors Winskill (Chair), Mallett, Vanier and Alexander

Apologies Councillor

LC20. APOLOGIES FOR ABSENCE

Jinty Wilson (NCLCSN)
Lisa Redfern (AD Adults)
Eugenia Cronin (Joint Director of Public Health)

LC21. URGENT BUSINESS

TPCT Stroke Report

LC22. DECLARATIONS OF INTEREST

Dr Manheim if the Chair of Haringey Carers Centre.

LC23. STROKE PREVENTION: A MEDICAL PERSPECTIVE

Dr Vivienne Manheim
General Practitioner, Morum House Medical Centre, Haringey

Haringey has a large non English speaking population and this is reflected at the Morum House Centre.

There is a high Turkish population in the area and therefore the practice has two translators.

Concern re transient population and in particular asylum seekers who may not want to become part of the system and therefore are consistently moving. This makes it very difficult to monitor people and ensure that they attend for follow up checks.

All patients are given an initial medical when they join the practice. If any issues are found then the practice immediately tries to stabilise them.

Some blood pressure stabilising tablets have side effects which prevent people from taking them.

There is a need to get people to take responsibility for their own health and to gain an understanding of the risks that they are taking.

Every TIA and Stroke needs to be reported and monitored. This is often a big issue.

There can be poor communication between hospitals and GPs regarding those who have had/suspected of having a stroke. This is especially an issue with the private sector.

Are the private GPs that do not have a contract with the PCT monitored at all? These are often used by those who do not want to be part of the 'system'. There are also language issues which leads those who do not speak English as a first language to go to a private Dr who speaks their language.

Noted that there are some people in the borough who have been resident in the UK for a number of years but who are not aware that they can access the health service for free.

Expert Patient Groups need to be encouraged as they are often very willing to be involved and to help.

Many patients are unwilling to accept that they may have a stroke.

Points of discussion
Query as to how easy it is for patients to access translation services. Age Concern research has found that it is often not easy.

Some practices use Language Line to get translators.

There is a need to skill up practitioners so that they gain an understanding of their community profile and also to ensure they are all aware of the translating services available.

Not everyone who has a stroke or TIA is ready at that point to hear about the risks they may be taking and to have a conversation about the implications.

Dr Sejal Pandya
General Practitioner, JS Medical Practice, Haringey and member of the Professional Executive Committee (Haringey Teaching Primary Care Trust)

Dr Pandya's practice has a weekly walking session which is a practice led initiative. This now has a number of participants who attend on a regular basis.

There needs to be a national campaign on strokes, for example FAST. This needs to be a campaign along the lines of the recent campaign on Heart Attacks.

Patient Participation Groups (PPGs) – consideration should be given to making in compulsory for Strokes to be covered as part of their work.

Health professionals need to try and get out into Community centres to raise awareness of the risks of stroke and to monitor blood pressure etc.

The awareness of health professionals in the field of strokes also needs to be raised.

Tottenham Green Leisure Centre has a GP referral scheme for those with a Body Mass Index of 30 or above. This would cover those people at risk of stroke.

Consideration should be given to rolling out the scheme further across the borough.

Leisure Prescriptions.

Discussion around the possibility of introducing Leisure prescription for strokes. This scheme could include incentivised weight loss goals for example, extended discount

at leisure centres. Dr Pandya's surgery could consider piloting this. Would need to consider costs.
Noted that from an acute perspective it would be very useful to know what projects are happening across the borough that they could direct people towards.

Need to reinforce the link between healthy lifestyles/exercise and health for example having visible presence of health professionals in leisure centres.

Points of discussion
Robert Edmonds, Age Concern Haringey, is currently talking to the TPCT about the use of voluntary sector personal trainers.

Dr Robert Luder
Consultant Physician, North Middlesex Hospital Trust

Secondary prevention arena.

Believes that there is a need for awareness raising campaigns.

There are currently a lot of changes going on throughout the whole Stroke pathway. Including the reconfiguration of services in the acute sector.

The North Middlesex Hospital has but a bid into NHS London to have a Hyper Acute Unit (which would include thrombolysis), an Acute Unit and a TIA service. There is full organisational support for these bids. (Noted that if the North Middlesex hospital do not win the above bids they will still be provided somewhere else in London and still available for Haringey patients).
The outcomes of the bids will be known by January 2009 and the majority of services will then be expected to be up and running by approximately October 2009.

The costs associated with achieving the above would not be huge overall and comparatively. It would include recruiting one or two extra consultants, MRA scanning is already available, medication costs and carotid surgery costs.

Costs would become savings in the longer term. There would be increased life expectancy, decreased morbidity and a better quality of life.

Key elements of stroke care are seeing people fast, diagnosing them fast and putting them on the correct treatment fast. If you do this well and systematically then there is a high impact on the outcomes of strokes. A study in Oxford reported an 80% improvement in the outcomes of stroke patients.

It is also important to start aspirin, cholesterol lowering drugs and Blood Pressure drugs immediately after diagnosis and by working closely with primary care services.

Once people have had a scare they are generally likely to take it seriously and see their GP.

The North Middlesex Hospital is currently looking at electronic systems to enable them to communicate with GPs, for example letting them know when they have seen someone in the acute setting.

Electronic discharge prescriptions are currently part of their IT Strategy.

Ideal would be a system whereby GPs could look up the results from tests carried out in the acute setting rather than having to re-run tests themselves.

Points of discussion
Discussion surrounding the relationship between the acute sector and GPs, for example surrounding what happens after diagnosis.

Dr Luder often lectures for GPs and attends group meetings.
There are forms in place to refer TIA patients to their GPs after referral. This form will be amended should the North Middlesex win their bids.

LC24. NEW ITEMS OF URGENT BUSINESS

Dr Tamara Djuretic
Public Health Consultant, Haringey Teaching Primary Care Trust

Tamara presented a report on strokes, including mortality and morbidity data in Haringey. Please see attached document.

The stroke pathway is complex.

Nationally and in particular in London there is under reporting on the Quality Outcomes Framework.

The West of the borough has lower hospital admission rates but higher mortality rates for stroke. There are a number of possible reasons for this including the fact that people in the West may be less likely to present to a Dr – they may not know the underlying cause of symptoms they are experiencing. They are also more likely to die at home.

Dr Luder noted that age is the highest risk factor for strokes, and that the West has a higher proportion of older people.

Stroke mortality across the borough is 50% higher than expected. These are preventable deaths.

Noted that there is still work to be done in the area of strokes, particularly with regards to stroke registers. The London Health Observatory believes that only 60% of strokes/TIA are picked up in the borough.

Only a London basis Haringey can be considered to be doing 'okay' but there are large variances across practices.

Secondary prevention is being managed quite well in Haringey, but it is acknowledged that this is the tip of the ice berg.

