



South London
Cardiac and Stroke Network

Stroke prevention in primary care

*Optimising management of patients with atrial fibrillation in
primary care through the support of an arrhythmia nurse
specialist*

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November 2011

Background

Prevalence

- Atrial fibrillation (AF) is the **most common heart rhythm disturbance**, occurring in 1-2 per cent of the population.
- During 2007-2010, the observed prevalence of AF for South London PCTs ranged from 0.7 per cent to 1.2 per cent.
- It is estimated that due to silent undetected AF, the 'true' prevalence of AF may be closer to 2 per cent of the population.
- The prevalence of AF increases with age. Thus, the future prevalence of AF is expected to rise as the population ages.

AF and stroke

- AF **increases the risk and severity of stroke**.
- People with AF are five times more likely to have a stroke than people with a normal heart rhythm.
- Strokes caused by AF result in far greater morbidity and mortality as compared to strokes due to other causes.
- Overall death rates are doubled by AF and only antithrombotic therapy has been shown to reduce AF related deaths.

Building upon previous work

In 2010 the South London Cardiac and Stroke Network (SLCSN) participated in a Heart and Stroke Improvement Programme National Priority Project, **Stroke prevention in primary care: addressing atrial fibrillation**. The project aimed to provide a strategic vision for improving and redesigning care for patients with AF across South London by focusing on four key work areas:

1. **Increase the observed prevalence** of atrial fibrillation by enhancing the identification of new AF patients
2. **Optimise treatment for AF** by increasing the percentage of patients on anticoagulation. Increase the use of stroke risk stratification tools
3. **Stock take and review existing services** (e.g. anticoagulation services and primary care ECG services)
4. **Provide educational components** for both staff and patients on identification and management of AF in primary care

Steering groups were established in four PCTs, with membership drawn from primary care GPs, information management facilitators, commissioners, secondary care cardiologists and arrhythmia nurse specialists.

- South East London - Bromley and Greenwich
- South West London - Sutton & Merton and Wandsworth

As this National Priority Project (NPP) drew to a close, the SLCSN reviewed lessons learned during the project in order to identify future opportunities which would most benefit patients with AF. This work would be taken forward and further explored in a second phase of this stroke prevention work.

This second phase of work focused on optimising treatment for AF.

Optimising treatment for AF: Aims

The main aim of this work was to determine whether providing GP practices with specialist support from an arrhythmia nurse would increase the numbers of patients with atrial fibrillation at risk of stroke (CHADS₂ > 1, see right) being prescribed an oral anticoagulant to reduce this risk.

Practices wishing to participate in the project and benefit from a visit from the arrhythmia nurse were required to first download the GRASP-AF tool and then upload practice data anonymously to CHART-Online.

GRASP-AF

- Identifies all patients on practice AF register
- Calculates a CHADS₂ score for all AF patients
- Highlights in red those patients with a CHADS₂ score greater than 1 who are not on warfarin

CHART-Online

- After running GRASP, practices are recommended to upload data to CHART-Online
- Enables practices to save baseline position
- Following review for optimal therapy further uploads will demonstrate progress to reducing stroke risk
- Uploading to CHART-Online allow practices to anonymously compare results with other practices, PCTs and cardiac and stroke networks

The **CHADS₂ score** is a clinical prediction rule for estimating the risk of stroke in patients with AF. The acronym is based on the scoring attributes: **C**ongestive heart failure, **H**ypertension, **A**ge > 75, **D**iabetes mellitus, and prior **S**troke.

GRASP-AF is an online tool that uses existing general practice data to identify patients at high risk of stroke not on optimal treatment. **CHART-Online** is a web-based comparative tool which assists in benchmarking data.

