

Prevent  
AF-related Stroke,  
Anticoagulate!

Supporting the Use of GRASP-AF  
in Primary Care to Help Reduce  
the Risk of AF-related Stroke

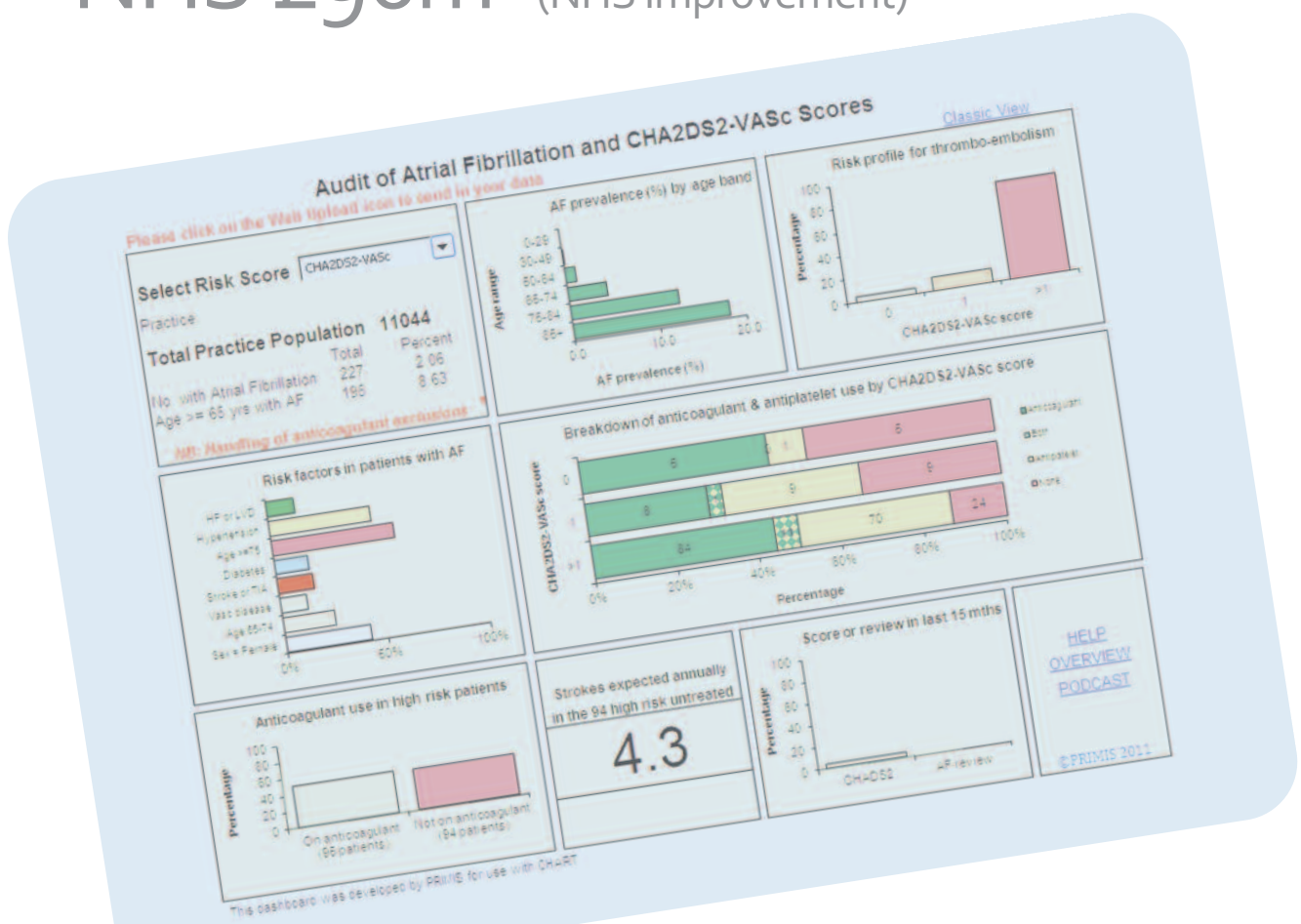
October 2012

# Grasp the initiative

This report was initiated by the AF Association and an alliance between Bristol-Myers Squibb Pharmaceuticals Ltd and Pfizer Limited (the "BMS-Pfizer Alliance"), and funded by the BMS-Pfizer Alliance. The BMS-Pfizer Alliance reviewed the content of the report to ensure compliance with the ABPI Code of Practice. The AF Association had final approval of content.

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**“8,000 strokes** every year could be prevented by using the GRASP-AF detection tool. This could save the NHS **£96m**” (NHS Improvement)<sup>1</sup>



## ACKNOWLEDGEMENTS

We would like to thank Dr Matt Fay for his expert guidance.

We would also like to thank Julie Harries, Dr Richard Healicon, Mel Varvel and Vanessa Brown from NHS Improvement for reviewing a draft of this report and providing valuable feedback.

The GRASP-AF tool was initially developed by the West Yorkshire Cardiovascular Network, the Leeds Arrhythmia team and PRIMIS+, as part of the NHS Improvement AF in primary care national priority projects. NHS Improvement is currently supporting the national roll out of the tool, and is leading the revision and further development of the tool.<sup>2</sup> For more information, please visit the NHS Improvement website: <http://www.improvement.nhs.uk/graspaf>

# Contents

<b>Foreword</b>	<b>2</b>
– Trudie Lobban MBE, CEO and Founder of the AF Association	2
– Dr Matt Fay, GPwSI, AF Association Advisory Committee National Clinical Lead for AF for NHS Improvement	4
<b>Summary of recommendations</b>	<b>5</b>
<b>About Atrial Fibrillation</b>	<b>6</b>
<b>About GRASP-AF</b>	<b>7</b>
<b>National overview</b>	<b>10</b>
<b>What can commissioners do?</b>	<b>11</b>
– Provide leadership	11
– Undertake education initiatives	12
– Provide incentives	12
– Ensure access to IT Support	13
– Develop strategies to identify AF patients at risk of stroke who may benefit from anticoagulation	13
<b>What can be done in primary care?</b>	<b>14</b>
– Download, install and run GRASP-AF	14
– Use CHA <sub>2</sub> DS <sub>2</sub> -VASc for greater sensitivity	15
– Upload practice data onto CHART Online	16
– Keep up to date with latest guidance	16
– Share best practice	19
<b>Conclusion</b>	<b>20</b>
<b>Further information</b>	<b>21</b>
<b>Glossary</b>	<b>21</b>
<b>Contact details</b>	<b>22</b>
<b>List of tables</b>	<b>22</b>
<b>References</b>	<b>23</b>