Query as to the extent of under reporting – noted that this is at all levels of the stroke care pathway including those at risk of having a stroke. There is currently no feel to what extent this under reporting is.

Issues include information not being registered properly or at all. There is sometimes an issue with the IT literacy of some GPs, which may then rely on non-clinicians. This may cause problems with recalling patients.

There are also issues around people simply not turning up when they have been recalled.

Importance of the concept that "stroke is a preventable condition" noted.

There are a number of variances across the borough in relation to the hypertensive register. The possibility of looking at the age profile of each practice area and comparing this with the hypertensive register was discussed. The TPCT have agreed to look at this.

The Vascular checks which will be rolled out in 2009 should improve primary prevention.

Points of discussion
Use of text messaging to remind people of their appointments. Noted that if you send a patient a text they are highly likely to respond within 30 minutes, which is not the case with letters. Query as to whether this could be considered for investment?

Noted that older people may not be likely to have a mobile phone.

Noted that blood pressure checks to do have to be carried out by a Dr, they can also be carried out by other health care professionals. Query as to how many professionals go to the homes of people who are not able to get to practices.

There is a need to find a way of ensuring people go into their surgeries to get checks?

- How to you persuade people to do this?
- How do you subsequently get people to take their medication (when there may be unpleasant side effects to them as opposed to high blood pressure which can not be immediately felt). Query as to how big the compliance problem is with medication. GPs and Clinician believe that this could be significant and as high as 30%-40%.
- Compliance needs to be linked with an awareness and understanding of the implications of not taking your medication/having you blood pressure monitored. Notion of 'it won't happen to me' needs to be broken down.
- Concordance – an initiative to involve the patient in the treatment process and so improve compliance.

Query as to the success of engagement with the Expert Patient Programme in relation to strokes.

Dr Luder raised the importance of awareness and how someone who has suffered a TIA may be more able to identify with the consequences of their lifestyle/not taking their medication/not having their blood pressure monitored, than someone who has never experienced any of the symptoms.

At the same time there needs to be a high level of awareness of stroke risks, what the symptoms are and also that it is a medical emergency and that you should call 999.

There is an element of fatalism surrounding strokes. People are not aware that there is something that can be done about it.

What is the user experience of gain ing access to information? How easy is it for users to get information at different stages of the care pathway?

Noted that there is a diagnostic issue with TIA's – is it a TIA or a 'funny turn'?

Discussion around the sessions run by the Whittington when a person is diagnosed with Diabetes. Sessions are conducted in a brutally honest way which ensures that people take notice.

Could something similar be considered for TIAs/high blood pressure patients.

Dr Luder, Robert Edmonds and John Murray will meet to discuss an Expert Patient Programme pilot at the North Middlesex Hospital.

Importance of linking the acute sector with the voluntary and community sector.

LC25. DATE OF NEXT MEETING

TBC

STROKE IN HARINGEY

Toyin Ogboye

Public Health Analyst

November 2008

Definition of Stroke

According to the World Health Organisation, stroke is a syndrome characterized by rapidly developing clinical signs of focal (at times global) disturbance of cerebral function, lasting more than 24 hours or leading to death with no apparent cause other than that of vascular origin. There are two types of stroke

Ischaemic stroke: The most common type of stroke, accounting for almost 80% of all strokes. It is caused by a clot or other blockage within an artery leading to the brain. Transient Ischaemic Attack (TIA) is a minor stroke which has usually rectifies itself within 24 hours. It is a strong risk factor of possible further stroke (Sauerbeck, 2006).

Haemorrhagic stroke: It is less common, accounting for 20% of all strokes. It caused by bleeding into brain tissue when a blood vessel bursts (Sauerbeck, 2006).

Burden of Stroke

National

Stroke is the third most common cause of death in the United Kingdom, and the largest single cause of severe disability (Saleem *et al*., 2008). There are over 900,000 people who have had a stroke living in England (prevalence approximately 1.5%). In the United Kingdom, the prevalence of stroke in people aged over 75 years is about 8% for women and 9% for men (Kwain, 2001). Each year approximately 110,000 people in England suffer from a stroke. Thirty three percent will recover fully with no long-term ill effects, 33% may experience permanent disability and 33% will die. Stroke has a 2.2 higher incidence in people of African or Caribbean origin, and men of South Asian origin are also disproportionately susceptible to stroke. Bangladeshi and Pakistani women are reported to have relatively high levels of stroke. One in ten strokes occurs in people under the age of 55 years (Department of Health, 2007). Stroke is a life changing event that affects not only the person who may be disabled, but the entire family and other caregivers as well (Goldstein *et al*., 2006). Its human and economic toll is staggering. Stroke costs the NHS and the economy about £7 billion a year: £2.8 billion in direct costs to the NHS, £2.4 billion of informal care costs (e.g. the costs of home nursing borne by patients' families) and £1.8 billion in income lost to productivity and disability (Department of Health, 2007). The NHS in London spent £136 million on stroke care in 2006/2007. By 2010 the Government aims to reduce the death rate from Stroke, CHD and related diseases in people under 75 by at least 40% (Saleem *et al*., 2008).

Local

Stroke is one of the major causes of death from circulatory disease in Haringey. Deaths from stroke in Haringey are higher than for England as a whole. In 2004-2006, there were a total number of 196 deaths from stroke of these 45 people (23%) under the age of 75 died of potential preventable stroke. In Haringey, there has been a significant increase in Under 75 years stroke standardised mortality rate (SMR) from 2002 to 2006 (Figure 1). In 2006/2007, 270 people were admitted to hospital with stroke (Secondary Uses Service (SUS)). The rate of stroke admissions from 2001 to 2007 is shown in Figure 2 below. Haringey's GPs suggests that there are

2317 people living with stroke in Haringey in March 2008 – an overall prevalence of 0.84%. This is likely to be an under- estimate due to incompleteness of reporting known to be associated with the Quality Outcomes Framework (QOF) data in Haringey. Slight variations in stroke prevalence appear to occur across the geographical areas of the Borough; the highest prevalence being in the Central and North East Localites (0.9%) and lowest in the West (0.86%) and South East (0.69%). The London Observatory suggests that under diagnosis exists in Haringey, only 61% (the lowest in London) of the expected cases diagnosed and managed. High stroke death rates compared with London and England, particularly in Under 75s were recorded in 2004-06 (Office of National Statistics).