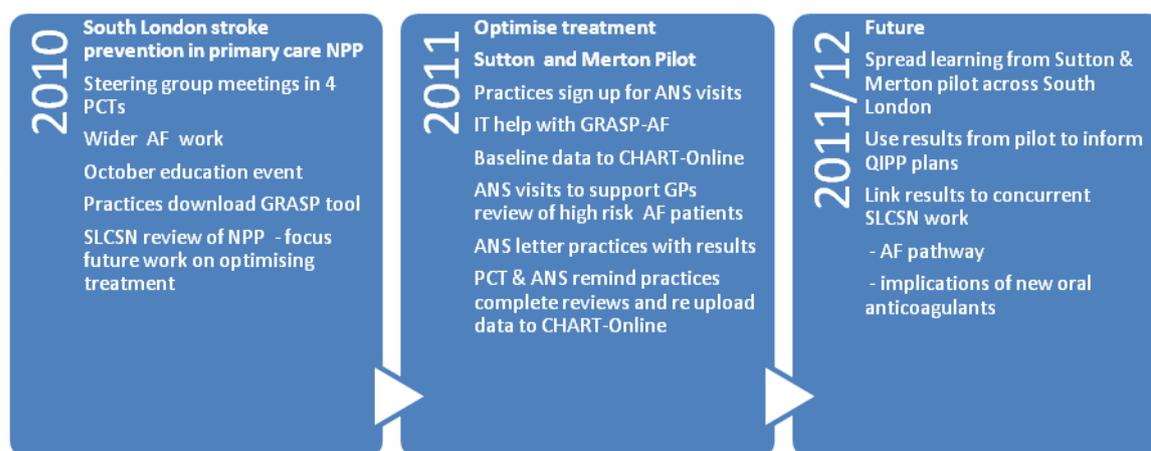
CHADS ₂ score	
Stroke clinical risk factor	Score
CHF	1
Hypertension	1
Age ≥75	1
Diabetes	1
Stroke /TIA	2

CHADS ₂ score	Recommended stroke prevention
> 1	Oral anticoagulant (OAC) (such as warfarin)
1	Either OAC or aspirin 75–325 mg daily. Preferred: OAC rather than aspirin
0	Either aspirin or no antithrombotic therapy Preferred: no antithrombotic therapy

Method

- In September 2010, the SLCSN invited interest in a secondment to support primary care in optimising treatment of AF. The request was sent to hospital-based South London arrhythmia nurse specialists (ANSs).
- The ANS awarded the role was based in the hospital trust in Sutton & Merton, one of the PCTs participating in the NPP. This connection made it reasonable to pilot this new intensive work with practices in Sutton and Merton.
- The ANS committed one and a half days each week to the project.
- Key to the success of and dedication to the project was the clinical and managerial support from the PCT's CVD lead and the long-term conditions senior commissioning manager.

- The SLCSN facilitated a stroke prevention education event for Sutton & Merton in October 2010. This event was attended by 56 local GPs. Presentations focussed on AF, including the benefits of the GRASP-AF tool.
- The SLCSN steering group conducted further engagement and outreach work in 2010 (including the education event). At the end of the year, 20 out of 56 practices in Sutton and Merton (37 per cent) were interested in participating in the project.



Key roles

Arrhythmia nurse specialist

The ANS adopted a flexible approach to the practice visits, tailoring the education and support given according to the needs of each individual practice. The scope of the ANS role included:

- Providing specialist arrhythmia advice
- Helping practices plan care for AF patients
- Bridging the gap between primary and secondary care
- Supporting practices with stroke risk assessment
- Education, including anticoagulation
- Reviewing GRASP results, particularly patients identified as CHADS₂ > 1 who are not on anticoagulation
- Using clinical expertise to conduct a thorough notes review of these at-risk patients then discussing with GPs the reasons why they are not being anticoagulated
- Providing practices with a list of patients to bring in for future face-to-face reviews with their GP to discuss oral anticoagulation
- Evaluating results of the work

PCT Information manager

The Information manager from the PCT served to help practices download and run the GRASP-AF tool and to encourage them to upload their baseline data to CHART-Online prior to the ANS's visit.

This role was crucial in helping practices prepare their data prior to discussing it with the arrhythmia nurse, maximising the use of the ANS's clinical expertise and time.

Key dates

January 2011

The ANS started her secondment at the beginning of the year. She began by contacting the 20 practices that had expressed interest in participating in the project. Mutually convenient times for visits were arranged. Of the 20 practices contacted, she visited 19. (One practice declined a visit from the ANS.) Visits to the practices were completed by April 2011.

May 2011

The ANS wrote to practices with both their own individual results and the findings from all participating practices. Practices were asked to bring in patients for review of treatment and then re-upload their data to CHART-Online to demonstrate the difference from their baseline.

