

## HEALTHCARE PIONEERS SHOWCASING BEST PRACTICE IN AF

2017

SUPPORTED BY THE ALL-PARTY PARLIAMENTARY GROUP ON ATRIAL FIBRILLATION (APPG-AF)

## Foreword



I am delighted to present the 2017 Healthcare Pioneers report, which has been developed by the AF Association and endorsed by the All-Party Parliamentary Group on Atrial Fibrillation and Arrhythmia Alliance. This report presents examples of truly innovative best practice covering the identification, diagnosis, management, treatment and care of patients with atrial fibrillation (AF). This year we had such an overwhelming response from those teams that wanted to submit their work that the judges agreed to increase the numbers included in this year's publication to ten. However, due to the quality of the entries received we decided to add many others to the AF Association website [www.afa.org.uk](http://www.afa.org.uk).

I would like to thank everyone involved in this process from entrants, through to the evaluation committee and to the team at AF Association who helped pull together the final report.

AF is the most common heart rhythm abnormality, and is associated with a third of ischaemic strokes, which are typically more severe and debilitating for the patient. It is estimated that AF currently affects more than 1.5 million people in England, a third of whom are undiagnosed, and with the increase in the ageing population, this figure is set to double by 2050.

Unfortunately, all too often AF is poorly managed. Many patients are not diagnosed, many do not receive the anticoagulation therapy they need to reduce their risk of an AF-related stroke and incapacitating symptoms are often undertreated or even ignored. All too often patients are not referred for appropriate treatment. AF is on the policy agenda of the Government, NHS England, Public Health England and even

with NICE disseminating best practice guidelines (NICE CG180) in 2014, and a quality standard (QS93) in 2015, we are still seeing unacceptable gaps in management of people with AF.

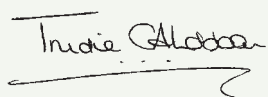
This is why the AF Association launched the 'Detect, Protect, Correct' campaign in 2015, which has now been extended to include Perfect:

- Detect AF by a simple pulse rhythm check
- Protect against AF-related stroke using anticoagulation therapy (not aspirin)
- Correct the irregular heart rhythm with access to appropriate treatment
- Perfect the patient care pathway

The case studies within this report are excellent examples of how these aims can be achieved.

We asked for examples of good practice from a broad range of stakeholders engaged in the management of AF, including the Academic Health Science Network, Clinical Commissioning Groups, Community and Clinical Pharmacists and Clinicians, in primary and specialist care from across England and Wales, and this year's report reflects this breadth of engagement.

The case studies in this report are excellent examples of innovative, efficient, and effective AF services. I urge commissioners across the NHS to use them as a benchmark to drive improvement in their own processes and patient pathways for the diagnosis, treatment, and care of AF patients so that we can dramatically reduce the number of AF-related strokes and improve the management of AF.



**TRUDIE LOBBAN MBE,**  
Founder and CEO, AF Association

## Foreword



As Chair of the APPG-AF I would like to thank everyone who submitted their work to this report. We hope this public recognition will help promote innovation in AF services across England and Wales.

As someone with first-hand experience of AF, I fully recognise the need to ensure improvement in diagnosis, treatment and care of AF patients. The APPG-AF plays a vital role in raising awareness of AF not just in parliament but in our constituencies and to the public. This year we have focused on two areas we believe to be critical to improving the management of AF.

Firstly, we are calling for a National Screening Programme for people over 65 at risk of AF. Currently more than 500,000 people are unaware that they have AF and are at increased risk of a debilitating or life-threatening AF-related stroke.

Secondly, we are working in partnership with AF Association and Arrhythmia Alliance to push the uptake and implementation of the NICE guidance, CG180 at a local level so that the examples of innovative, best practice included in the Healthcare Pioneers report will become the norm across the NHS in England and Wales.

The case studies in this report provide examples for others to draw on in delivering exceptional and effective care for AF patients. I would implore commissioners to study this report, read the case studies, and adopt anything that would improve services in their locality. Even small changes taken because of this report could make a significant difference to the life of AF patients.

Together we can make a difference in AF and dramatically reduce the unnecessary AF-related strokes and deaths that happen each year in England and Wales.



**Barry Sheerman MP,**  
Chair, All-Party Parliamentary Group on Atrial Fibrillation (APPG-AF)



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## Identifying AF Patients During Flu Vaccination Clinics

**Dr Husain Shabeeh, SpR in Cardiology & Fellow in Electrophysiology, Dr Diviash Thakrar, GP & Dr Wajid Hussain, Consultant Cardiologist**

ROYAL BROMPTON AND HAREFIELD HOSPITALS NHS TRUST

There are patients with AF who remain undiagnosed, and who therefore without anticoagulation will lead to an increased stroke risk. The European Society of Cardiology recommends screening in those over the age of 65. New technologies, such as the Kardia device, which has an FDA approved algorithm for classifying AF, have the potential to make screening easier. We used this device in a flu clinic in West London to screen patients for AF. The inclusion criteria for the patients who attended this clinic were age over 65, or one of a list of chronic health conditions determined nationally.