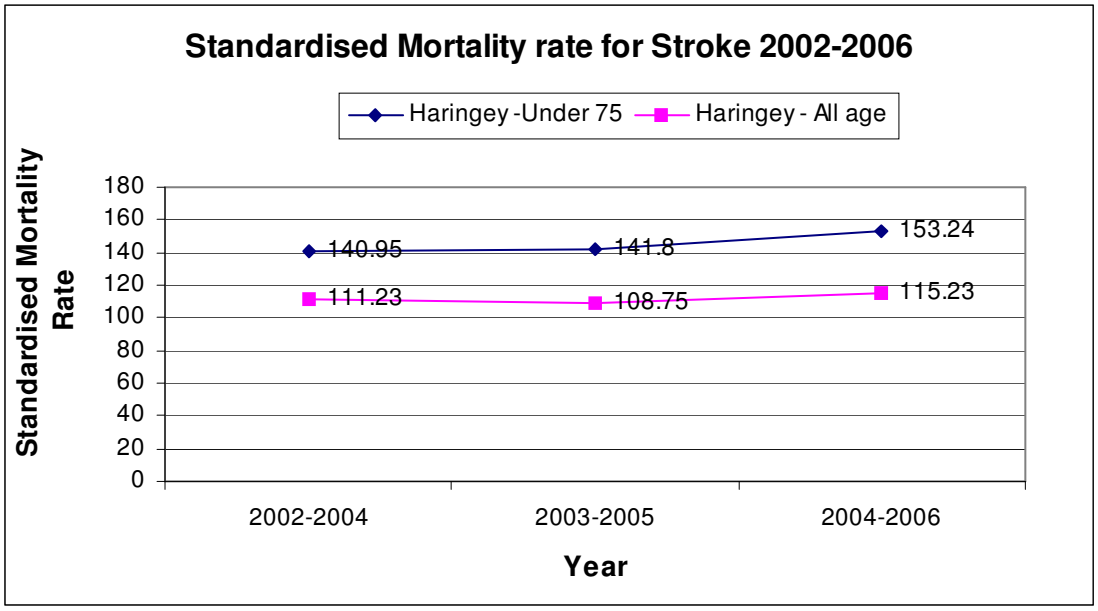

Figure 1: Stroke Standardised Mortality Rate (SMR) in Haringey, 2002-2006
Source: Office of National Statistics.

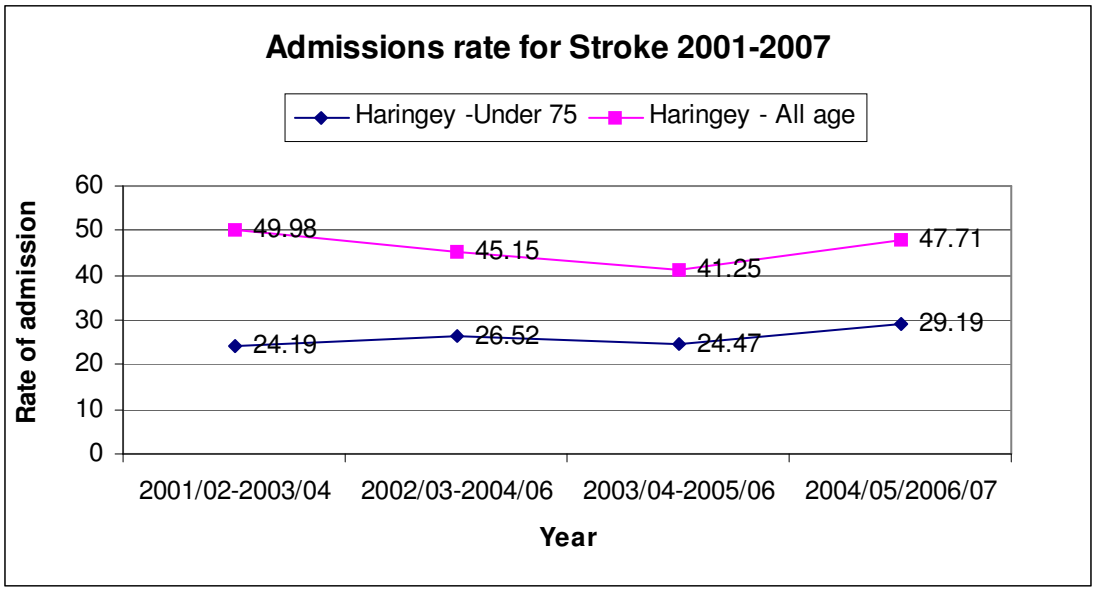

Figure 2: Stroke Admissions rate in Haringey, 2001-2007
Source: Secondary Uses Service (SUS)

Risk Factors for Stroke

The risk for stroke is based on heredity, natural processes, and lifestyle. Many risk factors for stroke can be changed or managed (i.e modifiable) such as lifestyle factors which include smoking, obesity, poor diet, physical activity and excessive alcohol consumption, and health conditions such as previous stroke or TIA, diabetes, hypertension (high blood pressure) and cardiac diseases (such as atrial fibrillation, infective endocarditis, mitral stenosis, recent large MI, left ventricular hypertrophy). Many of these conditions are associated with lifestyle factors. The relative risk of these conditions (Table 1) suggests that the identification and management of present health conditions should be vital to stroke prevention strategies.

Others that relate to hereditary or natural processes cannot be changed (i.e non-modifiable) which include age, ethnic group and gender. Both paternal and maternal history of stroke has been associated with an increased stroke risk. This increased risk could be mediated through a variety of mechanisms, including (1) genetic heritability of stroke risk factors, (2) the inheritance of susceptibility to the effects of such risk factors, (3) familial sharing of cultural/environmental and lifestyle factors, and (4) the interaction between genetic and environmental factors (Liao *et al*., 1997).

Table 1: Stroke risk factors and their relative risk

Risk Factor	Relative Risk
Age (per decade)	2.2
Male gender	1.4
BP (per 10mmHg diastolic)	2.3
BP (≥ 160mmHg systolic)	2.5 - 4
Atrial fibrilation	5
Diabetes Mellitus	2 -3
Ischaemic Heart Disease	2.5
Heart Failure	2.5 – 4.4
Peripheral vascular disease	2
Previous TIA	7
Previous stroke	9 - 15
Warfin treatment	7 - 10
Smoking	2
Alcohol (> 30 units/week)	2.5 - 4
Family History	1.4 - 2

Source: Kwain, 2001

The Stroke Pathway

- Population-level prevention
    - Health education, social marketing and life style modification
- Primary care prevention: management of risk factors in individuals – Hypertension, cholesterol, obesity, atrial fibrilation, alcohol, diabetes
- Rapid access to Health Care Transient Ischaemic Attack (TIA) management, Acute stroke management – including timely CT scans and thrombolysis
- Acute rehabilitation in a stroke centre
- Secondary prevention
- Specialist Rehabilitation in the community
- Care and support

Health inequalities in Stroke

> *Exworthy et al (2003) defined health inequalities as systematic, structural differences in health status between and within social groups within the population. These groups can be defined by socio-economic status, geographical area, age, disability, gender or ethnic group.*

The differences in stroke risk and outcome in groups defined by socio-economic status, geographical area, age, disability, gender or ethnic group is demonstratable.