# Foreword



**Trudie Lobban MBE**

CEO and Founder,  
AF Association

Dear Colleagues,

Atrial Fibrillation (AF) is a common heart arrhythmia, affecting an estimated 1.8% of people in the UK.<sup>3</sup> AF is associated with symptoms including breathlessness, palpitations, dizziness and chest discomfort,<sup>4</sup> however, the condition can also remain silent and asymptomatic.<sup>5</sup> Perhaps most worryingly, its presence is a major predisposing factor for stroke,<sup>6</sup> which can lead to severe disability and death.<sup>7</sup> It is estimated that over twelve thousand strokes in England alone are attributable to AF every year.<sup>8</sup>

Fortunately, many AF-related strokes are eminently avoidable through provision of appropriate anticoagulation.<sup>9</sup> Sadly, anticoagulants continue to be severely under-prescribed in the UK. NICE estimates that 46 percent of people with AF who could benefit from treatment with anticoagulants are not currently receiving it.<sup>10</sup>

In order to improve health outcomes for people with AF and to achieve significant financial savings in the NHS, it is imperative that more AF patients in need of anticoagulation are identified

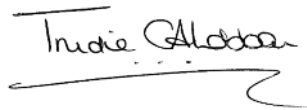
and given the preventative treatment that they are entitled to receive. The Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation (GRASP-AF) is a free software tool promoted by NHS Improvement that can significantly facilitate this task. I am therefore delighted to introduce this GRASP THE INITIATIVE report, which we have produced in support of the nationwide roll-out of the GRASP-AF tool.

This report is designed to be used by healthcare commissioners as well as clinical staff in primary care. Its purpose is twofold: to offer an introduction to GRASP-AF and demonstrate the potential that this tool has in improving care for people with AF across England; and to provide a series of practical recommendations on what more can be done by commissioners and primary care clinicians to promote the use of GRASP-AF across the country and on how to use the tool most effectively.

While we acknowledge that some up-front investment might be necessary to achieve the implementation of our recommendations, I would urge commissioners to recognise

that every AF-related stroke costs on average £11,900 pounds in the first year<sup>8</sup> and that the use of GRASP-AF could prevent up to 8,000 of these strokes every year.<sup>1</sup>

I hope that you find this toolkit useful and that it provides you with the necessary inspiration and know-how to GRASP THE INITIATIVE and make a real difference to the lives of AF patients and those close to them.



**Trudie Lobban**  
CEO and Founder,  
AF Association

## Foreword continued



### Dr Matt Fay

GPwSI in Cardiology

Medical Advisor at  
AF Association

National Clinical Lead  
for NHS Improvement

### Dear Colleagues,

As healthcare continues to develop we have seen the move in therapeutics from treating suffering caused by illness to preventing illness from inflicting suffering. Since the advent of vaccination, there has been a desire to ensure that preventive interventions are available to the widest population possible. Through this we have seen a huge shift in the causes of illness and suffering in our population from the infective illness of the late 19th century to that of cardiovascular disease.

The prevention and treatment of cardiovascular illness is an understandable high priority of the government and hence the NHS. The progress in the intervention with heart attacks has been a clear success over the last decade with a reduction in morbidity and mortality resulting from this condition.

We have also seen an evolution in the evidence for the reduction of AF-related stroke. It is now clear that aspirin and other antiplatelet agents have a weak effect in modifying the AF-related stroke risk even though they carry the same risks associated with oral anticoagulants.<sup>11</sup> However, the use of oral anticoagulants in reducing stroke risk is significant – warfarin reduces the relative risk of stroke by almost two thirds versus placebo<sup>12</sup>, while newer oral anticoagulants have been shown to be at least non-inferior to warfarin in recent clinical studies.<sup>11</sup>

The data collected through the use of the GRASP-AF tool, developed by NHS Improvement and hosted by PRIMIS+, shows that despite the clear advantage of anticoagulants over aspirin, a significant number of those who could benefit from this intervention are not currently receiving it.<sup>13</sup>

Clinicians, commissioners and NHS stakeholders now have to respond to the problems caused by the over-use of aspirin in the prevention of AF-related stroke. Many patients feel that stroke is a fate worse than death;<sup>14</sup> yet they are not offered effective, evidence-based prevention in the form of an oral anticoagulant.<sup>10</sup>

GRASP-AF was designed for primary care clinicians to audit their intervention and make the appropriate changes in discussion with patients. Embracing anticoagulation in AF can significantly reduce the number of AF-related strokes suffered across the country.<sup>10</sup>

GRASP-AF shows the way.



**Dr Matt Fay**  
GPwSI in Cardiology  
Medical Advisor at  
AF Association  
National Clinical Lead  
for NHS Improvement

## SUMMARY OF RECOMMENDATIONS FROM THE AF ASSOCIATION

### Commissioners:

#### Recommendation 1

Commissioners should provide proactive leadership by promoting the use of GRASP-AF to all GP practices in their area.

#### Recommendation 2

Commissioners should support education for primary care professionals on AF and stroke risk, which should include guidance on the use of clinical audit tools such as GRASP-AF.

#### Recommendation 3

Commissioners should consider using local quality improvement levers to encourage the use of GRASP-AF.

#### Recommendation 4

Commissioners should offer IT support to GP practices to facilitate the uptake and effective use of GRASP-AF.

#### Recommendation 5

Commissioners should work together with clinical networks and primary care professionals to put in place strategies to identify AF patients at risk of stroke who may benefit from anticoagulation, and increase the number of patients within this population who are appropriately treated.

### Primary Care Professionals:

#### Recommendation 6

Primary care professionals should take the initiative: Download, install and run GRASP-AF regularly.

#### Recommendation 7

Primary care professionals should run GRASP-AF using the CHA<sub>2</sub>DS<sub>2</sub>-VASc score, rather than the CHADS<sub>2</sub> score, for greater sensitivity.

#### Recommendation 8

Primary care professionals should upload their GRASP-AF results onto CHART Online.

#### Recommendation 9

Primary care professionals should attend education events and keep up to date with the latest clinical guidelines on the prevention of AF-related stroke.

#### Recommendation 10

Become the local best practice champion, share best practice!

“...improvements [in the prevention of AF-related strokes] will reduce the number of strokes suffered, save lives, reduce disability and generate cost savings for the NHS and social care.”

