

AF ASSOCIATION HEALTHCARE PIONEERS REPORT SHOWCASING BEST PRACTICE IN AF 2019



FOREWORD

"We would like to take this opportunity to thank all those who submitted case studies, and to congratulate the 15 winners who demonstrate excellent good practice and development of AF services to improve patient outcomes and quality of life."



Trudie Lobban

TRUDIE LOBBAN MBE,
Co-Founder & CEO,
AF Association



A. John Camm

Prof. A. John Camm,
Trustee and Co-Founder
AF Association

AF is the most common, sustained heart rhythm disturbance (arrhythmia). About 2% of the general population have AF, and at least one in four adults over 40 years old will develop AF in their lifetime. It can cause distressing symptoms, or it may remain silent, with the patient being completely unaware of the potentially dangerous arrhythmia that has developed. This is one of the main reasons that so many people have undiagnosed AF – in excess of 30% of people with AF are unaware.

Irrespective of symptoms, AF is associated with severe complications, unless it is managed and treated effectively. AF-related stroke, sudden death, heart failure, dementia, and frequent hospital admissions are much more common in patients with poorly managed and untreated AF. Correct and expert treatment reduces these complications, almost back to the status of people who have normal heart rhythm. It is therefore vital that all patients with AF are identified as early as possible after the arrhythmia begins, and that those with AF are diagnosed and assessed, so that valuable anticoagulation therapy and treatment can begin as soon as possible.

The AF Association was established specifically to help patients and their families or carers to understand this arrhythmia, and to obtain the best expert advice. There are many effective therapies and treatments available, but some of the older approaches to this arrhythmia are now known to be ineffective, such as aspirin as an anticoagulant for AF, which place patients at greater potential risk of an AF-related stroke.

There is still a critical need to increase the identification of people with undiagnosed AF, improve their diagnosis, and ensure that effective and appropriate anticoagulation is provided to all patients with AF. The pace of

change has been rapid in this field of medicine, and the AF Association have set up an award for Healthcare Pioneers working in AF, to identify innovative and positive advances in the way diagnosis, anticoagulation therapy and treatment for AF has been established in leading centres. These ideas are collated into the Healthcare Pioneers Report on an annual basis. This information is then disseminated as a model of best practice across the UK, that other centres can adapt to improve their own practice in the management of patients with AF.

The AF Association – Healthcare Pioneers Report 2019 includes 15 case studies describing best practice to establish or grow existing services and to deliver our core campaign:

'DETECT AF; PROTECT against AF-related stroke; CORRECT the irregular heart rhythm; and thereby PERFECT the patient care pathway – restoring a patient back to a person and improving their quality of life.

We would like to take this opportunity to thank all those who submitted case studies, and to congratulate the 15 winners who demonstrate excellent good practice and development of AF services to improve patient outcomes and quality of life.

Applications for the AF Association Healthcare Pioneers Report 2020 will open in March 2019 – we encourage everyone who is aware of, or actively engaged in the management of patients with AF, to share their examples of best practice. An international expert judging panel reviews all entries, with the winners being announced during the AF Association Global AF Aware Week annual event hosted at the Palace of Westminster, London, UK in November 2019.

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THE SOS-AF SERVICE: IMPLEMENTATION OF A SECONDARY CARE SERVICE FOR SCREENING, OPTIMISATION, AND SUPPORT FOR STROKE PREVENTION IN ATRIAL FIBRILLATION

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CAMBRIDGE UNIVERSITY HOSPITALS NHS FOUNDATION TRUST

BACKGROUND: Our work at Cambridge University Hospital (CUH) in 2014-15 showed a substantial increase in the burden of AF in general medical admissions with a prevalence of 15% in a population with a median CHA₂DS₂VAS_c of 4.4. Only 60% of patients with known AF were on anticoagulation on admission and only 38% of those with newly-diagnosed AF left hospital anticoagulated.

We believe that secondary care is an important yet under-utilised place to screen for AF and to optimise AF-related stroke prevention; medical inpatients have multiple comorbidities and a high risk of AF-related stroke. ECG screening comes at no extra cost and multidisciplinary expertise is available.

OUTLINE OF SERVICE: The SOS-AF service has been established as a multidisciplinary patient-centred AF-related stroke prevention service at CUH since October 2017 supported by Eastern AHSN. Our vision is: "No one with known AF should suffer an avoidable AF-related stroke."

Consisting of two stroke prevention nurses supported by four stroke physicians, our team provides:

- 1) Screening actively for AF in general medical admissions: using electronic medical records and ECG. We also accept referrals to the stroke prevention clinic or MDT from medical teams, GPs, cardiology services e.g. pacemaker clinic, heart failure clinic.
- 2) Optimisation of stroke prevention: after comprehensive risk-stratification of each patient we offer advice regarding anticoagulation.
- 3) Support: increasing AF awareness in the community, patient education and supporting primary and secondary care in understanding and overcoming barriers to anticoagulation.

IMPACT: Our current data shows the burden of AF in acute medical admissions has risen further to 21.3%,

and 71% of patients with known AF are admitted on anticoagulation. In the first seven months, we have screened 8933 inpatients and identified 247 new AF cases with the following results:

- 237 patients were anticoagulated following our advice to medical teams, GPs, or in the clinic. This includes changes to inappropriate anticoagulant choice or dose where sub-optimal AF-related stroke prevention therapy was identified.
- We advised medical teams and GPs not to anticoagulate 69 patients where on balance the risks outweighed the benefits with clear guidance for future care.

Our commitment to community support has included:

- 1) Patient education days at GP surgeries focussing on AF and anticoagulation
- 2) Primary care workshops on overcoming barriers to anticoagulation
- 3) AF awareness public engagement events

CONCLUSION: In the first seven months SOS-AF service has prevented almost ten cardioembolic strokes extrapolating to almost 17 strokes annually; saving £94,600/year on bed days and £371,000 to the NHS and social care (the first-year post-stroke costs).



INTRODUCING AND EVALUATING A PHARMACIST-LED ANTICOAGULATION INITIATION SERVICE IN PRIMARY CARE

Hannah Oatley and Satinder Bhandal

OXFORD AHSN

The Oxford Academic Health Science Network (AHSN) together with Buckinghamshire Healthcare NHS Trust, East Berkshire CCG and Berkshire West CCG is currently establishing a new model of service delivery for the initiation of anticoagulation therapy in primary care. Recognising the recruitment and demand pressures currently facing General Practitioners, we are adopting an innovative model which harnesses the capacity and specialist expertise available within the Pharmaceutical profession.