July 2011

Practices received a second written reminder from the PCT (rather than the ANS) to complete their patient reviews and re-upload the new data. The GPs were also given the opportunity share their views about the project via a short online survey.

Results

	Number of practices	Population
Sutton and Merton PCT	56	392,273
Participating in project and uploading baseline data	20	161,538
Practices visited by ANS	19	
Practices re-uploaded post project data	12	97,499

Within the 20 participating practices at baseline:

- 2046 of the 161,538 patients were on the AF register
- Prevalence of AF was 1.26 per cent, compared to overall PCT prevalence of 1.1 per cent
- 444 patients with CHADS₂ > 1 were not on warfarin
- Eliminating contraindicated/coding issues/declined, 278 patients were identified for review

Despite encouragement from the ANS and the PCT, only 12 re-uploaded their data to CHART-Online to allow a comparison with their baseline data. Baseline and post-project data is therefore available for 63 per cent of practices visited.

It is worth noting that unlike similar projects around the country, practices were not offered any financial incentive to participate in the project or share anonymised data.

Note: The following information/results refers to the 12 practices that both:

- Received an education and support visit from the ANS **and**
- Uploaded anonymised baseline **and** post-project information data to CHART On-line

	Baseline	Post-project	Increase
Number of CHADS ₂ > 1 patients on warfarin	445	505	60
Proportion of CHADS ₂ > 1 patients on warfarin	57.27%	60.92%	3.65%
National comparator	53.82%	55.33%	2.05%

Increase in size of AF register

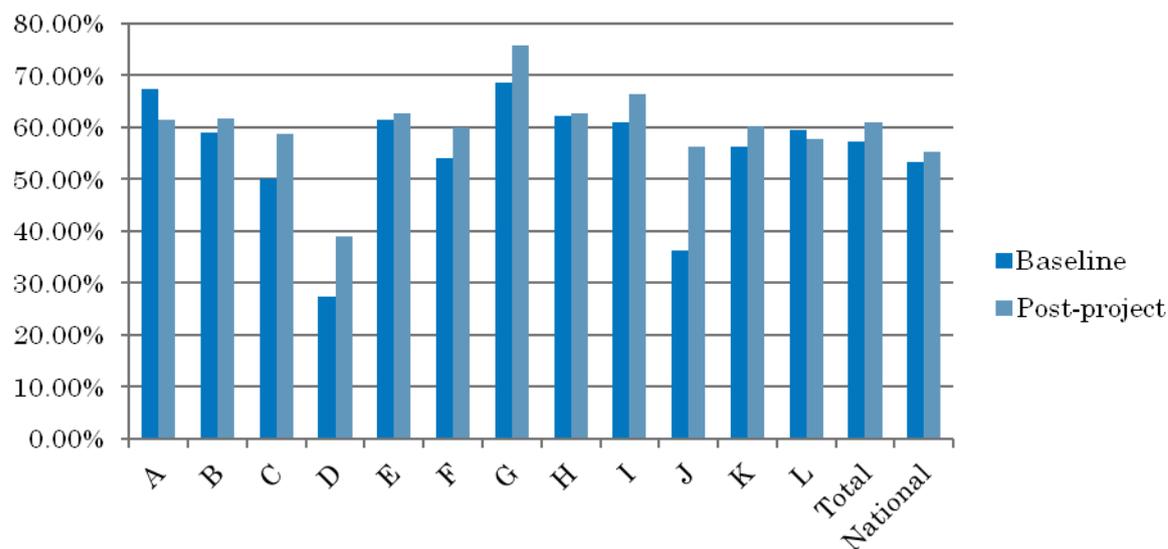
Although the aim of the project was to optimise treatment rather than increase the identification of AF, a small increase in the numbers of patients on the AF register was observed across all 12 visited practices.

- The number of people on the AF register increased from 1405 to 1446 (41 patients), or the difference between 1.26 per cent at baseline and 1.29 per cent post-project.

Patients identified for review

- 195 patients were identified for face-to-face review with their GP
- The GRASP tool showed these patients had CHADS₂ score > 1, yet they were not receiving any anticoagulation to reduce their risk of stroke
- 195 patients were identified for review. Of these, 60 patients started on warfarin, or a 31% conversion rate.

