A Guide to AF within the Cardiovascular Disease Outcomes Strategy
Foreword

Through my experience as a Member of Parliament, Chair of the All-Party Parliamentary Group on Atrial Fibrillation and as an atrial fibrillation (AF) patient, I fully appreciate the need for the NHS to focus on conditions such as AF. It is vital, both at the local level and in national guidance that AF is prioritised and patients are initiated onto appropriate AF care pathways. With this in mind, I was delighted that AF was prominently featured in the recently published Cardiovascular Disease Outcomes Strategy (CVD strategy).

The prevalence of AF is increasing and, given the extremely high risk of stroke associated with AF, it is very worrying that this condition has previously not received as much attention as other cardiovascular conditions. Pushing AF up the NHS agenda is absolutely essential if we are to ensure less unnecessary AF-related strokes occur. The addition of AF within the CVD strategy should help to achieve this and is certainly a step in the right direction.

I would like to thank all members of the All-Party Parliamentary Group on Atrial Fibrillation for their continued efforts to drive AF up the political agenda. We could not have achieved this success without the hard work of Trudie Lobban MBE and everyone at the AF Association and I am extremely grateful for their continued support. I would also like to thank the clinicians and patients who regularly give up their time to attend and share their experiences and knowledge at our regular meetings. I would like to thank everyone involved for all their help.

Glyn Davies MP
Chair of the All-Party Parliamentary Group on Atrial Fibrillation
Foreword

AF is the most common cardiac arrhythmia, affecting over a million people in the UK. Patients with AF have a five-fold increase in the risk of suffering a stroke. Moreover, AF-related strokes are more severe, more likely to result in death, and more likely to result in long-term disability than non-AF strokes.

Worse still, the challenge of AF is growing; by 2050 the prevalence of AF is predicted to double. It is imperative that appropriate measures taken now to ensure that suitable care pathways are developed and maintained to meet current and future demand. An effective pathway for AF care should guarantee timely and effective treatment for all AF patients, thus reducing the risk of AF-related stroke and achieving optimal management of AF, its symptoms and their consequences.

The AF Association and the All-Party Parliamentary Group on Atrial Fibrillation have made great progress toward this end. Already, we have ensured that AF is included in the CVD strategy and I am delighted to introduce this guide to AF as it features in that strategy. The guide provides clinicians and commissioners with the information they need on how AF services should be commissioned. It explains what the CVD strategy says about the management of AF, outlines recommendations from other guidelines, highlights what is actually happening in practice and summaries what changes are needed to ensure that patients with AF receive appropriate treatment.

This is part of our ongoing work to ensure that the conclusions within the CVD strategy are implemented and that momentum is not lost. I would like to thank Glyn Davies MP and all members of the All-Party Parliamentary Group on Atrial Fibrillation for their continued support, and for their dedication to patients with AF across the country.

Trudie Lobban MBE
Founder and Chief Executive of AF Association
AF is a cardiac arrhythmia that is characterised as an irregular and often rapid pulse. AF prevents proper blood flow through the heart, allowing blood to pool in the upper chambers where clots can then form. These clots can break off and travel through the bloodstream to the brain where they can create blockages that result in stroke. Consequently, AF is a major predisposing factor for thrombo-embolic strokes. Strokes have a devastating impact on patients and their families. AF-related strokes are often much more severe than non-AF-related strokes because the clot that breaks away is frequently large, and able to block bigger blood vessels, resulting in greater downstream damage. AF-related strokes result in greater mortality, morbidity, healthcare costs, social costs and emotional burden.

In around half of patients, AF is asymptomatic. This makes appropriate detection and diagnosis of AF extremely important. Clinicians and commissioners need to be aware of the risks and costs associated with AF to ensure that patients receive appropriate treatment. If effective AF care pathways are not developed and adopted the consequences will be a stroke crisis that we can ill afford.

I am encouraged that AF received a mention in the CVD strategy but it is extremely important that our work does not stop here. We must build on this success and continue to ensure that AF becomes a high priority for the NHS. I hope that clinicians and commissioners find this guide and its recommendations useful to help in their efforts to implement the recommendations outlined in the CVD strategy.