The Primary Care Anticoagulation Initiation Service is delivered by dedicated Specialist Pharmacists who will assess and counsel patients in the primary care setting and prescribe an appropriate anticoagulant.

The overall aim of the project is to increase the number of patients with known AF who are receiving appropriate anticoagulation therapy, thereby reducing the number of AF-related strokes. The project aims to:

- Take the burden of 'decision to anticoagulate' away from the rushed setting of the GP consultation and into an environment where there is sufficient time for a structured conversation and shared decision making with the patient
- Provide a secondary care level of expertise in a GP practice setting
- Ensure consistency in prescribing

The service is led by a Consultant Pharmacist and delivered by dedicated Specialist Pharmacists. GPs refer using a proforma template. Referrals are accepted for:

- Treatment naïve patients
- Patients who should be considered for transition from Warfarin to DOAC due to poor TTR
- Patients who should be considered for an alternative anticoagulant due to unacceptable side effects new or resolved contraindications
- Patients who have previously declined anticoagulant but are now willing to consider it

Oxford Academic Health Science Network 
CLINICAL INNOVATION ADOPTION

Patients are given a 30 minute structured consultation including information about AF-related stroke risk and bleeding risks. Shared decision making techniques are used to ensure that patients are offered the most appropriate anticoagulant for their clinical condition and preference. All Specialist Pharmacists employed within the service are non-medical prescribers and will issue the first month prescription. The consultation is detailed on EMIS.

Patients initiated on warfarin are given a prescription for warfarin and referred to their usual anticoagulation clinic for on-going monitoring and management. Patients initiated on a DOAC have a telephone follow up after two to three weeks where any side effects, anxieties or concerns will be discussed.

Results from phase one:

- 371 patients reviewed in first five months
- Average age 79
- Average AF-related stroke risk - 9% per annum
- 121 anticoagulation naïve patients reviewed
- 82 patients (67%) initiated on anticoagulation
- 250 warfarin patients reviewed - 131 (53%) transitioned to a DOAC
- A potential 11 strokes prevented

Note that funding for this project was provided through an independent grant for learning and change (IGLC) through the Pfizer-BMS Alliance.

IMPLEMENTING A DETECT, PROTECT AND CORRECT STRATEGY FOR ATRIAL FIBRILLATION IN GP PRACTICES IN THE NORTH WEST COAST

**Dr Julia Reynolds, Dr Michelle Coleiro,
Paul Brain, and Haku Bhatt**

INNOVATION AGENCY, ACADEMIC HEALTH SCIENCE NETWORK
FOR THE NORTH WEST COAST

INTRODUCTION: We worked across East Lancashire, Blackburn with Darwen, Warrington, West Cheshire and Wirral CCGs to support the delivery of a package of innovation and best practice to identify and better manage people with Atrial Fibrillation (AF) in primary care.

*Data shows in these five CCGs

- 5,636 people with undiagnosed AF
- 4,721 high risk patients not anticoagulated

This could cause approximately 450 possibly preventable AF-related strokes.

We worked with primary care to find more people with AF and improve their care in line with NICE guidance.

OUTLINE OF SERVICE: The 106 practices enrolled were offered a tailored package of support which included:

- the distribution of Kardia AliveCor mobile ECG devices;
- clinical AF training;
- case finding support;
- Quality Improvement (QI) training support to develop an AF improvement plan;
- GRASP-AF training.

CARE PATHWAY AND TREATMENT: All practices received Kardia mobile ECG devices and some or all of the support initiatives. Fifty eight practices formed an Improvement Team who worked towards an improvement aim of closing the prevalence gap (between observed and expected) by 50% and anticoagulating 80% of their high risk patients. Data was collected on a quarterly basis.

Common Improvement areas included:

- Reviewing high risk AF patients not on anticoagulation therapy
- Developing an opportunistic testing protocol for AF
- Ensuring that all AF patients have a yearly review
- Reviewing the care of people on a DOAC
- Checking warfarin patients have recently recorded INRs in their notes
- Implementing the use of patient educational materials

RESULTS: Variation was seen in terms of the achievement against the QI targets set. 50 (86%) practices achieved one or more of their two QI targets.

Data available from 61 practices to date shows:

- At least 812 additional patients were added to AF registers.
- At least 1,483 additional patients are now prescribed a form of anti-coagulant, estimating to save over 59 AF-related strokes each year.
- 10 practices found more patients than the practice prevalence data identified.

Qualitative data showed that participating in the AF Collaborative led to sustainable changes in the management of AF that improved patient care.

CONCLUSIONS: We have demonstrated in the practices that we worked with that this type of improvement work leads to sustainable improvements in the care of people with AF. Processes are developed or improved to better identify and manage patients in accordance with NICE guidelines. Practice staff have been upskilled in quality improvement tools and techniques and have been exposed to innovations which will also help them in clinical practice beyond the management of AF and CQC inspections. We will extend this work further in 2018/2019.

*QOF 2016/17



CLINICAL COLLABORATION IN THE MANAGEMENT OF ATRIAL FIBRILLATION: THE VANGUARD PROGRAMME

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DARTFORD AND GRAVESHAM NHS TRUST

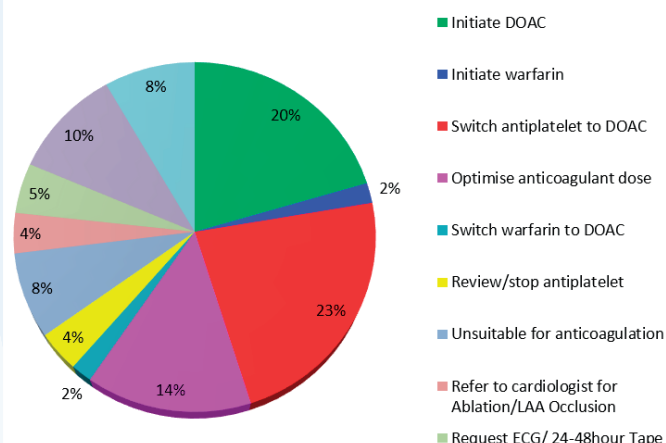
INTRODUCTION: In 2016 NHS England created the Foundation Healthcare Group Vanguard - a partnership between Guys and St Thomas' NHS Foundation Trust and Dartford and Gravesham NHS Trust. The Foundation Healthcare Group was set up to develop a sustainable local hospital model that makes best use of scarce resources and can be replicated across the NHS.