Age:

Stroke incidence is clearly associated with advancing age (Chong and Sacco, 2005). People who are over 65 years of age are most at risk from having strokes, but they can affect people of any age, including children. The risk of stroke doubles for each successive decade after the age of 55 years (Goldstein et al., 2006). Haringey has an aging population. The number of people aged 65 years plus in Haringey is projected to rise from 20,400 in 2008 to 23,300 in 2025 (Greater London Authority, 2006).

Ethnic Group:

Stroke is an important cause of mortality and morbidity in Blacks worldwide. People of Black ethnic origin are at increased risk of having a stroke, and the number of people affected by the condition is higher among this ethnic group than the white ethnic group (Bravata *et al*., 2005). This is because of higher prevalence or severity of stroke risk factors (smoking and obesity) in blacks, biological differences between blacks and whites, and lower socioeconomic status in blacks compared with whites. People of Black ethnic origin have a genetic predisposition (a natural tendency) to developing diabetes and heart disease, which are two conditions that can cause strokes (Gillum,1999). Stoke also occurs at a higher rate than the general population in some other ethnic groups such as Bangladeshi and Pakistani ethnic origin and

whit Irish men (Health Survey for England, 2004). Given the ethnic diversity of Haringey's population this is very important for local preventive strategies.

Gender:
Stroke is more prevalent in men than in women (Goldstein *et al*., 2006). Men also generally have higher age-specific stroke incidence rates than do women; exceptions are in 35- to 44-year old and in those of 85 years of age groups in which women have slightly greater age-specific stroke incidence than do men (Sacco *et al*., 1998). Factors such as oral contraceptive (OC) use and pregnancy contribute to the increased risk of stroke in young women (Kittner *et al*., 1997) and the earlier cardiac-related deaths of men with cardiovascular disease may contribute to the relatively greater risk of stroke in older women (Goldstein *et al*., 2006).

Geographical area:
Area deprivation is associated with a higher incidence of stroke, increased rate of recurrence and early first stroke (Aslanyan *et al*., 2003).

Disability:
Having a disability irrespective of independent living by an individual results in a delay in presenting for treatment in the event of stroke (Smith *et al*., 1998).

Socio-economic Status and Stroke:
The phenomenon that health is not evenly distributed over the different socioeconomic classes has been well established in many studies (Cox *et al*., 2006). In several studies a gradient appears across the social spectrum, rather than a threshold effect, suggesting that it is the position within the social hierarchy that is important for health (Macintyre, 1997). General factors that affect health have been categorised at the individual level to include material (e,g income and possessions), behavioural (e.g. diet, smoking and exercise) and psychosocial factors (percieved inequality, stress). Socioeconomic status (SES) (as defined by occupational position, income or education) is an important and powerful determinant of stroke incidence and outcomes (Cox *et al*., 2006). Decreasing socioeconomic status is associated with increasing stroke incidence and stroke mortality. People from lower socioeconomic groups have a substantially higer risk of stroke. Higher stroke mortality rates of lower socioeconomic groups are probably related to several factors (Kapral *et al*., 2002). As a general rule, disadvantaged communities are more frequently exposed to lifestyle factors for the risk of stroke, such as excessive alcohol consumption, smoking and obesity (Anton *et al*., 1998), which result in conditions such as hypertension and diabetes.

Haringey Population Profile

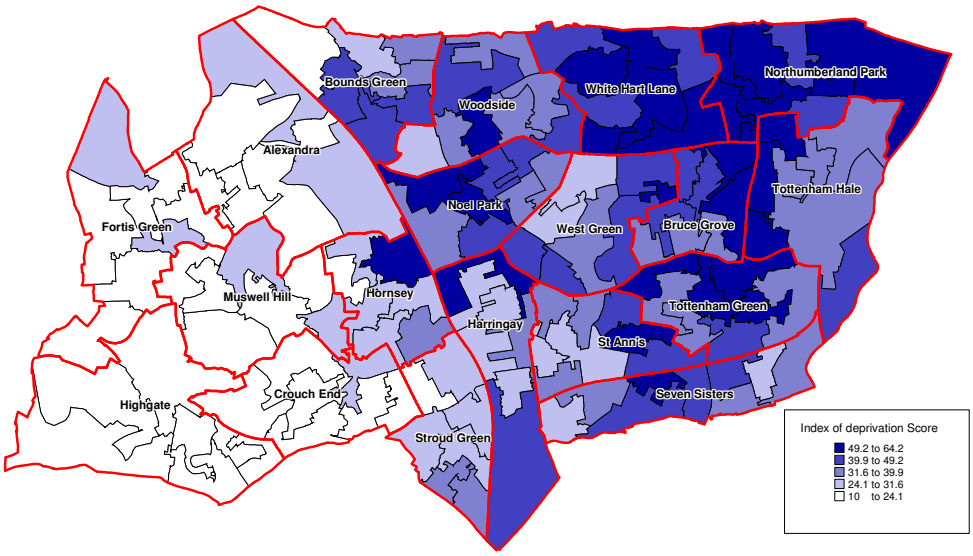

Figure 3: Index of deprivation score by lower super output area.
Source: Department and Local Government, Indices of Deprivation, 2007 of Communities

Socioeconomic deprivation has a significant impact on health. Inequalities in experience of health occur in Haringey and this can be explained by difference in socioeconomic status (using index of deprivation) in different parts of Haringey (Figure 3).

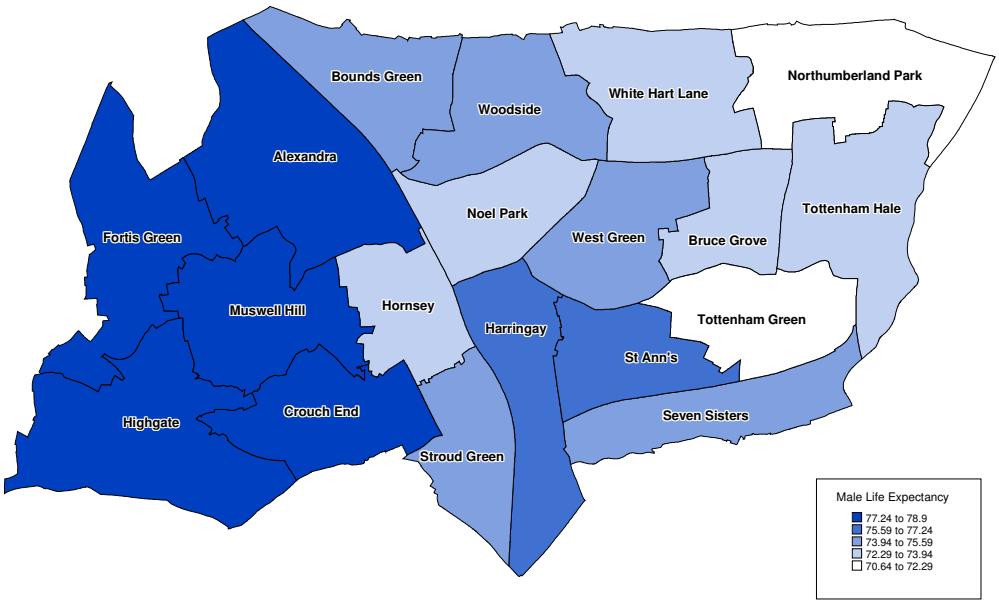

Figure 4: Male Life Expectancy 2002-2006
Source: London Health Observatory, 2002-2006 data