(NHS Improvement)<sup>9</sup>

# About Atrial Fibrillation

AF is a common heart rhythm disturbance and affects at least 1.8 percent of the UK population, rising to over six percent in people aged over sixty-five years.<sup>3</sup> The number of people with AF is expected to at least double in the next 50 years.<sup>15</sup> Available data suggests that AF affects in excess of one million people across the UK, however, this is considered to be an underestimate due to delayed detection and diagnosis.<sup>16</sup> It is estimated that between one third and a half of all AF cases remain undetected.<sup>17</sup>

In patients with AF, the top two chambers of the heart (the atria) cannot contract properly. Instead, the atria contract irregularly, or fibrillate, and cannot push blood correctly into the lower chambers of the heart (the ventricles),

leaving some blood remaining in the atria. Due to the atria contracting irregularly, or fibrillating, the excess blood left in the atria can form a pool, which may result in the formation of a clot. These clots can break away from the heart and travel to other parts of the body. If they reach the brain, this can cause a stroke. If left untreated, AF is a significant risk factor for stroke.

People with AF are five times more likely to have a stroke than people unaffected by the condition.<sup>3</sup> In England alone 12,500 strokes per year are thought to be directly attributable to AF.<sup>8</sup> AF-related strokes constitute about 14 percent of all strokes.<sup>8</sup> Strokes suffered by people with AF tend to be more serious in terms of subsequent mortality and

morbidity than those experienced by people without AF.<sup>7</sup> In addition, the reoccurrence of AF-related strokes is more frequent than that of other strokes.<sup>7</sup>

Apart from causing a significant amount of personal suffering to anyone affected by it, stroke also represents a major financial strain on the NHS. It has been estimated that every AF-related stroke costs on average £11,900 in the first year of care.<sup>8</sup>

Both the personal and financial burden of AF-related stroke could be significantly reduced if the appropriate preventative measures were adopted on a wider scale. Many AF-related strokes are eminently preventable with the administration of appropriate anticoagulation.<sup>8</sup> Unfortunately, there is an enormous under-use of anticoagulants within the AF population as NICE estimates that 46 percent of AF patients who would benefit from treatment with anticoagulants are not currently receiving them.<sup>10</sup>



# About GRASP-AF

Table 1<sup>18</sup>

## What does the GRASP-AF tool do?

- Identifies patients with AF
- Searches for co-morbidities and works out both a CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc score
- Searches for current medication – warfarin, aspirin or newer anticoagulant
- Searches for recorded reason for NOT treating with warfarin
- Gives a simple alert for those at high risk and not on warfarin or newer oral anticoagulant

*Does not assess contra-indications to warfarin or other anticoagulants, the decision whether or not to start warfarin or another anticoagulant remains a clinical one.*

(Adapted from the North West London CardioVascular and Stroke Network)

Table 2<sup>19</sup>

CHADS <sub>2</sub>	
RISK FACTOR	SCORE
Congestive Cardiac Failure	1
Hypertension	1
Age ≥75 years	1
Diabetes mellitus	1
Stroke/TIA/Thromboembolism	2
<b>Maximum Score</b>	<b>6</b>

Table 3<sup>15</sup>

## CHADS<sub>2</sub> – Recommended Action

SCORE	ACTION
0-1	Risk assess patient using CHA <sub>2</sub> DS <sub>2</sub> -VASc
≥2	Oral anticoagulation unless contraindicated

Table 4<sup>19</sup>

CHA <sub>2</sub> DS <sub>2</sub> -VASc	
RISK FACTOR	SCORE
Congestive Cardiac Failure	1
Hypertension	1
Age ≥75 years	2
Diabetes mellitus	1
Stroke/TIA/Thromboembolism	2
Vascular Disease	1
Age 65-74 years	1
Sex Category (i.e. female)	1

\*Age can only constitute 0, 1 or 2 points. Maximum CHA<sub>2</sub>DS<sub>2</sub>-VASc score is 9.

The identification of AF patients who would benefit from anticoagulation can be significantly facilitated by the use of sophisticated clinical audit software tools. A number of such tools exist across England. In selecting their approach to risk assessment of AF patients, local practices should opt for the tool that they believe to be most suitable for use in their given locality.

GRASP-AF is a free-to-download audit tool available from NHS Improvement for use with all GP clinical systems in England. Once installed, GRASP-AF systematically scans GP practices' AF registers and calculates individual CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc scores for each AF patient. These scores are validated stroke risk stratification schemes, the use of which is recommended by the European Society of Cardiology (ESC) to establish an individual's stroke risk and to determine the most appropriate form of anticoagulation.<sup>15</sup> It is important to note that the decision on whether or not to start anticoagulation remains a clinical one.

When assessed using the CHADS<sub>2</sub> scoring scheme, the AF patient is given points for each of the five stroke risk factors present (Table 2). If the patient receives an overall score of two or more, they are identified as being at high risk of stroke and the ESC recommends that they should be initiated on oral anticoagulation therapy (unless anticoagulation therapy is contraindicated or not appropriate) (Table 3). If the patient's overall CHADS<sub>2</sub> score is less than two it is

recommended that they are reassessed using the CHA<sub>2</sub>DS<sub>2</sub>-VAS<sub>c</sub> scheme, a more sensitive risk stratification scoring system that looks for the presence of three further risk factors (Table 4). If the patient records a CHA<sub>2</sub>DS<sub>2</sub>-VAS<sub>c</sub> score of zero, they are truly low risk and do not require treatment with oral anticoagulation at this stage. Anticoagulation therapy should be considered for all AF patients with a CHA<sub>2</sub>DS<sub>2</sub>-VAS<sub>c</sub> score of 1 or more (Table 5).

Even though the CHADS<sub>2</sub> stroke risk stratification scoring scheme

continues to be widely used throughout the system and its application is encouraged through the Quality and Outcomes Framework (QOF), the ESC identifies the CHA<sub>2</sub>DS<sub>2</sub>-VAS<sub>c</sub> scheme as preferable to CHADS<sub>2</sub>.<sup>11</sup> In its 2012 focused update of its guidelines for the management of AF, the ESC ruled that "the CHA<sub>2</sub>DS<sub>2</sub>-VAS<sub>c</sub> score is better at identifying 'truly low risk' patients with AF and is as good as, and possibly better than, scores such as CHADS<sub>2</sub> in identifying patients who develop stroke and thromboembolism".<sup>11</sup> We would

urge primary care clinicians to take note of this recommendation and use the CHA<sub>2</sub>DS<sub>2</sub>-VAS<sub>c</sub> rather than CHADS<sub>2</sub> in order to achieve greater accuracy in the stroke risk assessment of their AF patients.