AIMS: The aim was to improve healthcare outcomes and access to high quality treatment for patients, be more cost effective and meet the challenge of increased demand for services in Dartford and the surrounding area where significant population growth is expected over the coming years. Cardiology and in particular atrial fibrillation management was identified as one of the key areas that needed improving. A novel programme for identifying patients with AF from a select number of GP practices was set up with the primary aim of ensuring that local patients could get timely access to high quality care.

METHODS: A dedicated nurse and pharmacist were assigned to direct engagement with a select number of local GP surgeries and identify AF patients. A cardiologist, the Nurse and Pharmacist would then visit the GP practice for a dedicated 'clinic' in which patients with AF were discussed. Anticoagulation, anti-arrhythmic medications and importantly patients who needed physical consultation, advanced therapies - either through device implantation or AF ablation - were identified.

Patient characteristics	
Number	193
Female Sex number (%)	100 (52%)
Age, median years (range)	79 years (52-98)

Interventions/recommendations



A monthly Skype Clinic MDT was also initiated with involvement from a local Electrophysiologist and Electrophysiologists from Guys and St Thomas' and Kings College Hospital.

CONCLUSION: The primary objective of this small 'pilot' programme was easily achieved but we have observed numerous secondary benefits from the programme

- Increasing local cooperation among clinicians
- Less need for formal review in Cardiology clinic
- Increased awareness in primary care about advanced therapies including medications, devices and ablation for AF management

Implementation of this programme on a larger scale has the potential to improve outcomes in the management of atrial fibrillation in primary and secondary care across the NHS.

A COLLABORATIVE APPROACH TO AF SCREENING AND RAPID RESOLUTION

Rachel Fuller, John Craig and Lily Barnett

CARE CITY

Care City's innovative One Stop Atrial Fibrillation (AF) Pathway finds people with undiagnosed AF, reduces the number of appointments needed to confirm diagnosis and waiting times for treatment. It utilises the accessibility of community pharmacists to identify people with undiagnosed AF, directly refer for specialist review and if required, invite for an appointment at a one-stop AF clinic, substantially reducing the number of appointments and time needed to confirm diagnosis to receiving treatment, from three months to two weeks. It also demonstrates how public access to screening services and subsequent patient experience can be improved by delivering these interventions using digital innovation.

Care City collaborated with North East London Pharmaceutical Committee, First Care Connection, Barts Health NHS Trust, Waltham Forest CCG and Sonar Informatics to trial early screening of AF using a KardiaMobile™ by AliveCor - a mobile ECG device which can spot AF in 30 seconds. Those with an abnormal result were reviewed by a Specialist Arrhythmia Nurse and where necessary were invited to attend an appointment at the One Stop AF Clinic at Whipps Cross Hospital for further diagnostic tests and, if appropriate, treatment.

The primary challenge was to join up previously disconnected parts of the system and minimise delay from possible detection to treatment. Training community pharmacists to use KardiaMobile™ and produce quality ECG traces, engaging patients, authorisation of a co-designed service specification with Waltham Forest CCG Boards and provision of supporting materials were key enablers to success. To meet the challenge of a one-stop clinical review within two weeks, we co-designed a bespoke web based IT platform and enabled arrhythmia nurse specialists, cardiac physiologists and clinical pharmacists to initiate anticoagulation as appropriate.

Over the six month pilot, part of the NHS England and locally funded Test Bed programme, nearly 700 patients were screened across 21 pharmacies in Waltham Forest. Of those screened, 110 were referred for specialist review and of these 30 patients attended the clinic, with at least four receiving a new AF diagnosis so far. Patients valued the efficiency of the pathway, reducing anxiety induced by long waiting times and receiving timely treatment to reduce their risk of AF-related stroke, with little impact on GP workload. Professionals valued the multidisciplinary approach of this screening initiative which enabled working across traditional boundaries. The work also enabled community pharmacists to expand their role in creating awareness and screening of AF in their local communities.



AN INTEGRATED MULTI-PROFESSIONAL APPROACH TO AF MANAGEMENT: INITIAL EXPERIENCE OF A NEW RAPID ACCESS CLINIC IN SECONDARY CARE

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CALDERDALE AND HUDDERSFIELD NHS FOUNDATION TRUST

INTRODUCTION: An integrated and structured approach to management of atrial fibrillation (AF) is recommended by the European Society of Cardiology. Data on outcomes of such a model within secondary care in the NHS is limited.

AIMS AND OUTLINE: The new 'one-stop' multi-professional arrhythmia clinic, as part of new AF care pathway developed collaboratively between primary and secondary care, was introduced for patients diagnosed with atrial fibrillation across Calderdale and Greater Huddersfield CCGs (population 450,000). The main intended benefits included delivering holistic care (detailed counselling for anticoagulation, early identification of reversible risk factors) and early access to a multi-disciplinary specialist team through a one-stop clinic.

The attached figure outlines the new pathway introduced in September 2017. Referrals are accepted from both primary care (GPs) and secondary care [Emergency department (ED) & Medical Admissions Unit (MAU)] based on standardised eligibility criteria, irrespective of the source of referral.

All referrals are triaged by an Arrhythmia Nurse. All eligible patients are seen within two weeks in clinic by Arrhythmia Nurse and Consultant Cardiologist (with arrhythmia interest), with investigations (Echocardiogram) completed on the same day.

All patients are screened and investigated for all modifiable risk factors for AF using standardised proforma.

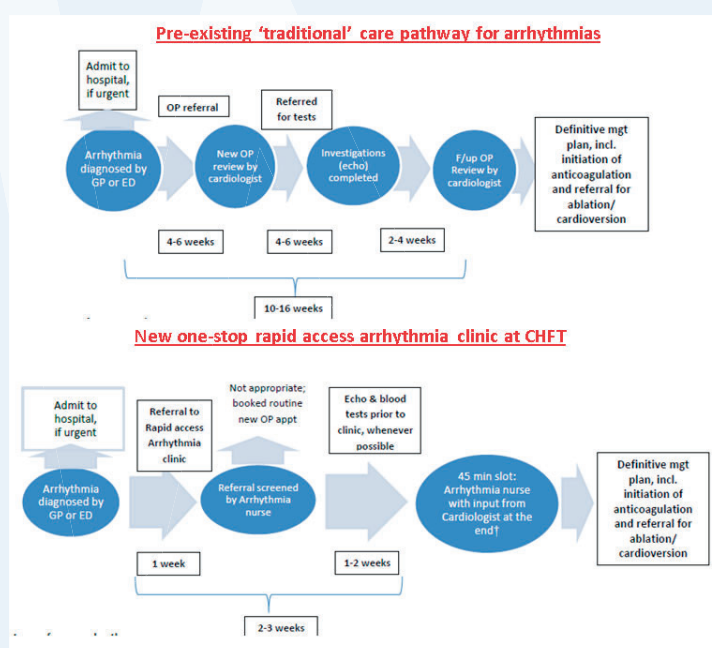
RESULTS: From September 2017 to April 2018, we received 120 referrals: 23 from GPs, 32 from ED and 52 from MAU. Excluding 14 inappropriate referrals and three DNA's, 87 with AF (and 16 with SVT) were seen. Among AF patients, 96% of eligible patients were started on oral anticoagulants.