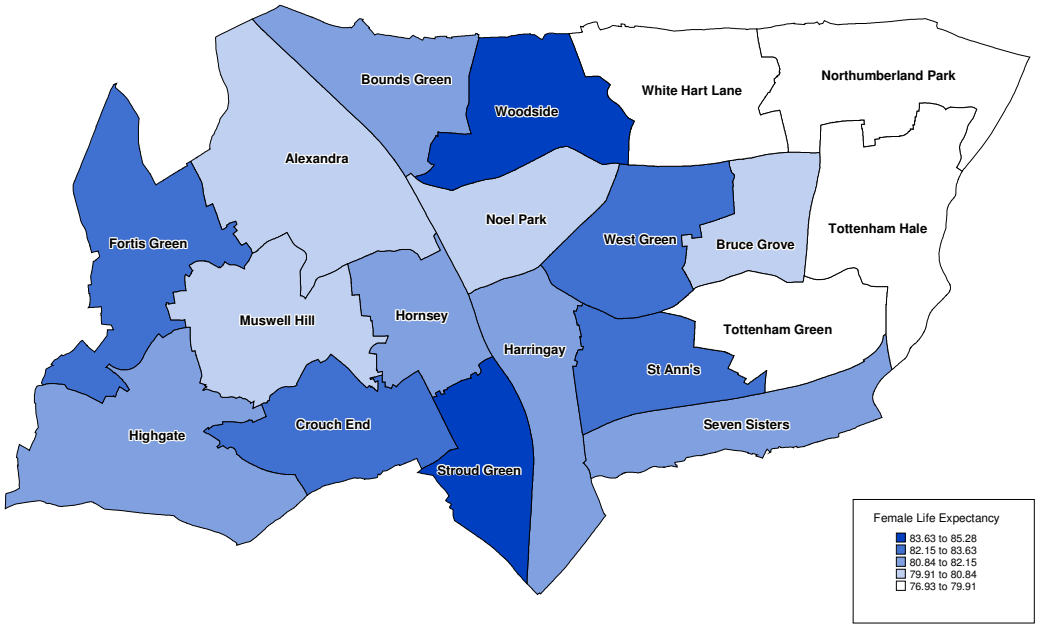

Figure 5: Female Life Expectancy 2002-2006
Source: London Health Observatory, 2002-2006 data

Generally, the more deprived wards (as measured by the Index of Multiple Deprivation) have a lower male life expectancy than the more affluent wards. At the two extremes, male life expectancy in Tottenham Green (70.6 years) is over 8 years lower than male life expectancy in Alexandra (78.9 years) (Figure 4). The gap in

female life expectancy between the boroughs with the highest and lowest life expectancy is 6.8 years in 2002-2006 (Figure 5).

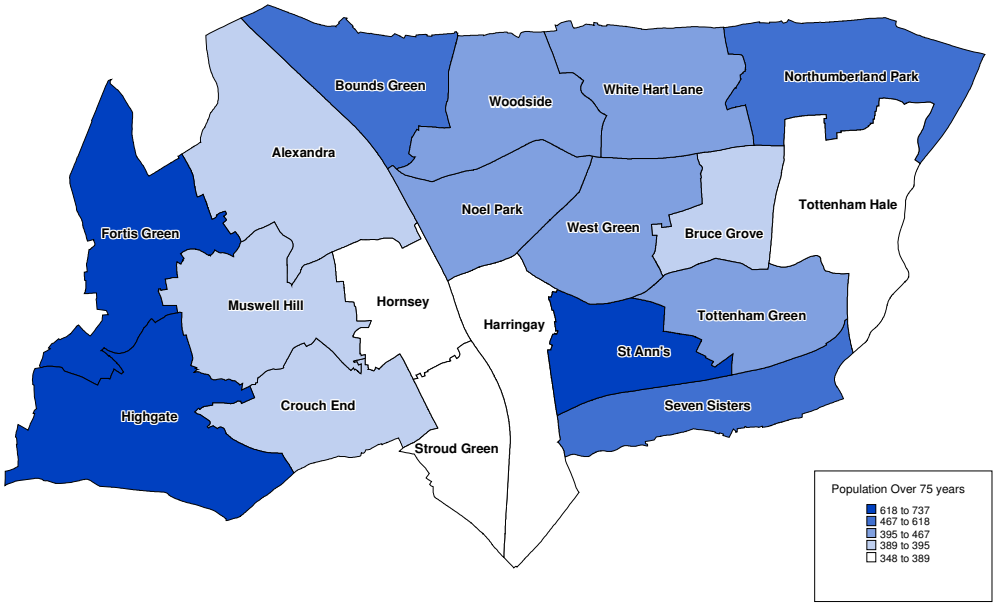

Figure 6: Population Over 75 years
Source: Greater London Authority, 2007

Residents in Highgate, Fortis Green and St Ann's have the highest number of people under the 75 years. Residents in Tottenham Hale, Hornsey, Stroud Green and Harringay have the lowest number of people under the 75 years.