Having attributed stroke risk scores to all patients on the GP practice's AF register, GRASP-AF highlights those AF patients at high risk of stroke who are not currently receiving an oral anticoagulant. As noted, the decision about the most appropriate therapy for each AF patient remains a clinical one and the primary care professionals should keep up to date with the latest clinical guidelines. Crucially, it is important that the selection of thromboprophylaxis balances the risk of stroke against the risk of serious bleeding.<sup>19</sup>

HAS-BLED is a validated bleeding risk stratification tool that has been proposed for assessing the bleeding risk of AF patients in need of anticoagulation.<sup>20</sup> While the HAS-BLED scoring scheme is not built into the GRASP-AF software, it is recommended to be used alongside stroke risk assessment to help to support clinical decision-making, balancing the risk of stroke with the risk of bleeding.

In a similar manner to CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VAS<sub>c</sub> schemes, the assessment of AF patients for the risk of serious bleeding attributes points for the presence of bleeding risk factors in the patient (Table 6). When administering anticoagulation in patients with a HAS-BLED score of  $\geq 3$ , caution and regular review is recommended.<sup>19</sup> The bleeding risk assessment using the HAS-BLED tool can be useful in identifying modifiable risk factors which need to be addressed and in

**Table 5**<sup>11</sup>

**CHA<sub>2</sub>DS<sub>2</sub>-VAS<sub>c</sub> – Recommended Action**

SCORE	ACTION
0 (i.e. patients – both male and female – aged <65 years and lone AF) who are at low risk, with none of the risk factors	No antithrombotic is recommended
1	Oral anticoagulation should be considered, based upon an assessment of the bleeding complications and patient preferences.
$\geq 2$	Oral anticoagulation is recommended, unless contraindicated.

**Table 6**<sup>19</sup>

**HAS-BLED**

LETTER	RISK FACTOR	SCORE
H	Hypertension (e.g. systolic >160 mmHg)	1
A	Abnormal renal and liver function (one point each)	1 or 2
S	Stroke	1
B	Bleeding tendency or predisposition	1
L	Labile INRs (only if on warfarin)	1
E	Elderly (e.g. age > 65 years)	1
D	Drug (i.e. concomitant aspirin or non-steroidal anti-inflammatory drugs [NSAIDs]) or alcohol (1 point each)	1 or 2
<b>Maximum Score</b>		<b>9</b>

guiding the anticoagulation therapy; however, it should not on its own be used to exclude AF patients from oral anticoagulation therapy.<sup>3</sup>

Moreover, to facilitate audit, GRASP-AF also captures the practice's overall performance in preventing AF-related stroke by presenting a comprehensive 'dashboard', displaying a breakdown of the use of anticoagulation by CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc scores and predicting a likely number of strokes to be experienced by the patient population annually if the rates of anticoagulation are not increased.

GP practices are able to benchmark their GRASP-AF data against other practices across the country by uploading it onto CHART Online, a secure web-based comparative analysis tool. The data is uploaded onto CHART Online anonymously and enables GPs to monitor their progress over time.

Strokes can have a significant impact on patients and their families. With appropriate management, the risk of stroke in patients with AF can be reduced. With recent changes to the AF QOF indicators, GP practices also stand to receive financial rewards if their on-going management of AF patients is improved. The QOF indicators for 2012/13 (Table 7) encourage assessments of AF patients using the CHADS<sub>2</sub> scheme as well as an increase in the proportion of high risk patients treated with oral anticoagulants. The GRASP-AF tool supports GPs in interrogating their stroke risk assessment and their rates of anticoagulation prescribing, enabling them to achieve higher QOF scores.

**“Using GRASP-AF tool is a convenient way of ensuring that your practice achieves high QOF scores against the new indicators.”**

(NHS Improvement)<sup>22</sup>

Table 7<sup>22</sup>

**QOF Indicators 2012/2013**

INDICATOR	POINTS	PAYMENT STAGES
AF1. The practice can produce a register of patients with atrial fibrillation	5	
AF5. The percentage of patients with atrial fibrillation in whom stroke risk has been assessed using the CHADS <sub>2</sub> risk stratification scoring system in the preceding 15 months (excluding those whose previous CHADS <sub>2</sub> score is greater than 1)	10	40-90%
AF6. In those patients with atrial fibrillation in whom there is a record of a CHADS <sub>2</sub> score of 1 (latest in the preceding 15 months), the percentage of patients who are currently treated with anticoagulation drug therapy or anti-platelet therapy	6	50-90%
AF7. In those patients with atrial fibrillation whose latest record of a CHADS <sub>2</sub> score is greater than 1, the percentage of patients who are currently treated with anticoagulation therapy	6	40-70%

GRASP-AF CAN BE DOWNLOADED FROM THE NHS IMPROVEMENT WEBSITE AT THE FOLLOWING ADDRESS:

<http://www.improvement.nhs.uk/graspaf/>

# National Overview

It is acknowledged that the management of AF-related stroke prevention is currently suboptimal; NICE estimates that 46 percent of AF patients who could benefit from anticoagulation are not currently receiving it.<sup>10</sup> The increased use of GRASP-AF has the potential to mitigate this problem by facilitating the interrogation of AF registers and identifying those patients with AF at a high risk of stroke and not currently on oral anticoagulation therapy.

We believe that major strides towards reducing the risk of stroke in patients with AF across England could be made through a more widespread roll-out of the GRASP-AF tool. Recent data provided by NHS Improvement suggests that 2,108 GP practices in England already upload their GRASP-AF data onto CHART Online (July 2012),<sup>13</sup> with the total number of practices running the tool likely to be higher.

While it is encouraging that over two thousand practices in England already upload their GRASP-AF data onto CHART Online, it should be noted that this number represents only about a quarter of all GP practices in England (QOF data indicates that there are 8,245 GP practices in England).<sup>23</sup> Moreover, evidence suggests that the uptake of the tool across geographical areas is uneven.<sup>24</sup>

While we acknowledge that GRASP-AF might not be everyone's audit tool of preference, we believe that the vast variation in the uptake of the tool cannot be attributed solely to Primary Care Trusts (PCTs) promoting the use of other software tools. In order to ensure a high quality of service for people with AF all over England, we believe it is imperative that the AF community acts fast to ensure more widespread and more even use of the GRASP-AF tool in GP practices nationwide.

Furthermore, it is important that in order to reduce the risk of AF-related strokes, it is not only important to identify those AF patients that could benefit from anticoagulation but also to make sure that their identification is followed by appropriate treatment. The data generated by the GRASP-AF tool suggests that a significant proportion of patients at high risk of stroke are currently not anticoagulated (Table 8).

It is important that healthcare commissioners, clinical networks and primary care professionals across England work together to ensure that the proportion of AF patients at risk of stroke administered with anticoagulants is significantly increased. The GRASP-AF tool has a central part to play in this endeavour.

Recognising the potential of GRASP-AF in preventing more AF-related strokes, this report aims to outline some practical steps which can be taken by commissioners and primary care professionals to improve uptake of GRASP-AF in England and to advise clinicians how to use this tool most effectively.