Among modifiable risk factors for AF, the prevalence of alcohol consumption ≥ 14 units/week, BMI ≥ 30 and symptoms of sleep apnoea were 38%, 39% and 26% respectively. Any one of these three risk factors was noted in 60% of patients. All were offered lifestyle intervention

and investigations where appropriate. All are discharged with an individualised long-term management plan and arrhythmia team telephone helpline.

OUTCOMES: The majority (56%) were discharged without follow-up. Ten patients required follow-up with cardiologist, 35 had nurse-led follow up arranged. None of the 103 patients were hospitalised or attended ED again due to symptomatic arrhythmia within 30 days of referral. Patient feedback so far showed consistently high levels of satisfaction.

CONCLUSIONS: Our initial experience of this new model of integrated, multi-professional approach to AF management noted many short-term benefits (96% of eligible patients accepting oral anticoagulation), significant reduction in planned and unplanned follow-up hospital visits and high patient satisfaction.



ONE YEAR ON – COMMUNITY ECG CLINICS TO DETECT ATRIAL FIBRILLATION AND OTHER CARDIAC ISSUES FOR PATIENTS WITH SERIOUS MENTAL ILLNESS ON HIGH DOSE ANTIPSYCHOTIC MEDICATION

Lisa Evans

NOTTINGHAMSHIRE HEALTHCARE NHS FOUNDATION TRUST

BACKGROUND: It is well documented that a large percentage of community patients with serious mental illness who are prescribed high dose, long term anti-psychotic medication do not engage with GP and community services. This disengagement increases a patient's Cardio-Metabolic risk and their risk of stroke due to undetected Atrial Fibrillation. The ECG is an essential screening tool enabling the professional to monitor a patient's physical health both prior to commencement of medication and for ongoing monitoring whilst taking medication.

"... less than a third of people with schizophrenia in hospital received the recommended assessment of cardiovascular risk in the previous 12 months."

NHS England Five Year Forward View for Mental Health

"...Patients with AF with schizophrenia or severe depression experienced increased rates of AF-related stroke and major bleeding compared with matched comparisons.."

BMJ Open Journals

"...Many psychiatric medicines, antipsychotics in particular, are associated with increased risk of metabolic syndrome...."

Public Health England

Over 250 mental health nursing staff have completed ECG training, with bespoke sessions being delivered in various localities including prisons, community settings and hospitals. The successful implementation of ECG clinics has resulted in crisis teams, learning disability teams and community mental health teams now regularly referring patients for ECG's who would not normally engage. The clinics are also a useful resource where staff competency can be supported and developed.

ECG Interpretation training for medics and senior nurses continues and an ECG e-learning package (refresher) has also been included in this service. These clinics have proved invaluable in terms of earlier detection of cardiac problems including AF for patients who risk dying 25-30 years earlier than the general population.

Let's look at some statistics:

- From May 2017-May 2018 33.84% of referrals had previously undiagnosed cardiac issues
- The latest clinical audit report for inpatient areas - adult mental health (physical health & examination audit) revealed that: In 2016 of the 146 cases audited, 55.6% had had an ECG recorded. In 2017 off the 402 cases audited, 90.5% have had ECG's recorded

In conclusion, this new service has resulted in quicker detection, diagnosis and improved treatment pathway for clients with serious mental illness, ensuring that patient care is at the heart of this new initiative.



IMPROVING ANTICOAGULATION PRESCRIBING FOR STROKE PREVENTION IN ATRIAL FIBRILLATION AND OPTIMISING MEDICINES FOR CARDIOVASCULAR RISK: NEW WAYS OF WORKING

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BARTS HEALTH NHS TRUST, REDBRIDGE CLINICAL COMMISSIONING GROUP, BARKING, HAVERING AND REDBRIDGE NHS TRUST, CLINICAL EFFECTIVENESS GROUP



Stroke prevention in atrial fibrillation (AF) is a national priority. For Redbridge, the Quality and Outcomes Framework (QOF) for 2016/17 showed 23% (560) of AF patients with a CHA₂DS₂VASc score of two or more were not anticoagulated, in comparison to the national average of 19%. In addition, the Sentinel Stroke National Audit Programme (SSNAP) demonstrated that the number of AF-related strokes in patients with known AF but not anticoagulated was 37% for Redbridge in 2016/17.

This quality improvement programme was developed in collaboration with Redbridge Clinical Commissioning Group (CCG). The purpose was to bridge the anticoagulation gap and health inequalities, avoid further delays in treatment initiation by bypassing the referral into secondary care and to treat patients closer to home.

Using a software decision support tool (APL-AF tool), a specialist independent pharmacist prescriber, from secondary care identified all AF patients at high risk of AF-related stroke (CHA₂DS₂VASc score ≥ 2) from 44 GP practices eligible for anticoagulation treatment as well as optimise blood pressure and lipid control from May 2017 to May 2018. Joint GP-Pharmacist consultations were conducted with patients to optimise their therapy and support training of GPs in providing a legacy of primary care initiation of anticoagulation.

This was supported by a weekly teleconferencing meeting with a multidisciplinary team (MDT) consisting of a cardiologist, haematologist, GP with specialist interest in cardiology and specialist pharmacist; with the purpose of escalating challenging patient cases without a formal referral and clarifying diagnostic uncertainties. The quality improvement measures were recorded centrally by the Clinical Effectiveness Group for each GP practice.

There were 2774 patients with atrial fibrillation and CHA₂DS₂VASc score ≥ 2 .

ACHIEVEMENT

- 138 fewer patients on inappropriate antiplatelet monotherapy (52% decrease from previous year)
- Proportion of high risk patients on anticoagulation therapy increased by 17%
- 34.5% (n=1030) patients received statin optimisation and 14.3% (n=428) patients had their blood pressure therapy optimised (<140/90mmHg)

This was achieved by engaging stakeholders, adopting a multidisciplinary approach including a clinical pharmacist, using digital technologies and innovation to support decision making. This way of working has been recognised by UCL Partners, as an exemplar model of care.