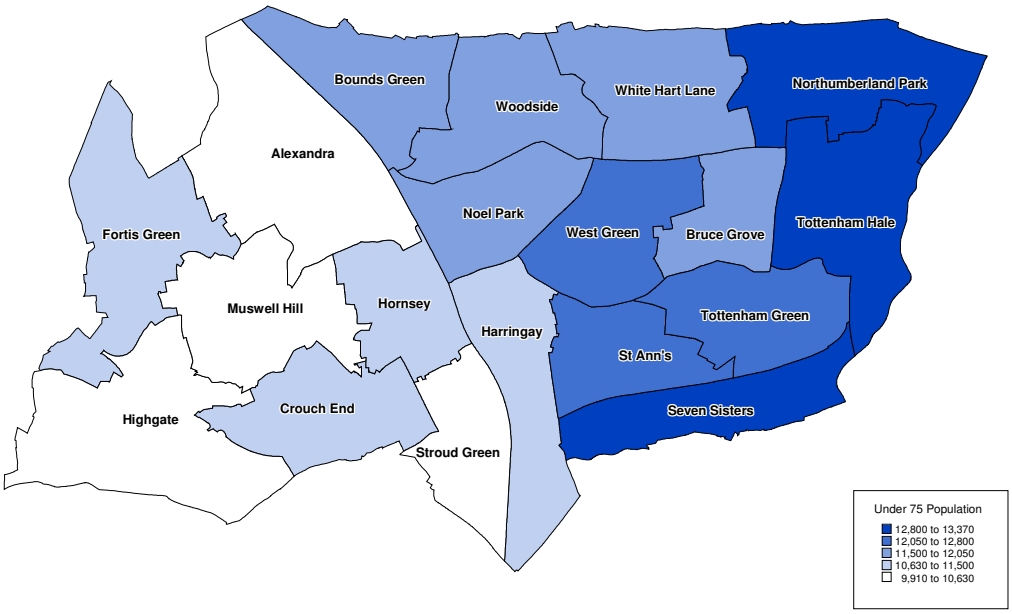

Figure 7: Population Under 75
Source: Greater London Authority, 2007

Residents in Tottenham Hale, Northumberland Park and Seven Sisters have the highest number of people under the 75 years. Alexandra, Highgate, Muswell Hill and Stroud Green have the lowest number of people under the 75 years. Tottenham Hale and Northumberland are in top fifth of wards for under 75 years population and in the fifth of the wards with the highest under 75 mortality from stroke.

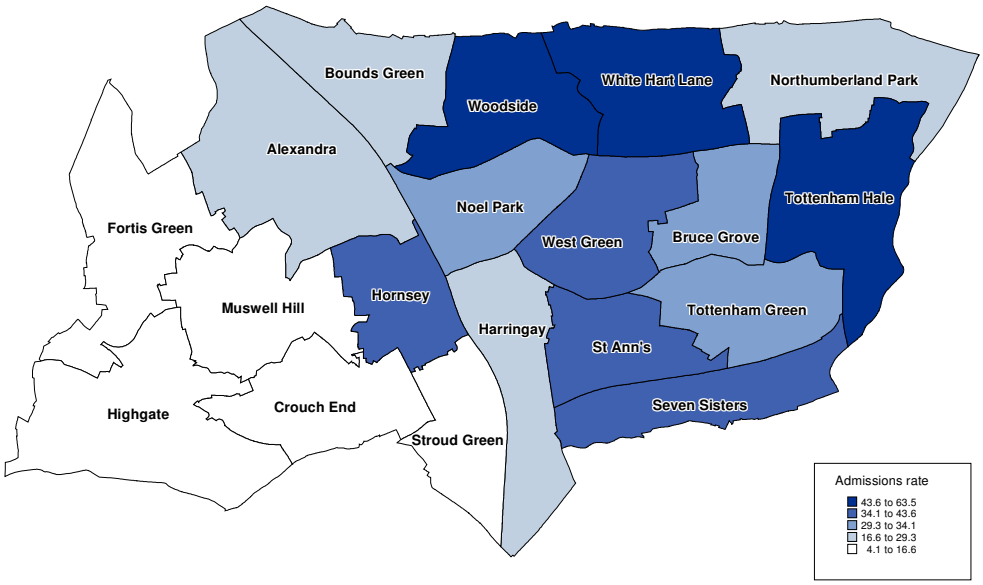

Figure 8: Under 75 years stroke admissions rate. Source: SUS

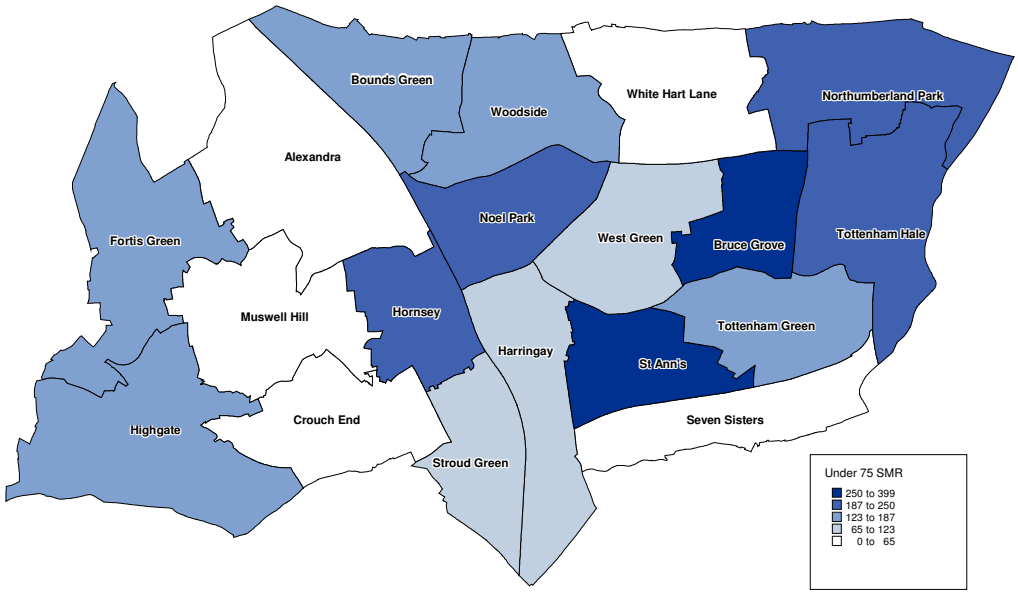

Figure 9: Under 75 years stroke standard mortality ratio (SMR)
Source: Office of National Statistics

Figure 8 and 9 show rate of hospital admissions and deaths from stroke in those under 75 years of age in Haringey. There are geographic differences in the mortality and incidence of stroke in Haringey. In 2004/05 to 2006/07, hospital admissions for stroke those under 75 years of age in Haringey occurred at a rate of 29.19 per 100,000. Higher rates of stroke admissions were observed in the wards of Tottenham Hale, Woodside and White Hart Lane. Lower rates were observed in Muswell Hill and Stroud Green. Stroke deaths rates (SMR) for residents less than 75 years of age in 2004-06 was 153, 50% higher than expected. Higher than expected mortality rates from stroke (in residents aged less than 75 years) were observed in almost all areas in the borough, particularly St Ann's and Bruce Green wards.

The Stroke death rate and hospital admission give an important pointer of the size of the problem, but underestimates the true incidence in the community. Some people are surviving with mild or slowly developing stroke, for which they do not go to the hospital for treatment. For example, White Hart Lane has relatively high under 75 years stroke admissions rate, but a fairly low stroke mortality compared to other wards, where as Northumberland is in middle fifth of wards for under 75 years stroke admissions rate but in the fifth of the wards with the highest mortality. Hornsey has high rates of under 75 years stroke admissions and mortality from stroke. These differences could reveal not just differences in wards in the treatment of acute stroke by health services but also differences in ward populations' ability to identify and take effective timely action.