**Table 8<sup>11</sup>**

**GRASP-AF Data – Treatment of AF Patients (to July 2012)**

	CHADS <sub>2</sub> GROUPING		
	0 (n= 42,822)	1 (n= 70,581)	>1 (n=152,240)
On Anticoagulant	28.88%	40.90%	47.75%
On Anticoagulant & Antiplatelet	4.71%	6.55%	8.21%
On Antiplatelet	30.79%	37.11%	35.24%
Neither	35.61%	15.44%	8.80%
Anticoagulant C/I	6.90%	7.22%	10.14%
Anticoagulant Declined	1.45%	2.11%	3.19%

# What can commissioners do?

The provision of appropriate anticoagulation for patients with AF in line with best practice clinical guidelines will save lives as well as NHS resources.<sup>9</sup> While it is the responsibility of every clinician to ensure that their patient is treated according to the most up-to-date clinical guidelines, healthcare commissioners can play a major role in supporting the adoption of best practice by designing services and putting in place structures that facilitate the delivery of high quality care for AF patients.

GRASP-AF provides a fast and effective way of interrogating GP databases and identifying those AF patients at risk of stroke, who could benefit from treatment with oral anticoagulants, but who are not currently receiving it. By supporting a more widespread use of GRASP-AF or any other clinical audit software incorporating validated stroke risk stratification tools, healthcare commissioners can significantly improve the health outcomes within the populations they cover and reduce some of the

additional costs connected with post-stroke care.

There are several ways in which commissioners can facilitate the roll-out of the GRASP-AF tool. The following section makes a series of recommendations on what commissioners can do to increase the use of the GRASP-AF tool in their area and offers examples of some initiatives already pioneered by innovative commissioners.

## Provide leadership

**Recommendation 1:**  
Commissioners should provide proactive leadership by promoting the use of GRASP-AF to all GP practices in their area.

We urge commissioners to take a proactive role in the prevention of AF-related strokes by promoting the use of GRASP-AF, or any other clinical audit tools designed to facilitate stroke risk stratification of AF patients, as part of best practice in managing AF. To spread the awareness of the stroke risk associated with AF and to promote best practice in managing the condition, commissioners may wish to

disseminate information on GRASP-AF to all the GP practices covered by the PCT or Clinical Commissioning Group (CCG). This information may include this report from the AF Association, as well resources available from NHS Improvement.

Commissioners may wish to establish and nurture good working relationships with the representatives of local Cardiac

and Stroke Networks and the incoming Cardiovascular Strategic Clinical Networks. Working in partnership with the local networks will provide clinical input and support for commissioners' messaging and activities. In addition, it will also enable commissioners to use the networks' established channels of communication with local healthcare professionals.

## Undertake education initiatives

### Recommendation 2:

Commissioners should support education for primary care professionals on AF and stroke risk, which should include guidance on the use of clinical audit tools such as GRASP-AF.

Primary care professionals' awareness of up-to-date best practice in diagnosing, managing and treating AF is key to improving stroke outcomes in local AF populations. We therefore recommend that commissioners ensure that local primary care staff have access to professional education in suitable forms.

There are examples of commissioning for professional education in AF-related stroke

prevention already available from within the health service. Building on these experiences we encourage PCTs and CCGs to consider organising educational events in partnership with the local Cardiac and Stroke Networks, the incoming Cardiovascular Strategic Clinical Networks, and local GP clinical leads. The training can take the form of Protected Learning Time or Target Sessions. Effective interrogation of AF registers and

the use of clinical audit tools such as GRASP-AF should form an essential part of any training session in the prevention of AF-related strokes.

Furthermore, to facilitate learning and the sharing of best practice some PCTs have commissioned a CVD nurse to attend local GP practices to help run the GRASP-AF tool and to educate the practice staff in its use.

## Consider incentives

### Recommendation 3:

Commissioners should consider using local quality improvement levers to encourage the use of GRASP-AF.

Experience from other clinical areas suggests that a change in behaviour of primary care professionals can, to a large extent, be supported by providing financial incentives to adopt best practice. The recent changes to QOF indicators in AF encourage GPs to calculate CHADS<sub>2</sub> scores and to increase the proportion of AF patients at high risk of stroke in receipt of adequate antithrombotic therapy. As GRASP-AF facilitates

both of these tasks, it could be expected that the new QOF indicators will also indirectly help to increase the use of GRASP-AF.

Commissioners may choose to further incentivise the use of GRASP-AF and the appropriate management of anticoagulation through its inclusion in their Local Enhanced Services (LES). LES are services provided by primary care clinicians on top of the core

services they are contracted to deliver to their populations. These services are paid for by the local PCT and are designed to plug gaps in essential services with a view to reducing the demand on secondary care. Examples of commissioners in the NHS including GRASP-AF in their LES contracts to incentivise its use are already available.

## Ensure access to IT support

### Recommendation 4:

Commissioners should offer IT support to GP practices to facilitate the uptake and effective use of GRASP-AF.

In order to facilitate the effective use of the GRASP-AF tool, we would encourage commissioners to take proactive steps to provide IT support to local GP practices during the roll-out period. In order

to do so, PCTs and CCGs may wish to task their specialised IT teams with assisting local GP practices with software installation, and running and uploading practice data onto CHART Online.

## Develop strategies to identify AF patients at risk of stroke who may benefit from anticoagulation

### Recommendation 5:

Commissioners should work together with clinical networks and primary care professionals to put in place strategies to identify AF patients at risk of stroke who may benefit from anticoagulation, and increase the number of patients within this population who are appropriately treated.

While installing and running the GRASP-AF tool in a GP practice is an important step towards improving care for people with AF, an improvement in patient outcomes will only materialise if the identification of a person in need of anticoagulation is also followed by the initiation of appropriate anticoagulation itself. It is known that almost half of the people with AF who would benefit from anticoagulation are currently not receiving it.<sup>10</sup> We would therefore encourage

commissioners to work together with their local clinical networks and primary care professionals to identify local barriers to prescribing and try to find ways of overcoming them.

The decision whether or not to start anticoagulation remains a clinical one. When initiating anticoagulation the choice of the most appropriate anticoagulant needs to balance the risk of AF-related stroke against the risk of serious bleeding. The ESC and

other international guidelines recommend the use of the HAS-BLED risk assessment score.<sup>11,25</sup> The HAS-BLED tool should be used to help clinicians to identify modifiable bleeding risks which need to be addressed but should not on its own be used to exclude patients from anticoagulation.<sup>3</sup>

# What can be done in primary care?

As shown above, there is a range of means available to healthcare commissioners to facilitate the use of GRASP-AF within the GP practices covered by their areas. Nevertheless, the roll-out of the tool should not be a top-down process. Regardless of whether local commissioners decide to take any steps to encourage the use of GRASP-AF within their area, its use has the potential to improve services for people with AF in any individual practice. We would therefore encourage practice staff, including GPs, nurses, pharmacists

as well as practice managers, to take the initiative and start using GRASP-AF or any other clinical audit tools incorporating validated stroke risk stratification schemes.