Future developments and the longer-term solution includes the initiative of practice based clinical pharmacists (PBP) as a more sustainable model. The benefits of the work have led to Sustainability and Transformation Partnerships (STP) to extend the programme to improve outcomes across a wider geographical area.

IMPLEMENTING THE USE OF VERNAKALANT

Mrs Angela Hall, Dr Andrew Mitchell and Mrs Kellyanne Kinsella

JERSEY GENERAL HOSPITAL

Vernakalant is a novel antiarrhythmic drug licensed for the conversion of recent onset atrial fibrillation [AF] (<7 days duration) to sinus rhythm.

Professor Camm presented evidence relating to the use of Vernakalant at the Heart Rhythm Congress [HRC] in 2013 and I was fortunate to attend this session. Approximately four decades have passed since a new antiarrhythmic drug has been available for AF management and this inspired me to learn more.

After reviewing the evidence with our local Cardiologist, we submitted an application to our Drugs and Therapeutics Committee who approved the use of Vernakalant. Vernakalant was yet to be approved by NICE but was recommended by the European Society of Cardiology. We have since become the first centre in the British Isles to be using Vernakalant in regular practice.

This new treatment has enabled us to employ an innovative approach to the management of AF in the Emergency Department and acute inpatient areas. A policy and algorithm for its use and administration was produced and shared with the relevant departments through a robust educational approach and departmental training. Initial barriers to change were overcome once colleagues became more familiar with the drug mechanisms and outcomes.

The infusion is administered over ten minutes. If cardioversion does not occur, a fifteen minute period of observation takes place followed by a further infusion of ten minutes. We restricted the use to those presenting with AF of less than 48 hours in keeping with post-marketing studies and optimal outcomes of audited practice. The drug has made an immediate difference to patient care and financial costs. The infusion time is short with an observation time of two hours in total. Adverse events are uncommon and patients are discharged home. Our local audit has demonstrated 87% successful conversion to sinus rhythm. There were no complications and 100% of patients were satisfied with this approach. This has also reduced the need to perform external direct current cardioversion which has its own inherent risks particularly when the patient is not anticoagulated on presentation.



Interestingly, we have also noted in all patients who have received Vernakalant locally, 87% have had no AF recurrence at four-week follow up and this again is in keeping with post-marketing studies research findings. Local practice has proved popular and our protocols have been shared with ten UK centres all considering applications for their Trusts. Our experiences were also presented at the HRC in 2017.



AF ANTICOAGULATION – DOACS BREAKING THE BANK?

Dr James Oldman, Carina Joanes, Rachel Mackay and Dr Stephen Cookson

ROYAL SURREY COUNTY HOSPITAL

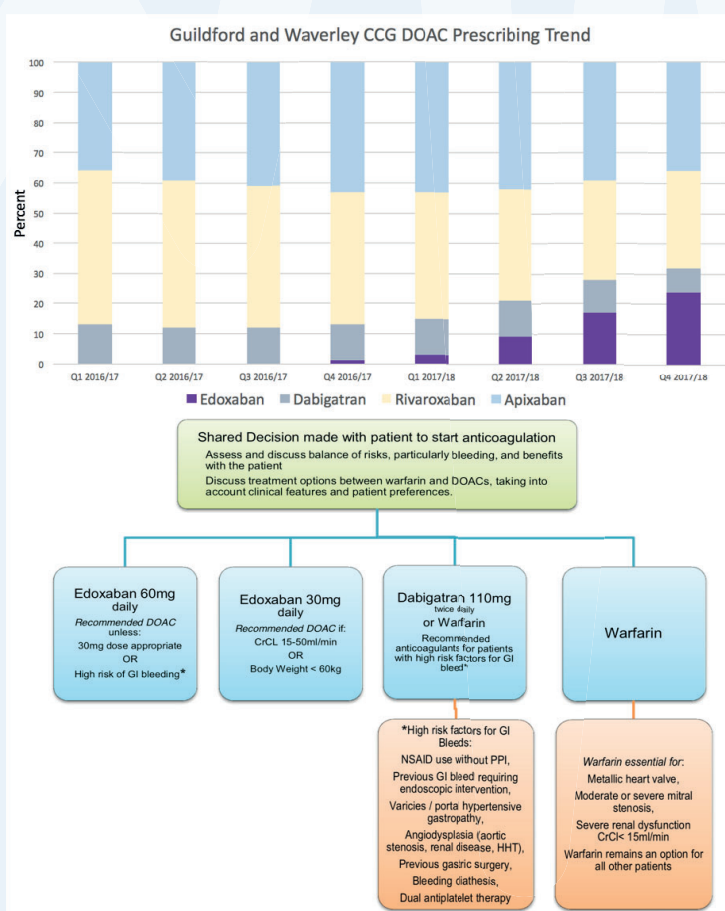
Anticoagulation is the only intervention proven to reduce mortality in AF patients at high risk of AF-related stroke. Direct oral anticoagulants (DOACs) use has increased and these agents are now recommended by the ESC in preference to warfarin in eligible patients. However, DOACs are more expensive than vitamin K antagonists, which remain useful in specific patient groups. Due to increasing usage, DOAC expenditure across the Surrey and Sussex Prescribing Clinical Network (PCN) increased by 63% between 2015/16 and 2016/17. Projecting this trend, DOAC expenditure is predicted to account for 20% of the area prescribing budget within the next five years.

Why edoxaban? All four DOACs are approved for SPAF by NICE. Significant differences in the populations studied in each of the DOAC vs warfarin studies exist and there are no trials directly comparing the DOACs. The PCN obtained edoxaban via a Prescripp approved primary care rebate system at a significantly lower cost (>25%) than other DOAC agents. Following evaluation of evidence, the PCN recommended edoxaban as the first-line DOAC for the majority. For those at highest risk of GI bleed, or with excellent renal function, or where an antidote may be desirable, dabigatran was preferred. A selection tool was devised by a cardiologist to aid prescribing (figure).

THE INTERVENTION: Starting June 2017, an awareness drive was undertaken within the GWCCG and associated hospitals to encourage prescribers to follow the PCN guidance. Within fifteen months, edoxaban prescribing increased from 1% to 30% of total DOAC prescriptions. A pilot scheme in a GP surgery investigated switching existing DOAC prescriptions to align with the guidance. It demonstrated that this is both feasible and safe. Adopting the guidance across the PCN, and switching existing DOAC prescriptions where indicated, would save in excess of £10M vs current costs. As DOAC use grows, larger cost savings are likely.