Professor A John Camm
Professor of Clinical Cardiology and Honorary Consultant Cardiologist
St George’s University of London
President and Trustee of AF Association
Executive Summary

On 5 March 2013 the CVD strategy was published with the aim of improving the health outcomes of people with cardiovascular disease. The strategy identifies a series of actions, for commissioners and providers of health and care services that will lead to improved health outcomes. The last major cardiology strategy document, the National Service Framework for coronary heart diseases, was extremely effective but made no mention of AF or AF-related stroke. It is therefore extremely encouraging that AF has been included in the new strategy.

The AF Association and the All-Party Parliamentary Group on Atrial Fibrillation held a meeting in March 2013 with key stakeholders from across AF care to review the CVD strategy, its implications and the ways in which AF care should be improved. This document outlines the references to AF within the CVD strategy, explains AF care in practice and provides recommendations for the AF community to ensure that AF care is improved.

The CVD strategy identifies AF as a condition that is suboptimally managed in primary care and suggests that NHS England must work with stakeholders to improve AF management. The strategy makes reference to the importance of providing people with timely access to treatment and ensuring that AF is identified earlier. It highlights that people who have AF are frequently not appropriately anticoagulated and estimates that if everyone with AF were managed correctly it could prevent 7,100 strokes per annum. Whilst these mentions of AF are a major step in the right direction, they do not go far enough and it is clear that more must be done to ensure that patient outcomes are improved.

There are many barriers to the access of appropriate AF treatment. This is in part owing to a lack of up-to-date guidelines for clinicians. NICE Clinical Guideline 36, the latest national guideline on the treatment of AF, was produced in 2006. Since then, our understanding of stroke risk, treatment efficacy and treatment safety have advanced significantly but new NICE guidelines will not be released until 2014.
Indeed, the latest international guidelines, from the European Society of Cardiology, conflict directly in their recommendations with the existing NICE guidance. While this situation persists, many AF patients will not receive adequate care. For example, the NICE guideline recommends the use of aspirin in ‘moderate risk’ patients; a practice that remains extremely common despite overwhelming recent evidence that aspirin is considerably less effective than oral anticoagulation whilst carrying a similar burden of risk. Indeed there is no statistically significant evidence to support the commonly quoted efficacy of aspirin for stroke prevention in AF. Not only are current NICE guidelines failing to promote a much needed increase in GPs’ knowledge of AF, locally produced guidelines from commissioners are arbitrarily preventing patient access to oral anticoagulants that NICE has approved for use.

There are many ways in which the outcomes of AF care could be improved. A long-term approach to the commissioning of services must be utilised which discourages short-term cost savings by not treating the condition appropriately. Screening and diagnosis of AF should be encouraged and this can be done at no extra cost to the NHS by making use of other services, such as flu clinics. Healthcare providers must receive more education on the stroke risk in AF patients and the importance of not using aspirin, particularly in elderly patients. National guidance must be updated to accommodate more effective risk stratification and to eliminate the recommendation of aspirin. There must be greater clarity on the authority of local prescribing guidelines, particularly where they directly contradict NICE recommendations by rationing access to oral anticoagulation. Adoption of the GRASP-AF toolkit should become universal in primary care, ensuring that all GPs are aware of the stroke risk and current treatment status of all their AF patients. Linking primary and secondary care and encouraging communication between multidisciplinary teams is also vital to managing the whole AF patient.
AF within the CVD strategy

The CVD strategy focuses on prevention, diagnosis and treatment with AF featuring in all of these areas. AF is specifically mentioned in the strategy with regard to: primary and secondary care; access to treatment; and intervention and risk management in relation to costs and benefits. The specific mentions of AF within the strategy are as follows:

AF in primary care

The strategy identifies AF as a condition, which is suboptimally managed in primary care. It states that:

“Despite there being incentives in the Quality and Outcomes Framework (QOF) and often clear evidence based guidelines (e.g. from NICE), people who have been diagnosed with or at risk of a CVD are not always optimally managed in primary care. For example, people who have atrial fibrillation are not always appropriately anti-coagulated.”