Even after downloading and running the GRASP-AF tool, there is a lot more that primary care professionals can do to improve services for people with AF. For example, even though the main aim of AF management is the prevention of stroke,<sup>3</sup> and the holistic management of AF is beyond the scope of this report, clinicians

should keep up to date with wider AF management strategies proposed by the European Society of Cardiology, such as the need for appropriate rate and rhythm management strategies based on severity of patients' symptoms.<sup>15</sup>

We would also encourage practice staff to share their experiences and expertise in managing AF with their colleagues in the area to ensure that best practice does not only appear in isolated pockets of excellence but represents the norm throughout the NHS.

## Download, install and run GRASP-AF

**Recommendation 6:**  
Primary care professionals should take the initiative: Download, install and run GRASP-AF regularly.

GRASP-AF is a free-to-download software tool, which is compatible with all GP systems in England. It provides a convenient way to audit practices' AF registers and identify AF patients at risk of stroke. Stroke risk stratification of AF patients and the initiation of appropriate anticoagulation therapies are required by clinical guidelines and have the potential to reduce the number of AF-related strokes and save the NHS money.<sup>9</sup>

With the recent change to the AF QOF indicators, GP practices stand to benefit from employing effective stroke risk stratification techniques themselves. The 2012/13 QOF indicators promote assessments of AF patients using the CHADS<sub>2</sub> scheme and aim to increase the proportion of high risk patients treated with oral anticoagulants. GRASP-AF offers GP practices a free and effective way of facilitating both of these tasks and so helps to support both the management of stroke

prevention in local AF population as well as the achievement of high QOF scores, thus allowing GP practices to additionally benefit from the financial rewards offered as part of the QOF scheme.

Downloading, installing and running the GRASP-AF tool is in both the clinical and financial interest of GP practices across England. We therefore encourage GP practices to take the initiative and make use of this free software tool.



**“The GRASP-AF Tool is a simple and effective way for clinicians in primary care to audit their clinical care in AF. With the changes to the national QOF, GRASP-AF will assist in identifying patients with AF at risk and provide information to support appropriate intervention with anticoagulation.”**

(Dr Matt Fay)<sup>26</sup>

### Use CHA<sub>2</sub>DS<sub>2</sub>-VASc for greater sensitivity

#### **Recommendation 7:**

Primary care professionals should run GRASP-AF using the CHA<sub>2</sub>DS<sub>2</sub>-VASc score, rather than the CHADS<sub>2</sub> score, for greater sensitivity.

When running the GRASP-AF tool, GP practice staff have the choice of using two risk stratification tools: CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc. While the CHADS<sub>2</sub> score is featured by the current QOF indicators for AF, the most recent evidence suggests that the use of CHA<sub>2</sub>DS<sub>2</sub>-VASc is more appropriate. As the recent ESC guidelines for the management of atrial fibrillation pointed out:

“[t]he CHA<sub>2</sub>DS<sub>2</sub>-VASc score is better at identifying ‘truly low risk’ patients with AF and is as good as – and possibly better than – scores such as CHADS<sub>2</sub> in identifying patients who develop stroke and thromboembolism.”<sup>11</sup>

While it might be tempting for primary care professionals to only use the CHADS<sub>2</sub> score to assess

their AF patients as it forms part of the QOF indicators, we would encourage them to use the CHA<sub>2</sub>DS<sub>2</sub>-VASc score to ensure greater sensitivity of their risk assessment. The application of the CHA<sub>2</sub>DS<sub>2</sub>-VASc score in risk assessing their patients allows GP practice staff to use the GRASP-AF tool to its full potential in reducing the risk of AF-related stroke.

**“...the accumulated evidence shows that CHA<sub>2</sub>DS<sub>2</sub>-VASc is better at identifying ‘truly low-risk’ patients with AF and is as good as, and possibly better, than scores such as CHADS<sub>2</sub> in identifying patients who develop stroke and thromboembolism.”**

(European Society of Cardiology)<sup>11</sup>

## Upload practice data onto CHART Online

### Recommendation 8:

Primary care professionals should upload their GRASP-AF results onto CHART Online.

Having run the GRASP-AF tool, GP practices have the option of anonymously uploading their GRASP-AF results onto CHART Online, a secure web-based comparative analysis tool. We would encourage GP practices to upload their data onto CHART Online as it will allow them to

record their initial baseline position in AF-related stroke prevention management and use it as a benchmark for future improvements. The practice staff may also wish to compare their GRASP-AF data to that of their colleagues across the NHS. It should also be noted that through

uploading their data onto CHART Online, GP practices contribute towards the creation of a large and growing body of data on the management of AF, which can be used by researchers to learn more about optimal AF-related stroke prevention management and help to plan future services.

## Keep up to date with latest guidelines

### Recommendation 9:

Primary care professionals should attend education events and keep up to date with the latest clinical guidelines on the prevention of AF-related stroke.

The GRASP-AF tool identifies patients with AF and works out both a CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc scores for all patients on the practice's AF register. The tool also searches for current medication (warfarin, aspirin or newer anticoagulant) and highlights any recorded reason for not treating with warfarin. The tool does not assess contra-indications to warfarin or other anticoagulants. The decision whether or not to start anticoagulation remains a clinical one.

To derive the most benefit from the GRASP-AF tool, primary care professionals should be familiar with the most up-to-date clinical guidelines on the use of

thromboprophylaxis in AF. The adoption of best practice in prescribing anticoagulation will not only provide AF patients with the best possible protection from stroke based on the most up-to-date evidence, but will also help to minimise some of the risks associated with treatment by anticoagulants such as bleeding.

Parts of the NICE Clinical Guideline 36 on the management of AF are outdated and the document is currently undergoing a review with the new version expected to be published in June 2014. The Quality Standard on AF has been recently referred for development by NICE; however, the timeline of its production has not been specified.

In the absence of up-to-date national guidelines for the prevention of AF-related strokes we would recommend that all GPs familiarise themselves with alternative authoritative guidelines. In August 2012 the ESC updated its guidelines for the management of AF. In addition, in March 2012 the Royal College of Physicians of Edinburgh (RCPE) released a consensus statement on comprehensive management of AF. Below are some of the key points from these documents on the approach to thromboprophylaxis in AF. Please refer to the ESC guidelines and RCPE UK consensus statement for full and further information.