SERVICE OPTIMISATION: To improve safety, GPs were incentivised to undertake an annual anticoagulation review. This included checking compliance, reducing bleeding risk (hypertension, alcohol advice, medication review), and ensuring DOAC dose was correct. It is anticipated that this intervention will improve compliance and reduce risk of bleeding – audit work is in progress.

ADDRESSING INEQUALITY: Previous trends were financially unsustainable and had created inequalities as some clinicians had opted to choose warfarin based on cost. With limited resources, more patients can be treated with edoxaban than with other DOACs and inequalities can be reduced.



PHARMACISTS DETECTING ATRIAL FIBRILLATION (PDAF) IN PRIMARY CARE DURING THE INFLUENZA VACCINATION SEASON: A MULTI-SITE, CROSS-SECTIONAL FEASIBILITY PILOT STUDY

Dr Sukvinder Bhamra, Dr Sarah Corlett, Ms Sarah Leaver, Professor Alistair Mathie, Dr Melanie Rees-Roberts, Mr Vilius Savickas, Dr Vanessa Short, Dr Adrian Stewart and Dr Emma Veale

PDAF TEAM

INTRODUCTION: Reducing AF-related stroke risk is both clinically and economically important, with AF-related illness costing the NHS over £2 billion per annum. Despite this, there is no national screening programme for AF. Growing medical consensus backed by public health policy, agrees that there is an unmet need to improve diagnosis and that primary care is an appropriate setting. This model is likely to be convenient for patients and cost effective, but with the current shortage of GPs and nurses, and increasing GP workloads, it is unlikely to succeed.

Huge investment by NHS England to introduce new work role models to GP practices, could mean, by 2021, that over 34 million patients will have access to the expertise of a clinical pharmacist, making clinical pharmacists a viable option for such screening initiatives.

AIM: To determine whether clinical pharmacists based within GP practices, were able to accurately and effectively screen and diagnose patients for AF, using pulse palpation and a single-lead ECG device (AliveCor Kardia Mobile®) during the influenza vaccination season.

TRAINING: Clinical pharmacists were trained by a cardiologist to pulse palpate, record and interpret a single-lead ECG.

PROTOCOL: Patients aged 65 years or older, attending an influenza vaccination clinic at their practice, were invited to have their heart rhythm checked by the clinical pharmacist.

- Participants could choose to have it done immediately or book an appointment.
- Participants were informed about the procedure and then asked to provide written consent.
- Participants had their pulse palpated for one minute, followed by a 30 second ECG.

The participant was given a provisional diagnosis letter which was either normal, possible AF or unclassified/unreadable. All ECGs were reviewed by the cardiologist and any follow-up treatment required was referred back to the GP.

OUTCOME: Pharmacists screened 335 participants (average age 72, 96% white British, 55% female) across four practices in Kent. Of these, 281 had normal sinus rhythm, 15 (4.5%) AF, 35 unclassified and four unreadable. 13 patients from the unclassified group were diagnosed with a previously unknown, other heart condition. Pulse palpation alone, resulted in 25 false-positive possible-AF diagnoses. 237 participants (70.7%) completed a feedback questionnaire. 94.8% felt that AF screening was important, 98.7% would take part in a repeat annual AF screen and 94.3% would see a pharmacist for other screening tests.

CONCLUSION: Clinical pharmacists in primary care could take on greater responsibilities to deliver routine health checks and to better inform the general public.



AN INTEGRATED APPROACH TO STREAMLINE ATRIAL FIBRILLATION MANAGEMENT IN A HOLISTIC MANNER: THE ABC (ATRIAL FIBRILLATION BETTER CARE) PATHWAY

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Stroke prevention is the cornerstone of management of patients with atrial fibrillation (AF). Nevertheless, AF independently increases all-cause mortality and hospitalisations from associated comorbidities such as heart failure. Of note, stroke only accounts for 1 in 10 deaths related to AF whereas cardiovascular mortality for approximately seven in ten.

To streamline decision making for a holistic approach to AF management in an integrated manner, we have proposed the ABC (Atrial Fibrillation Better Care) Pathway as follows:

- 'A' Avoid stroke (with anticoagulation whether with well-managed warfarin (TTR > 65-70%) or a non-Vitamin K antagonist oral anticoagulant (NOAC))
- 'B' Better symptom management with patient-centred symptom-directed decisions on rate or rhythm control
- 'C' Cardiovascular and comorbidity risk management with attention to optimising treatments (blood pressure

control, heart failure, cardiac ischaemia, sleep apnoea etc) as well as lifestyle changes (attention to obesity, regular exercise, reducing alcohol/stimulants, patient psychological morbidity etc)

This integrated care approach (AF management is as simple as ABC) had been adopted and promoted by the Sandwell and West Birmingham CCG and the West Midlands Academic Health Science Network (AHSN) in the primary care management pathway for AF. The key aspect is to particularly reassure colleagues in primary care that a holistic approach to management of patients with AF can be streamlined across primary and secondary care and really need not be regarded as complex but is "as simple as ABC".

Does the ABC pathway work? Posthoc analysis of adjudicated outcomes from a clinical trial cohort show that management using the integrated ABC pathway is associated with a significant reduction in the composite outcome of "stroke, major bleeding and cardiovascular mortality" compared to "non-ABC" management. The ABC pathway has been incorporated into an App and being is currently tested in a large prospective randomised trial (mAFA II trial).