It suggests that, to rectify this, the NHS Commissioning Board (now NHS England) will work with stakeholders to “identify how to incentivise and support primary care consistently to provide good management of people with or at risk of CVD.”
Access to treatment

The strategy also refers to providing people with timely access to treatment and ensuring that AF is identified earlier. It highlights that people who have AF are not always appropriately anticoagulated and that if everyone with AF were managed correctly it could prevent 7,000 strokes per annum.

Whilst we know that AF should be treated quickly and effectively, the CVD strategy concedes that this is not happening.

Cost benefit analysis of treating AF

The strategy includes a summary of costs and benefits and highlights that, for AF, better identification of AF and improved uptake of drug therapy in prevention of AF-related strokes, which will result in fewer strokes and deaths, are the types of outcomes expected. Through implementation of NICE Clinical Guideline 36 (NICE CG36), the strategy estimates that 2,100 lives per year could be saved and morbidity reduced by 7,100 strokes per year. It is important to note that much of this information is based on NICE CG36, which the AF community generally accepts is outdated, given that it was published in 2006. The chart on the following page illustrates some of the important updates to these figures, which provide valuable context for the summary chart beneath, reproduced from the strategy document.
For each considered condition, the strategy document includes a summary that seeks to capture common data on why intervention is warranted for that condition. Reproduced below is the summary for AF. Even before accommodating the above updates, the scale of the challenge and the potential benefits are significant and obvious.

<table>
<thead>
<tr>
<th>Problem</th>
<th>AF data quoted in strategy</th>
<th>More recent or more robust data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence</td>
<td>1.2%</td>
<td>1.9%</td>
</tr>
<tr>
<td>AF population</td>
<td>600,000</td>
<td>950,000</td>
</tr>
<tr>
<td>Undiagnosed population</td>
<td>18%</td>
<td>25-30%</td>
</tr>
<tr>
<td>Adequately treated</td>
<td>54%</td>
<td>23%</td>
</tr>
<tr>
<td>Savings from avoided strokes</td>
<td>£54.3m</td>
<td>£85.2m</td>
</tr>
</tbody>
</table>

Broader population health outcomes are sub-optimal as a result of relatively high rates of undiagnosed cases. Patient outcomes are sub-optimal as treatment not always optimal that varies across the country.

AF is common with prevalence of 1.2% (600,000 patients in England) though rate of 18% undiagnosed cases; five to six-fold increase in risk of stroke than people without AF; estimated to be directly responsible for 14% (12,500) strokes per annum; audit data suggests that 46% of patients that should be on anti-thrombotic therapy are not.

Better identification and greater uptake of drug therapy leads to fewer strokes and avoidable mortality from strokes.

Implementation of NICE CG36: Atrial fibrillation, recommendations of more appropriate risk stratification and uptake of anti-thrombotic therapy (specialist initiation and management in primary care).

Total net cost of implementing NICE CG36 of £21.9m of which £76.2m of costs and £54.3m of cost savings from avoided strokes from baseline of 2006.

2,100 Lives saved per year. Reduced morbidity; notably 7,100 fewer strokes per year. ICER at cost per QALY available in NICE CG36 differentiated by stroke risk and comparisons of treatment types.
AF within the CVD strategy

It is estimated that fewer than a quarter of all those who need it are receiving treatment that effectively reduces their stroke risk.

One of the main problems with the diagnosis and management of AF is that the authoritative guideline from NICE is no longer up to date. NICE CG36 on the management of AF was published in 2006 (see Appendix 1 for list of AF guidelines). Since then, significant advances have been made in the understanding of both risk stratification and treatment. These have most effectively been captured in the ESC 2010 guidelines that received an update in 2012. The next NICE clinical guideline on AF is not due to be published until 2014. Until then, healthcare professionals in England and Wales who follow the recommendations of NICE will fail to achieve adequate stroke risk reduction in many of their AF patients.

Most worryingly, NICE CG36 recommends the use of aspirin in the management of AF, perpetuating a long-standing practice that is now known to offer poor stroke risk reduction with no safety benefits when compared with oral anticoagulation.