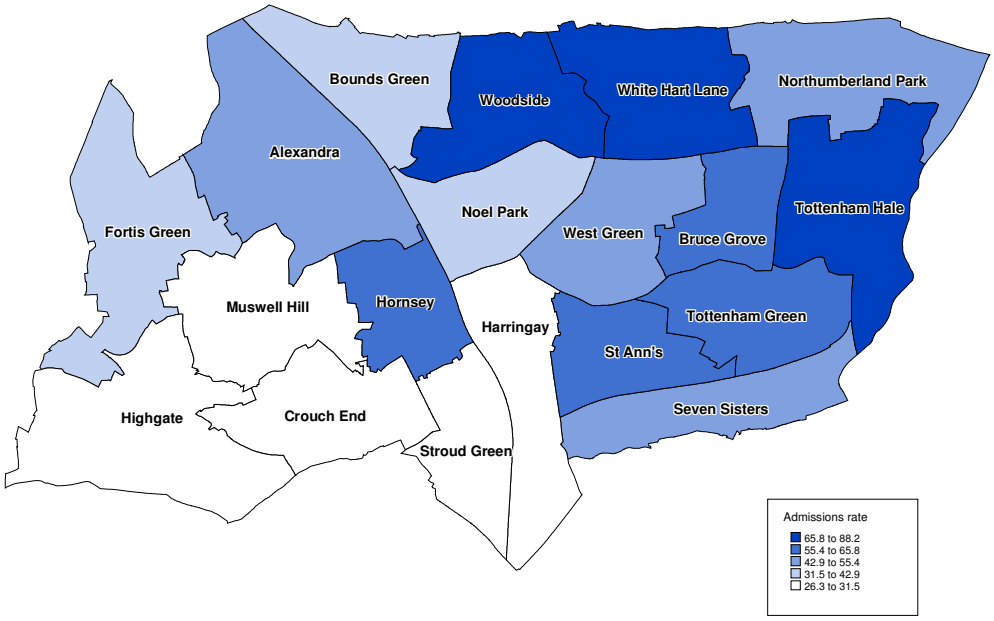

Figure 10: All age stroke admissions rate
Source: Secondary Use Service (SUS)

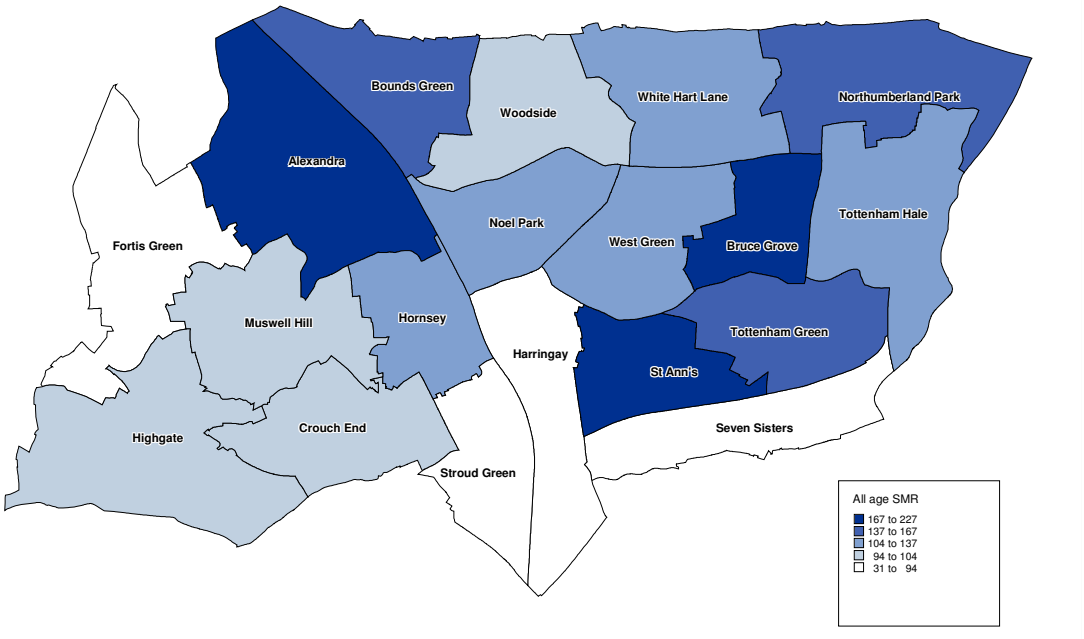

Figure 11: All age stroke standard mortality ratio (SMR)
Source: Office of National Statistics

Figure 10 and 11 show rate of hospital admissions and deaths rates from stroke for all ages in Haringey. There are geographic differences in the mortality and incidence of stroke in Haringey. In 2004/05 to 2006/07, hospital admissions for all age stroke in Haringey occurred at a rate of 47.7 per 100,000. Higher rates of stroke admissions were observed in the wards of Tottenham Hale, Woodside and White Hart Lane. Lower rates were observed in Muswell Hill and Stroud Green. Stroke death rates for residents of all age in 2004-06 was 115, 15% higher than expected. Higher than expected mortality rates from stroke fro all ages were observed in almost all areas in the borough, particularly in St Ann's, Bruce Green and Alexandra wards.

GPs recorded prevalence (0.84%) of stroke in Haringey (Figure 12). According to Eastern Region Public Health Observatory (ERPHO) the expected prevalence of stroke in Haringey is 2.3%. GPs are treating only about 37% of those estimated to have stroke. There is therefore serious under recording of stroke in GP registers. The difference could be explained by the fact that the estimated prevalence is the number of people who have had stroke at any time while GPs rely only on presented stroke in primary care. The fraction of people with stroke, in particular people with no apparent, lasting disability could be overlooked. There is evidence of differences between ethnic groups and socioeconomic status in timely recognition of stroke, seeking help early and early arrival at the hospital (Ratner *et al*., 2006). Stroke awareness campaigns should focus on ethnic minorities and disadvantaged population to promote early recognition of stroke signs and prompt access to healthcare services.