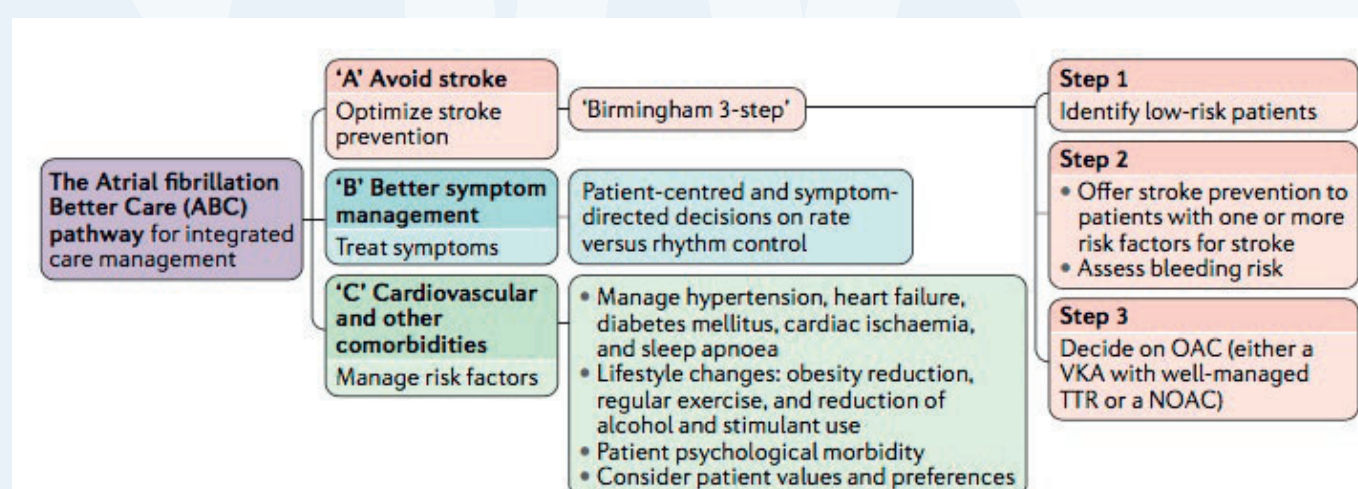


Figure 1 | The Atrial fibrillation Better Care (ABC) pathway for integrated care management. In the Birmingham 3-step for stroke prevention¹, step 1 is to identify low-risk patients (CHA₂DS₂-VASc score of 0 in men or 1 in women, with event rates of <1% per year) who do not require antithrombotic therapy. Step 2 is to offer stroke prevention to those with one or more risk factors for stroke. The SAME-TT₂R₂ score can help to decide between a vitamin K antagonist (VKA) with good time in therapeutic range (TTR) or a non-VKA oral anticoagulant (NOAC; step 3). OAC, oral anticoagulation.

PRESCRIPTION OF DIRECT ORAL ANTI-COAGULANTS IN ATRIAL FIBRILLATION - REAUDIT

Dr Alex Touze and Dr Terry Levy

THE ROYAL BOURNEMOUTH AND CHRISTCHURCH HOSPITALS
NHS FOUNDATION TRUST

The use of direct oral anti-coagulants (DOACs) is now well established within the field of atrial fibrillation (AF). They offer several benefits over warfarin when prescribed correctly. Each of the four DOACs have two dosing options, dependent on the patient's creatinine clearance. The thresholds for the two doses are different between each DOAC, with Apixaban having additional criteria implicating serum creatinine and age.

Royal Bournemouth Hospital is a large district general hospital in the county of Dorset. Its age demographic is higher than most other Trusts, and with that comes an increase in the number of patients diagnosed with, and being treated for, AF.

Last year we presented our data, showing 21% of DOAC prescriptions were incorrect (n=100). This was primarily due to the estimated glomerular filtration rate (eGFR) being used instead of creatinine clearance, and assumptions that older patients should be on the lower dose of the DOACs regardless of other factors.

Following the introduction of various aids, including posters, screensavers on hospital computers, and a DOAC checklist, we analysed further data over June - July 2017 (n=94) and September - October 2017 (n=87). Edoxaban use within the trust is increasing but remains comparatively minimal, so its use was not included in our data.

RESULTS: Results from the second and third audit cycle were relatively equal.

- 13% of DOAC prescriptions were incorrect across the second and third audit cycles (n=181)
- This reflects an 8% absolute risk reduction and 38% relative risk reduction, with a p-value approaching statistical significance (p=0.09) (cycle 1 data vs cycle 2&3 data combined)
- Trends in the data suggest age alone was continuing to play a key role in the decision to prescribe the lower dose of DOACs



- The error rate of lower dose Apixaban remains stubbornly high at around 25% across all audit cycles. 16 of 18 patients (89%) incorrectly prescribed the lower dose were over 80 years old
- There was a significant reduction in the error rate of prescribing Rivaroxaban across both doses. eGFR was again found to overestimate creatinine clearance in most cases
- eGFR was again found to overestimate creatinine clearance in most cases

Since the first audit cycle there appears to have been a positive change of attitude when prescribing DOACs. Our colleagues at pharmacy have also recently implemented their own safety measures, which includes a form the medical team must complete prior to discharging a patient on a newly prescribed DOAC.

ENHANCING PREVENTION OF AF-RELATED STROKE

**Kiran Ghatore, Keval Modi, Kam Grewal,
Tarvinder Kalsi, Caroline Davidson and Dr
Diviash Thakrar**

HILLINGDON CCG MEDICINE MANAGEMENT

Hillingdon's expected AF prevalence rate is 2%. QoF reported prevalence was 1.23% with 722 patients not anticoagulated plus variation in prevalence and exception rates between practices.

Lack of practice capacity to validate registers to find these patients and the impact on CCG prescribing budgets were challenges.

A model produced by NW London AHSN and Public Health England was used to estimate the clinical cost and consequences of AF related strokes

OBJECTIVES FOR PROJECT:

- 1) Reduce the risk of stroke for AF patients
- 2) Reduce mortality and disability risk
- 3) Increase the number of patients on the AF registers
- 4) AF patients with CHA₂DS₂-VASc score and HASBLED to be recorded
- 5) Increase the number of patients anticoagulated
- 6) Review patients on aspirin
- 7) Reduce QOF exception reporting rate
- 8) Upskill clinicians in managing oral anticoagulation
- 9) Net savings (health costs)

The audits were run by a CCG Independent Prescribing Pharmacist using the Oberoi Enhance AF tool who compiled reports and an action plan which recommended coding amendments and patients to be reviewed with recommendations. GP practices were given access to cardiology consultants via designated email helpline and virtual clinics.

The second part of the audit was to review patients already on anticoagulation to ensure the patient is taking the appropriate anticoagulant and the correct licensed dose.



Hillingdon Clinical Commissioning Group

OUTCOMES TO DATE:

33 practices reviewed in the 1st year:

- 11 admissions avoided (1st year target 12)
- avoid 5 deaths and 1 Nursing home admission (on target)
- 217 patients added to AF registers (6.5%)
- 98% AF patients have CHA₂DS₂-VASc score recorded
- 97% AF patients have HASBLED score recorded
- 273 extra patients anticoagulated
- Reduction 45 admissions for GI bleed (no target set)
- QOF exception reporting rate reduce to 6%
- Upskill clinicians - virtual clinics avoided 79 OP referrals
- Net savings (health costs) £110, 969
- 82% of patients are being prescribed a DOAC - business case assumption was 45%.