Another significant problem that results in patients with AF not receiving appropriate treatment is a low level of awareness and understanding of effective AF management and stroke prevention among healthcare professionals.\textsuperscript{vi}

We know from recent GRASP-AF data that even when the high-risk, uncoagulated AF patients in a practice are identified, there is often no corresponding change in GPs’ behaviour. It was not until 2012 that GPs ceased to be incentivised (via the NHS quality outcomes framework, QOF) for prescribing aspirin, sending a clear message that the practice was appropriate.
AF was also unmentioned in the CVD strategy’s predecessor, the National Service Framework. These factors and along with many others have embedded the misunderstanding among many healthcare professionals that anticoagulation is unnecessary among a significant proportion of AF patients at risk of stroke.

Worse still, arbitrary local barriers have recently begun preventing patients from accessing the anticoagulation treatment they need, even when a GP wishes to prescribe it. Newly available oral anticoagulants provide the first alternative to warfarin in 50 years and, unlike warfarin, they do not require constant monitoring of blood clotting to remain effective. This makes them ideal for the many patients who struggle to maintain safe and effective anticoagulation with warfarin, and could help overcome what has historically been a significant challenge in the prevention of AF-strokes. Three of these new agents are available on the NHS and all have received NICE approval as cost effective. Consequently, under the NHS Constitution, patients have a legal right to receive appropriate treatment with them, and the commissioners of AF services are obliged to ensure this happens. In practice, CCGs are developing local guidelines that run contrary to NICE, effectively rationing access to oral anticoagulation and denying their patients their rights within the NHS and access to treatment that can prevent fatal, debilitating and costly strokes.

Implementation of the CVD Strategy for AF would prevent at least 2,100 deaths, 7,100 strokes; and would save a minimum of £85 million from stroke care alone

The economic argument is clear. Effective implementation of the CVD strategy will save at least £85 million spent each year on stroke care alone. Savings beyond those made in acute care would be significantly greater. It is estimated that AF-related stroke costs the UK economy over £2 billion each year. If proportional reductions can be made in these costs, to those in the costs of hospital care for AF-stroke patients, the economy would save over £396 million every year from implementation of the strategy. Owing to its reliance on older data, the strategy document conservatively estimates that 2,100 lives per year could be saved and morbidity reduced by 7,100 strokes per year. When prevalence and stroke rate estimates are appropriately revised upwards, the potential savings will eclipse the above projections.
Changes needed to implement the CVD strategy

Whilst the CVD strategy highlights problems and identifies the areas in which progress can be made, it provides relatively little in terms of the measures that should be taken to improve AF care pathways. Below, we outline some recommendations for how AF care can be improved in line with the recommendations of the CVD strategy.

Long term approach to commissioning

When commissioning for AF, it is important to recognise that early detection and improved anticoagulation of AF patients could save around 3-5 strokes per practice per year, and £150,000-250,000. For instance, to prevent one stroke every year it is only necessary to anticoagulate 37 patients.viii

**RECOMMENDATION:** Local and national NHS commissioners should take a long-term approach to commissioning AF services and care.

Improved screening and diagnosis

The earlier AF is detected, the wider the range of treatment options, and the greater the opportunity to manage symptoms and to prevent stroke. Hence, it is important to improve the detection and diagnosis of AF. Moreover, this can be done without additional cost. Specific screening is expensive but patients with AF are already likely to be regular visitors to flu clinics, pharmacies and GPs’ surgeries. By introducing routine opportunistic detection using manual pulse checks at each of the available opportunities in primary care, a significant proportion of those undiagnosed would be found. AF would systematically be detected earlier, greatly extending the benefits of life-saving treatment. There is even evidence from pilot opportunistic detection programmes at flu clinics that have demonstrated the potential success of a national initiative. As such, it is vital that at a local level individual clinicians should look to ensure that existing services, such as flu clinics and NHS health checks, are used as an opportunity to conduct manual pulse checks.

**RECOMMENDATION:** Focus should be placed on improved detection for AF in conjunction with other services that the majority of people at high risk of AF are likely to use, such as at flu clinics.
Education

Some regions have provided training and educational courses for doctors, which have proved effective in changing behaviour. Healthcare professionals are often reluctant to prescribe anticoagulation because they underestimate the benefits and they overestimate the risk of bleeding. It is essential that education is provided, particularly to GPs, so that greater understanding is achieved of how the stroke prevention benefits of anticoagulation outweigh the safety risks, particularly in elderly patients. Continuing professional education and the use of e-earning, such as the AF Revalidation tool (www.af-revalidation.org) are essential to ensure the appropriate treatment of AF patients.