Change in proportion of CHADS₂ > 1 patients on warfarin



- Variation between practices for the proportion of their CHADS₂ > 1 patients on warfarin at baseline ranged from 27 to 68 per cent
- Post-project variation still evidenced with range of 39 to 75 per cent
- Both baseline and post-project the results from the Sutton & Merton practices were above national average

GP evaluation

GPs were able to provide their feedback on the project via a short online survey.

- 100 per cent of respondents found the GRASP tool useful and easy to use. In fact, half of those found that it was 'very easy' to use.
- 100 per cent of respondents would recommend GRASP to colleagues.
- 100 per cent felt the project had raised their practice's awareness of AF and stroke risk, and all planned to use the CHADS₂ score to review AF patients in the future.
- 100 per cent of responding practices indicated that they would be interested in attending future education events about arrhythmia management, including stroke prevention.
- 83 per cent found the education and support visit from the ANS to be 'very useful' or 'quite useful'.
- 80 per cent viewed IT support as important to assisting with the download of the GRASP tool.
- 'Improved links between primary and secondary care' and advice and education about management of patients with AF' were the most highly valued aspect of the ANS intervention, followed by 'advice and education about anticoagulation'.

Recommendations

- GRASP-AF toolkit should be promoted for use in all GP practices in South London
- Additional education and support visits to practices such as conducted in the SLCSN pilot should be extended to all South London boroughs
- Education and support to practices should be provided by hospital-based ANSs where possible to foster closer links between primary and secondary care
- GP practices should commit to share anonymised data via CHART-Online prior to receiving the additional education and support. This will enable transparent demonstration of improvement at local and national level.
- All practices should use the SLCSN *AF pathway for primary care* in conjunction with the SLCSN *Arrhythmia traffic lights*.

QIPP savings

Costs

Cost of warfarin

Cost of 1 patient on warfarin for 1 year (drug plus monitoring) = £383

60 extra patients on warfarin in the 12 practices (97,499 patients)

Cost 60 x £383 = **£22,980**

Cost of arrhythmia nurse specialist

1.5 days per week for 4.5 months for 12 practices = **£2,500**

Total costs £22,980 + £2,500 = **£25,480**

Savings

Cost of 1 patient suffering stroke in first year after occurrence = **£11,900** (minimum)

60 patients started on warfarin **prevents 2.4 strokes**

Based on NNT= 25

Cost saving 2.4 strokes X £11,900 = **£28,500**

Overall saving for 12 practices (97,499 patients)

Stroke costs – (warfarin + ANS) = overall saving

£28,500 – £25,480 = **£3,020**

Savings potential for South London (all boroughs, extrapolated)

If the pilot was extended across the entire South London region there is the potential each year to **prevent 73 strokes** and **save £95,608**.

Pilot:	97,499	patients saved	~ £ 3,020
South London:	2,971,467	patients could save	~£95,608
Pilot:	97,499	patients prevented	2.4 strokes
South London:	2,971,467	patients could prevent	73 strokes

Top tips for stroke prevention in primary care

Support for primary care to optimise management of patients with AF

Our pilot indicated that to maximise success in stroke prevention the following should be in place:

- Local GP champion to enthusiastically promote better management of AF and encourage stroke prevention work
- IT support for practices to download GRASP-AF and upload baseline results to CHART-Online
- IT support to train practices to use GRASP-AF confidently in future
- Online and telephone advice on GRASP-AF technical issues from [NHS Improvement](#).
- Arrhythmia nurse specialist from local hospital to provide education and support to practices on
 - The management of atrial fibrillation including anticoagulation to prevent stroke
 - Fostering closer links and improved communication between primary and secondary care
- Arrhythmia nurse specialists to provide flexible and responsive education according to practice needs
- Use of South London Cardiac and Stroke Network
 - AF Pathway for primary care
 - Arrhythmia traffic lights
- Stroke prevention initiatives part of wider programme of education on AF and anticoagulation throughout the borough
- Improvement in AF management and success in stroke prevention demonstrated as practices upload anonymised data to CHART-Online
 - At baseline *and*
 - After patients reviews

For further information and resources please visit the South London Cardiac and Stroke Network web pages on atrial fibrillation, www.slcsn.nhs.uk/af.