“[you] will be contributing to a national data set which will help plan and commission services more efficiently and which will help the development of future clinical guidelines”

(NHS Improvement)<sup>27</sup>

#### Table 9<sup>11</sup>

#### 2012 focused update of the ESC Guidelines for the management of atrial fibrillation

##### ADAPTED KEY POINTS:

- The efficacy of stroke prevention with aspirin is weak, with a potential for harm, since the risk of major bleeding (and ICH) with aspirin is not significantly different to that of OAC, especially in the elderly.
- The use of antiplatelet therapy (as aspirin-clopidogrel combination therapy or – less effectively – aspirin monotherapy for those who cannot tolerate aspirin-clopidogrel combination therapy) for stroke prevention in AF should be limited to the few patients who refuse any form of OAC.
- The CHA<sub>2</sub>DS<sub>2</sub>-VASc score is better at identifying ‘truly low-risk’ patients with AF and is as good as – and possibly better than – scores such as CHADS<sub>2</sub> in identifying patients who develop stroke and thromboembolism.
- The HAS-BLED score allows clinicians to make an informed assessment of bleeding risk and, importantly, makes them think of the correctable risk factors for bleeding. In patients with a HAS-BLED score  $\geq 3$ , caution and regular review are recommended, as well as efforts to correct the potentially reversible risk factors for bleeding. A high HAS-BLED score per se should not be used to exclude patients from OAC therapy.
- Where an OAC is recommended, one of the NOACs—either a direct thrombin inhibitor or an oral factor Xa inhibitor—should be considered instead of adjusted-dose VKA (INR 2–3) for most patients with AF.
- There is insufficient evidence to recommend one NOAC over another, although some patient characteristics, drug compliance and tolerability, and cost may be important considerations in the choice of agent.

**Table 10<sup>3</sup>**

## Recommendations of the Royal College of Physicians of Edinburgh – Consensus conference on atrial fibrillation

### ADAPTED KEY POINTS:

#### RECOMMENDATIONS ON THE APPROACH TO DELIVERY OF THROMBOPROPHYLAXIS IN AF:

- All patients with AF should have a formal stroke risk assessment using a scoring tool such as CHA<sub>2</sub>DS<sub>2</sub>-VASc.
- Low risk patients (CHA<sub>2</sub>DS<sub>2</sub>-VASc=0) should not receive long-term thromboprophylaxis.
- Patients with paroxysmal, persistent or permanent AF who are over the age of 65 or who have any risk factor for stroke should be considered for OAC.
- Women under 65 years with AF and no other stroke risk factors have a relatively low stroke risk and thromboprophylaxis would not usually be recommended for this group.
- Aspirin should not be used for stroke prevention in AF as it is ineffective; patients who are taking aspirin solely for this purpose should be reviewed.
- The combination of aspirin plus clopidogrel reduces ischaemic stroke risk in AF but this is offset by a risk of serious bleeding. Therefore this combination is not recommended for thromboprophylaxis in AF.
- Before starting an OAC it is important to assess the risks and benefits of treatment, including an assessment of cognition and comorbidities. Use of the HAS-BLED tool can help identify modifiable bleeding risks which need to be addressed but should not on its own be used to exclude patients from OAC therapy.
- Anticoagulation should be with either well-controlled warfarin (currently standard treatment) or one of the newer OACs.
- Newer OACs (direct thrombin and factor Xa inhibitors) are an option for patients who cannot tolerate, have an allergy to, or who cannot achieve satisfactory anticoagulant control on warfarin.
- All patients with AF should have the risks and benefits of OAC assessed annually.
- All providers of anticoagulation services should provide annual data of TTR (time in therapeutic range) as a means of quality improvement.
- Anticoagulant control may be improved by near patient testing and engaging patients in their own care; patient education should be supported at every stage.
- High risk patients in whom all OACs are contraindicated may be considered for a left atrial appendage occlusion device.

## Share best practice

### Recommendation 10:

Become the local best practice champion, share best practice!

Despite the human and financial burden associated with AF-related strokes, awareness of AF and best practice in managing it amongst primary care professionals is not as high as it could be. We know that if best practice in the reduction of AF-related stroke risk is to be implemented on a wider scale, the driving impetus for change has to come from within the primary care community. We would therefore encourage clinical staff with an interest in arrhythmias to become local leaders in promoting best practice in managing AF and the risk of stroke in AF patients.

As local best practice champions, GPs may wish to take part in or organise educational events, where they could share with their colleagues advice on how to achieve better health outcomes for their populations and save money by doing so. The use of GRASP-AF and other clinical audit tools incorporating validated stroke risk stratification schemes should be promoted as part of best practice in preventing AF-related stroke and primary care clinicians themselves are in a great position to be its chief advocates.

GRASP-AF can be downloaded from the NHS Improvement website at the following address:  
<http://www.improvement.nhs.uk/graspaf/>

# Conclusion

GRASP-AF provides a free and effective mechanism of interrogating GP practices' AF registers and identifying patients at high risk of stroke who could benefit from treatment with anticoagulants. Despite the potential of GRASP-AF to improve care for AF patients and to facilitate the achievement of high QOF scores, the uptake of the tool across England remains uneven,<sup>24</sup> with only about 26 percent of GP practices uploading their data onto CHART Online (2,108 out of 8,245 practices).<sup>13,23</sup>

This report aims to provide a series of recommendations to both healthcare commissioners and primary care clinicians on what more can be done to promote the use of GRASP-AF in GP practices across England. While the AF Association acknowledge that there might be some up-front cost associated with the implementation of our recommendations, we are convinced that this cost would be offset multiple times by the savings achieved through the prevention of costly strokes.

We would encourage healthcare commissioners to take a leading role in promoting the use of GRASP-AF in GP practices covered by their PCTs or CCGs. We believe that the use of GRASP-AF could be further increased by providing professional education to primary care clinicians on the importance of preventing AF-related stroke and by offering them incentives to adopt best practice in managing AF patients. In order to facilitate the effective use of the GRASP-AF tool, we would encourage commissioners to take proactive steps to provide IT support to local GP practices. Commissioners may want to consider tasking their specialised IT teams on a short-term basis with overseeing a smooth roll-out of the tool across the area covered by the PCT or CCG. We would also encourage commissioners to work together with clinicians and clinical networks in their area to identify how to increase the rates of anticoagulation in appropriate AF patients at risk of stroke.