It is important that GPs are advised about the risks of aspirin and it is evident that aspirin must be removed from the guidelines. Indeed, guideline writers across the world are already taking the opportunity to make this change within scheduled revisions and updates. Aspirin was initially recommended for AF patients at low or moderate risk of stroke, and was seen as a safer alternative to anticoagulation. It has now become clear that there is no safety benefit with aspirin, and not only is its stroke-protective effect many times less than that of anticoagulation, the data illustrating this low efficacy does not even achieve statistical significance. Oral anticoagulation has been shown to reduce the risk of stroke by 64%. Conversely, aspirin has been associated with a, non-significant, stroke risk reduction of only 19%.

RECOMMENDATION: Healthcare providers require greater education on the importance of treating all non-low-risk AF patients with oral anticoagulation. The prescription of aspirin as a treatment for AF must be discouraged and removed from all guidance.

Regional variations

Data from GRASP-AF should be used to help practices benchmark their performance and ensure that practice improvement is both effective and measurable. Where GRASP-AF data has been used to audit performance and guide improvement, the proportion of effectively managed AF patients has increased. Users of GRASP-AF are encouraged to share their data, allowing practice results to be compared within CCGs, as well as regionally and nationally. Such comparisons can be used to identify and replicate good practice, helping to drive efficiency and address regional inequities in AF-patient care.
RECOMMENDATION: Commissioners must ensure appropriate and cost-effective stroke prevention in AF that does not arbitrarily impede patient access to NICE-approved therapies. GPs and their healthcare teams should be encouraged to use the GRASP-AF toolkit and share examples of best practice.

Primary and secondary care

The strategy calls for well-managed cardiovascular disease in its entirety and there is evidence about how this can be achieved in AF. Evidence shows that when primary and secondary care are linked, drawing on multidisciplinary teams and specialised clinics, outcomes are significantly improved. These successful methods of AF care bring together primary, secondary and tertiary care and key to their success is communication: for any AF, or CVD outcomes strategy, to progress and be successful it needs to create the necessary teams and encourage them to communicate effectively.[i] Models which are already available should be utilised to highlight where this way of treating CVD works. The CVD strategy calls for data to act as a benchmark and there is already a deluge of information available including from the NHS 40 years plus screening, opportunistic and routine screening and GRASP-AF data. This information must be shared with the appropriate people and used to improve and extend AF services.

RECOMMENDATION: Emphasis should be placed on managing the whole AF patient and multidisciplinary teams from both primary and secondary care should effectively communicate to ensure patient care is managed as effectively as possible.

GRASP-AF

From April 2013, NHS Improving Quality, as part of NHS England, will be the driving force for improvement across the NHS in England. There will be continuity in the ten work programmes which were initiated by NHS Improvement going forward. One of these is the GRASP-AF risk assessment tool and it has been agreed that this will be maintained for at least a three year programme. GPs will have to demonstrate that they are performing audits and that, as a result of these audits, they are implementing changes in practice. Using GRASP-AF is an ideal way for GPs to show that they are auditing their AF care pathways and, as such, the AF community should continue to promote this vital tool.

RECOMMENDATION: The AF community must promote the use of the GRASP-AF tool kit to encourage routine audit of AF care, and to guide measureable practice improvement.
What is AF?

AF is a common heart rhythm disorder that is associated with deadly and debilitating consequences including heart failure, stroke, poor mental health, reduced quality of life and premature death.

Atrial: pertaining to the atria (pleural of atrium) the top two chambers of the heart

Fibrillation: the rapid, irregular and unsynchronised contraction of muscle fibres

In AF, the atria fail to beat, fibrillating instead, as the normal electrical conduction in the atrial walls becomes chaotic. This disrupts normal blood flow, allowing clots to form that can cause strokes. The chaotic electrical activity of the atria in turn affects the heart’s main pumping chambers. This causes them to beat out of rhythm, allowing AF to be detected via an irregular pulse. AF results in a five-fold increase in stroke risk, and a doubling in all-cause mortality.