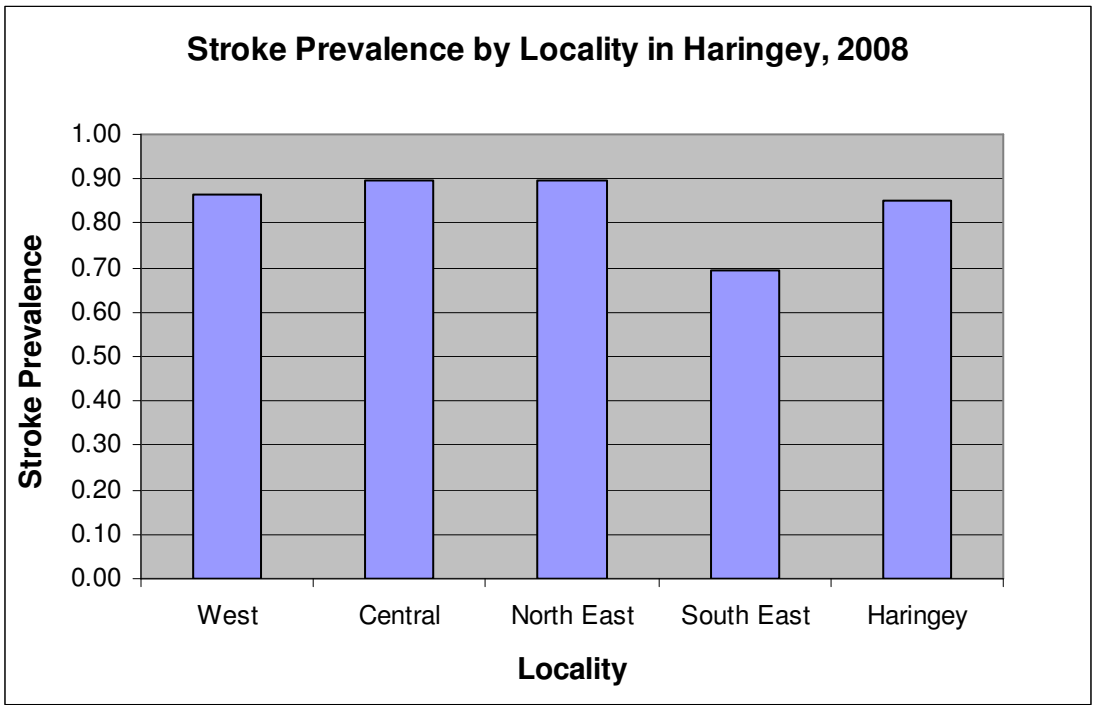

Figure 12: Stroke Prevalence by Locality in Haringey (2008)
Source: Quality Outcomes and Framework data (March, 2008)

Prevention of Stroke in Haringey

Stroke is a preventable condition. Kwain (2001) highlighted that 50% of stroke deaths in patients aged less than 70 years might be preventable by use of existing knowledge through primary care and population level preventive strategies. There are two types of stroke prevention: Primary prevention – prevention before first event and Secondary stroke prevention – prevention for recurrent strokes.

Primary prevention

According to Lynch *et al* (2005), the management of risk factors leads to significant reductions in the occurrence of both first and recurrent strokes. The Stroke Association highlighted that 40% of strokes could be prevented with the monitoring and treatment of Hypertension (high blood pressure). Kwain (2001) highlighted that modifiable risk factors for stroke in the general population such as hypertension, smoking, arterial fibrillation and obesity should be the target for primary prevention strategies. Evidence shows that the identification and management of underlying stroke risk factors in primary care varies across general practices in Haringey (Table 2).

Table 2: Management of stroke risk factors in primary care in Haringey in 2006/2007

Performance of GP practices in Haringey in identification and management of stroke related risk factors			
	Haringey	**General Practice Variance**	**London**
Patients on Hypertensive register	9.5%	2.5% - 17.0%	10.3%
Hypertensive patients blood pressure checked < 9 months	91.5%	76.4% - 100%	90.3%
Patients that are obese (BMI 30+)	7%	2.2% -18.0%	6.5%
Patients that smoke	25.1%	8.6% - 27.5%	23.4%
Patients on Arterial Fibrillation Register	0.5%	0% - 2.0%	0.8%
Arterial Fibrillation treated with anticoagulant/platelets	88.0%	0% - 100%	87.8%

Source: London Health Observatory data (2006/2007)

Secondary prevention

Due to the considerable risk of a reoccurrence of a stroke in persons with major stroke or Transient Ischaemic Attack (TIA), monitoring and treatment after first event of stroke are important in preventing further stroke (i.e. secondary prevention). Following discharge from hospital, the management and care of stroke patients is primarily undertaken through the General Practices. The performance of GPs in managing stroke patients (secondary prevention) is measured through the Quality and Outcomes Framework. The Quality and Outcomes Framework (QOF) is an innovative way to reward GPs for providing good quality care for their patients and a way of funding the work needed to improve the health care delivered to people

across the United Kingdom. Stroke patients in Haringey seem to be well managed by their GP through regular blood pressure and cholesterol monitoring, provision of anti blood thinning/ thickening treatments. However, evidence shows that the performance of general practices varies across Haringey (Table 3).

Table 3: Management of stroke in Haringey in 2006/2007

Management of stroke and TIA in Haringey 2006/7			
	Haringey	**General Practice variance across Haringey**	**London**
Patients on stroke register	0.84%	0.1%-2.0%	1.0%
Stroke Patients BP Check in past 15 months	93.8%	82.4% - 100%	94.4%
Stroke Patients BP 150/190 or less	81.2%	35.7-100%	81.8%
Stroke Patients cholesterol checked in past 15 months	82.8%	64.3-100%	84.9%
Stroke Patients with cholesterol <5.0	61.9%	25-100%	63.6%
Stroke Patient with anti platelet /anti coagulant	93.2%	50-100%	93.7%
Stroke Patients given flu immunisation	72.2%	35.7-100%	74.6%

Source: London Health Observatory data (2006/2007)

Given the relative cost of stroke prevention interventions (Table 4), population level prevention and primary care prevention seem to be the effective methods of reducing risk of stroke.

Table 4: Cost of interventions to prevent one stroke per year

Interventions	**Cost to Health Services (£)**
Quit smoking by yourself	Nil
Quit smoking with NRT	12,000
Aspirin for those at increased risk of stroke	600
Treatment of High Blood Pressure	1000-7000
Low dose anticoagulation for atrial fibrillation	9000
Statins (for heating high blod cholesterol)	20,000-25,000
Carotid surgery (for those at high risk of stroke)	162,000-232,000

Source: London Health Observatory

Conclusion

Stroke is a serious but potentially preventable public health problem in Haringey. Understanding of the risk factors, local burden of stroke and relative cost of stroke prevention health services is essential in order to provide preventive primary care services. The variation in identification and management of underlying stroke risk factors in primary care across general practices in Haringey proves to be significant.

The North Central London Cardiac Network (NCLCN) will take the strategic lead in scoping local stroke services to assess the level of service provision and to identify any service gaps across the sector, across Barnet, Camden, Enfield, Haringey and Islington. The initial focus of the work from the NCLCN will be on acute stroke care provision; however, work will also be carried out in terms of stroke prevention.

Local initiatives are focusing on:

- Commissioning awareness campaigns aiming to promote early recognition of stroke signs and prompt presentation to healthcare services;
- Developing strategies to improve stroke registers in primary care;
- Vascular risk checks to identify people who are at risk for stroke and apply evidence-based intervention measures to reduce morbidity and mortality related to stroke
- Strengthening stroke specialist rehabilitation services in the community

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