Based on the evidence for the effectiveness of anticoagulation and the results from 33 practices which have completed the process to date ie. 273 extra patients being anticoagulated and 78 patients taken off aspirin benefits each year are:

- 5 deaths
- 11 stroke admissions at a cost of £12,228 1st year costs = £134,508.
- 45 admissions for GI bleed at average cost of £1930=£86,850
- 79 avoided referrals to OP through Virtual Clinics = £12,403
- 1 admission to a nursing home @ £ 41,600
- GROSS SAVING £275,361 minus anticoagulation costs £164,392
- NET saving £110,969

DETECT. REVIEW. PROTECT PHASE 1 AF PROJECT - REVIEW THE KNOWN AF POPULATION

Jen Bayly, Dr Richard Blakey, Ellie Wells, and Justin Roccliffe

KSS AHSN, ALLIANCE FOR AF

The Kent Surrey Sussex Academic Health Science Network (KSS AHSN) Alliance for Atrial Fibrillation (AF) aims to reduce the number of people dying from, or being disabled by, AF-related stroke by optimising the use of anticoagulants in line with NICE CG180 guidelines.

Formed in 2016, it has now completed phase one of the project, looking at the known AF population in the region and identifying patients eligible for anticoagulation therapy.

The primary target to benefit from this project is the patient, and the Alliance aims to educate and upskill primary care practitioners around stroke prevention, to sustain the learning and close the AF prevalence gap described by Public Health England across Kent, Surrey and Sussex (KSS).

The project has three main areas of focus, namely:

- Detect: Increase prevalence of AF – using Lead 1 ECG devices
- Review: Increase anticoagulation – perform timely reviews
- Protect: Increase optimal anticoagulation – ensure patients receive appropriate care

We collaborated with three independent review organisations to work in 29 GP Practices across KSS, looking at the known AF population and identifying patients eligible for anticoagulation therapy. This stage of the project ran from December 2016 to May 2018, and throughout we shared anonymised data dashboard reports which could be broken down at Sustainability and Transformation Partnerships (STP), Clinical Commissioning Group (CCG) and GP Practice level for participating organisations.

IMPACT: The project worked across 29 GP Practices, reviewing 6,000 AF individual records through a combination of register, case note and face to face reviews. All patients were identified as being eligible for anticoagulation, had confirmed AF and were at a high risk of having an AF-related stroke.

From the 6,000 records, the project identified 1,390 individuals who were eligible for anticoagulation and would benefit from a change of treatment to reduce their risk of AF-related stroke.



Atrial fibrillation

By the end of May 2018, 503 individuals had had their medicines optimised by their GP Practice, thereby avoiding 14 AF-related strokes. As well as avoiding the debilitating effects on individuals and their families, this will also represent a cost reduction of more than £380,000 for the NHS.

The impact would be far greater if all the remaining 887 eligible individuals were optimised on anticoagulation therapy. A further 24 AF-related strokes could be avoided, with an additional Health & Social Care cost saving of over £620,000.

POTENTIAL IMPACT: The project has shown that our approach can make a significant impact on patient health and if we extrapolate our data, the potential impact of this work can be seen.

Identifying and treating a third of eligible patients from the KSS population (4,739,731 individuals) could potentially prevent 202 strokes in one year, with a potential cost saving of £5,691,911 over five years. If all the eligible patients were treated, 559 strokes could be prevented in one year, with a potential cost saving of £15,729,139 over five years.

NEXT STEPS: Building on the learning and experience of the past two years, this project is ready to scale. KSS AHSN has set out a delivery plan through collaborative working to provide Primary Care with a variety of interventions and education, to demonstrate how the services they deliver improve quality, reduce variation, place patients at the centre of change and deliver value for money.

GET IN TOUCH:

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GLOSSARY

Ablation

A treatment which destroys a very small area of tissue inside the heart and so works to prevent rogue electrical impulses from interfering with the regular rhythm of the heart

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

Arrhythmia

Heart rhythm disorder

Atrial Fibrillation (AF)

Irregular heart rhythm

Atrial Flutter

A heart rhythm disorder in which the upper chambers of the heart beat very rapidly

BMI

Body Mass Index

Cardiac

Relating to the heart

Cardiovascular

Relating to the heart and blood vessels

Cardioversion

A therapy to treat atrial fibrillation or atrial flutter which uses electrical shocks to revert the heart back to a regular rhythm

CHA₂DS₂VAS_c

A method of assessing stroke risk in patients with atrial fibrillation:

Congestive heart failure

Hypertension

Age (75 years or older)

Diabetes

Stroke

Vascular disease

Age (65 – 74 years)

Sex (gender)

CV Specialist

A cardiovascular specialist

Echocardiogram (Echo)

An image of the heart using soundwave-based technology (ultrasound) which shows a three-dimensional image

Electrocardiogram (ECG)

A representation of the heart's electrical activity taken from electrodes on the skin surface

HAS-BLED

A method of assessing bleeding risk in AF patients on anticoagulation or being considered for anticoagulation:

Hypertension

Abnormal renal/liver function

Stroke

Bleeding history/predisposition

Labile INR (measure of blood coagulation)

Elderly (over 65 years)

Drugs/alcohol

Heart Failure

The inability (failure) of the heart to pump sufficient oxygenated blood around the body to meet physiological requirements

Hypertension

High blood pressure – a condition that puts strain on the heart, leading to thickening of the heart muscle and increased size of the left atrium. This condition is associated with atrial fibrillation

Palpitations

A sensation in which the person is aware of a rapid, irregular or hard heartbeat. It can appear to skip beats or thump in the chest

Paroxysmal AF

Episodes of atrial fibrillation which cease without treatment

Physiologists

A healthcare professional who performs diagnostic and analytical procedures to assess heart rhythm disorders

QIPP

Quality, Innovation, Productivity and Prevention for a large scale transformation programme for the NHS aimed at improving quality of care and efficiency

Stroke

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

Thrombo-embolic

The blocking of a vessel by a blood clot

Transoesophageal echocardiogram (TOE)

A procedure carried out to see whether clots have formed in the left atrium and if so, whether a treatment option is safe to perform

Urinalysis

A range of tests performed on urine

Warfarin

A medication used to anticoagulate the blood

THE HEART OF AF



The Heart of AF

A one-stop educational resource for healthcare professionals
Promoting best practice in AF care by professionals, for professionals

www.heartofaf.org

AF Association Global AF Aware Week

18-24 November 2019

www.afa-international.org



Join the pioneering, global, Heart Rhythm Specialists website.

The resource provides information on local services to general healthcare practitioners seeking to refer a patient or in need of advisory council; and patients with heart rhythm disorders. The website aims to bring together a comprehensive database, which can be accessed easily by both patients and healthcare providers.

Register on the heart rhythm specialist website

www.heartrhythm-specialists.org

endorsed by



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