It is currently estimated that AF affects nearly 2% of the UK population, around 1,250,000 people. The incidence of AF is also increasing, an effect that is predicted to double the number of AF patients by 2050.\textsuperscript{x} In 2002 a clinical study reported the incidence of AF in the UK was 1.7 per 1,000 patient years.\textsuperscript{xi} Adjusting for the interim increase in population, 105,000 additional people will currently be developing AF in the UK each year.

This increasing prevalence places an additional financial burden on the NHS. In the last 20 years, hospital admissions from AF have increased by 60%.\textsuperscript{xii} When considering AF as a causative secondary diagnosis, the total cost of AF to the NHS in 2008 was almost £2.2 billion and patients accounted for 5.7 million hospital beds.\textsuperscript{xiii} Given the UK’s ageing population, the cost to the NHS is forecast to increase three-fold over the next five years.
Summary

With regard to AF, the CVD strategy:

- identifies AF as a condition, which is suboptimally managed in primary care;
- suggests that NHS England should work with stakeholders to identify how to incentivise and support primary care to provide good management of people with or at risk of CVD;
- refers to providing people with timely access to treatment and ensuring that AF is identified earlier;
- highlights that people who have AF are not always appropriately anticoagulated and that if everyone with AF were managed correctly it could prevent 7,100 strokes per annum; and
- includes a summary of costs and benefits and highlights that, for AF, the types of outcomes expected are better identification of AF and improved uptake of drug therapy in prevention of AF-related strokes, which will result in fewer strokes and deaths.

Recommendations to improve AF care

1. Local and national NHS commissioners should take a long-term approach to commissioning AF services and care.

2. Focus should be placed on improved detection for AF in conjunction with other services that the majority of people at high risk of AF are likely to use, such as at flu clinics.

3. Healthcare providers require greater education on the importance of treating all non-low-risk AF patients with oral anticoagulation. The prescription of aspirin as a treatment for AF must be discouraged and removed from all guidance.

4. Commissioners must ensure appropriate and cost-effective stroke prevention in AF that does not arbitrarily impede patient access to NICE-approved therapies. GPs and their healthcare teams should be encouraged to use the GRASP-AF toolkit and share examples of best practice.

5. Emphasis should be placed on managing the whole AF patient and multidisciplinary teams from both primary and secondary care should effectively communicate to ensure patient care is managed as effectively as possible.

6. The AF community must promote the use of the GRASP-AF tool kit to encourage routine audit of AF care, and to guide measureable practice improvement.
About the APGAF

On 8 June 2011 the All-Party Parliamentary Group on Atrial Fibrillation held its inaugural meeting in Parliament. It was agreed at the meeting that the aim of the group is to:

"Raise awareness of the issues affecting patients diagnosed with AF, and work to ensure the diagnosis, care, treatment, management, and research of AF is a priority for the NHS."

For more information, please see the Parliamentary Register at:

About the AF Association

The AF Association is a UK registered charity which focuses on raising awareness of AF by providing educational information and support materials for patients and medical professionals involved in detecting, diagnosing and managing AF.

The AF Association aims:

1. To provide support and information on AF to those affected by this condition
2. To advance the education of the medical profession and the general public on the subject of AF
3. To promote research into the management of AF
### Appendix 1

#### Current AF guidelines

<table>
<thead>
<tr>
<th>Source</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>NICE Guidance:</strong></td>
<td><strong>NICE clinical guideline 36</strong>, Atrial fibrillation: The management of atrial fibrillation, 2006</td>
</tr>
<tr>
<td><strong>Effectiveness of NOACs in prevention of AF-related stroke:</strong></td>
<td>Clinical effectiveness of NOACs in prevention of AF-related stroke is well described in the three NICE technology appraisals. See links above.</td>
</tr>
<tr>
<td></td>
<td>For detailed information on individual clinical trials see:</td>
</tr>
</tbody>
</table>

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1. All-Party Parliamentary Group on Atrial Fibrillation, What next for AF? Delivering the cardiovascular strategy to improve outcomes for patients, 6th March 2013
The AF Association and the All-Party Parliamentary Group on Atrial Fibrillation would like to thank all those who helped in the development and review of this publication.