The use of GRASP-AF or any other clinical audit tools incorporating validated stroke risk stratification schemes is both in the clinical and financial interest of every individual practice. We would therefore urge GP practices to take the initiative and download, install and regularly run GRASP-AF. In order to derive the most benefit from the use of this tool we would encourage primary care clinicians to familiarise themselves with the most up-to-date clinical guidelines on the use of thromboprophylaxis in AF. We could also recommend that GP practices run the tool using the CHA<sub>2</sub>DS<sub>2</sub>-VASc scoring scheme and that they upload their data onto CHART Online. If the change in the way AF-related stroke prevention is managed is to be implemented successfully, the impetus and drive for this change has to come from within primary care. We therefore call on primary care professionals with interest in arrhythmias to become clinical leaders and share advice on best practice in the prevention of AF-related strokes and using GRASP-AF with their colleagues across the NHS.

We look forward to working with colleagues across the NHS to help reduce the risk of preventable AF-related stroke.

# Glossary

## **Anticoagulant/Anticoagulate**

Drug therapy which helps to slow the natural clotting speed of the blood

## **Antithrombotic treatment**

Treatment which reduces the risk of a blood clot forming which could lead to a stroke

## **Atrial Fibrillation**

Atrial Fibrillation (AF) is a heart rhythm disturbance. Its symptoms include chest pain, breathlessness and palpitations and it is a major predisposing factor for thromboembolic strokes

## **CHADS<sub>2</sub>**

A validated stroke risk stratification scheme, attributing points for the presence of any of the following risk factors:

Congestive heart failure  
Hypertension  
Age (75 years or over)  
Diabetes  
Stroke

## **CHA<sub>2</sub>DS<sub>2</sub>-VASc**

A validated stroke risk stratification scheme, attributing points for the presence of any of the following risk factors:

Congestive heart failure  
Hypertension  
Age (75 years or over)  
Diabetes  
Stroke  
Vascular disease  
Age (65 – 74 years)  
Sex (gender)

This report recommends the use of CHA<sub>2</sub>DS<sub>2</sub>-VASc over CHADS<sub>2</sub> for greater sensitivity

## **CCG**

Clinical Commissioning Group – Groups of local health professionals, which will be responsible for healthcare commissioning from 2013

## **CHART On-line**

A secure web-based comparative analysis tool to which GP practices can upload their GRASP-AF data to benchmark themselves against others and their past record

## **GRASP-AF**

Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation – A software stroke risk stratification tool available for use by GP practices

## **HASBLED**

A method of assessing bleeding risk in AF patients on anticoagulation being considered for anticoagulation:  
Hypertension (e.g. systolic >160 mmHg)  
Abnormal renal/liver function  
Stroke  
Bleeding history/predisposition  
Labile INR (measure of blood coagulation)  
Elderly (over 65 years)  
Drugs (i.e. concomitant aspirin or non-steroidal anti-inflammatory drugs [NSAIDs]) or alcohol

## **Hypertension**

High blood pressure

## **LES**

Local Enhanced Services – Locally developed services designed to meet local health needs commissioned on top of the core services provided by primary care

## **NOAC**

Newer oral anticoagulants

## **OAC**

Oral anticoagulants

## **QOF**

Quality and Outcomes Framework- A voluntary annual reward and incentive programme for all GP surgeries in England

## **Stroke**

A medical condition where the brain is deprived of oxygen due to a blockage or a bleed

## **VKA**

Vitamin K antagonists – a class of anticoagulants which includes warfarin.

## Further information:

### **Atrial Fibrillation Association**

[www.atrialfibrillation.org.uk/](http://www.atrialfibrillation.org.uk/)

### **Anticoagulation Europe**

[www.anticoagulationeurope.org/](http://www.anticoagulationeurope.org/)

### **NHS Improvement – GRASP-AF**

[www.improvement.nhs.uk/graspaf/](http://www.improvement.nhs.uk/graspaf/)

### **Primis+: Primary Care Information Services | GRASP-AF**

[www.primis.nottingham.ac.uk/index.php/services/information/grasp-af](http://www.primis.nottingham.ac.uk/index.php/services/information/grasp-af)

### **European Society of Cardiology: Guidelines for the management of atrial fibrillation (2010)**

[www.escardio.org/guidelines-surveys/esc-guidelines/GuidelinesDocuments/guidelines-afib-FT.pdf](http://www.escardio.org/guidelines-surveys/esc-guidelines/GuidelinesDocuments/guidelines-afib-FT.pdf)

### **2012 Focused Update of the ESC Guidelines for the management of AF:**

[www.escardio.org/guidelines-surveys/esc-guidelines/GuidelinesDocuments/Guidelines\\_Focused\\_Update\\_Atrial\\_Fib\\_FT.pdf](http://www.escardio.org/guidelines-surveys/esc-guidelines/GuidelinesDocuments/Guidelines_Focused_Update_Atrial_Fib_FT.pdf)

### **Royal College of Physicians of Edinburgh: Consensus conference: Approaching the comprehensive management of atrial fibrillation: evolution or revolution?**

[www.rcpe.ac.uk/journal/supplements/supplement-18.pdf](http://www.rcpe.ac.uk/journal/supplements/supplement-18.pdf)

### **NICE – Clinical Guideline 36: Atrial fibrillation: Management of atrial fibrillation**

<http://publications.nice.org.uk/atrial-fibrillation-cg36>

## Atrial Fibrillation Association

<http://www.atrialfibrillation.org.uk/>

The Atrial Fibrillation Association (AF Association) is a UK registered international charity which focuses on raising awareness of atrial fibrillation (AF) by providing information and support materials for patients and medical professionals involved in detecting, diagnosing and managing AF.

AF Association works closely with medical professionals, the Department of Health, Government, NHS Trusts, PCTs, patients, carers, patient support group members and allied groups.

## AF Association aims to:

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

## List of tables

	Page
<b>Table 1</b> What does the GRASP-AF tool do?	7
<b>Table 2</b> CHADS <sub>2</sub>	7
<b>Table 3</b> CHADS <sub>2</sub> - Recommended Action	7
<b>Table 4</b> CHA <sub>2</sub> DS <sub>2</sub> -VASC	7
<b>Table 5</b> CHA <sub>2</sub> DS <sub>2</sub> -VASC – Recommended Action	8
<b>Table 6</b> HAS-BLED	8
<b>Table 7</b> AF QOF Indicators 2012/2013	9
<b>Table 8</b> GRASP-AF Data – Treatment of AF Patients (July 2012)	10
<b>Table 9</b> 2012 focused update of the ESC Guidelines for the management of atrial fibrillation	17
<b>Table 10</b> Recommendations of the Royal College of Physicians of Edinburgh Consensus conference on atrial fibrillation	18

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