We used the Kardia device whilst patients were waiting for vaccination. Recording took an average 30-45 seconds and was easily administered. We screened 357 patients, none of whom refused; of these 225 were over 65. The device classified the traces into either AF, unclassified or normal. A doctor then reviewed all traces. Appropriate clinical management was instituted based on the findings.

There were six new diagnoses of AF. One patient was clinically unwell, was referred to hospital and subsequently died as an in-patient. The other five received appropriate anticoagulation after confirmation by 12 lead ECGs. One patient had AF on the Kardia but the tracing was difficult to read with a subsequently normal 12 lead ECG. They were not anticoagulated, they later had a stroke. Total new AF pickup rate was therefore 7/357 (2%). Of note, two patients with known AF were also identified, management was affected due to significant bradycardia in one and tachycardia in the other. Five patients were incorrectly classified as AF by the device, but were in sinus rhythm on review of the tracings. One of these on a 12 lead ECG had poor R wave progression and ectopics so was referred for an echocardiogram.

16 patients were unclassified of which two had abnormalities prompting referral for echocardiography - one of which was abnormal. There were no false negative diagnoses.

Overall, there were 11/357 (3%) in whom there was a change in management because of the screening.

In conclusion, we found that a simple, acceptable test was shown to change management in 3% of patients that were screened. It may be that larger scale studies are required to see if this strategy can be more widely applicable.



## Prescribing Decision Support - Anticoagulation Therapy

[www.anticoagulation-dst.co.uk](http://www.anticoagulation-dst.co.uk)

**Mr Simon Thomas, Director, Prescribing Decision Support & Prof Steve Chapman, Head of Medicines Optimisation & Enterprise**  
 CENTRE FOR MEDICINES OPTIMISATION, KEELE UNIVERSITY

In 2014, a joint working group was formed to collaborate in the development and dissemination of a tool that would support stroke prevention decision-making in patients with atrial fibrillation. Comprising NICE, Boehringer Ingelheim Ltd and Prescribing Decision Support Ltd (PDS) at Keele University, the group's aims were to:

- Support the uptake and use of the NICE atrial fibrillation guideline (NICE CG180) and associated patient decision aid.
- Support patient-centred care by providing a practical basis for patients to participate in an informed discussion with a healthcare professional about their treatment choices in atrial fibrillation.

Importantly, we did not want the tool to replace a healthcare professional's clinical judgement. Rather, the group wanted something that would help distil the evidence from NICE guidance making it more accessible to practitioners and easier for them to tailor to the needs of the individual patient. In addition, by incorporating user-friendly visual aids that the doctor and patient could share, we wanted to enhance the patient's understanding of the risks and benefits of treatment and encourage compliance with their treatment plan.

Having agreed the aims and project scope, Mr Simon Thomas at Keele set about developing the relevant algorithms and design for the application. The development phase took six months: including all software coding, interface design, technical testing, and consultation with clinical advisors / joint working group.

The resulting tool is deployed as a software application that can be run in all major web browsers and people can access via their computer or touch screen tablet device. Fully interactive, the first part of the tool allows a



**Mr Simon Thomas**      **Prof. Steve Chapman**

healthcare professional to enter health information about a particular person generating dynamic, individualised prescribing recommendations based on NICE guidance. Each recommendation is supported by a reason, important management considerations, common treatment side effects and appropriate references. The second part, incorporating NICE's patient decision aid, helps healthcare professionals support the person with AF weigh up the possible benefits, harms, advantages, and disadvantages of different treatment options.

The decision support tool was reviewed and assessed by NICE and received endorsement in November 2015.

Since its launch, the tool:

- Has had nearly 9,500 sessions, 6,500 users, of which the n3 (NHS) service provider is ranked #1 (Over 2,000 users as of November 2016).
- Has been updated to incorporate edoxaban (NICE TA355) and re-endorsed by NICE.
- Is currently being evaluated in practice as part of a NICE / Keele University research programme.

The tool is available free and can be accessed at [www.anticoagulation-dst.co.uk](http://www.anticoagulation-dst.co.uk)

## Enhanced Atrial Fibrillation (AF) Medicines Use Reviews Using Kardia® Monitors To Improve The Identification And Treatment Of Patients With AF: A Case Study

### **Dr Zainab Khanbhai, AF MUR Project Clinical Lead & Dr Wajid Hussain, Consultant Cardiologist**

ROYAL BROMPTON AND HAREFIELD NHS TRUST

A 68 year old man attended his local pharmacy to pick up his monthly supply of medication.

The community pharmacist invited the patient to have his ECG undertaken using an innovative handheld (Kardia®) ECG monitor. A Medicines Use Review (MUR) was also completed by the pharmacist. Possible AF was detected on the Kardia® ECG and the patient was referred to the specialist team at Harefield Hospital for further review.

Within two weeks the patient attended the hospital Arrhythmia Care Team outpatient clinic. AF was confirmed on a 12 lead ECG; he was tachycardic with a heart rate of 101 beats per minute. He reported variable symptoms of dyspnoea or tiredness on exertion. He was asymptomatic on other days. He had no palpitations, chest pain or dizziness.

Previous medical history consisted of coronary stents in 2011-2012 and Barrett's Oesophagus. His medication: aspirin 75mg daily, atorvastatin 40mg at night, bisoprolol 1.25mg daily, omeprazole 20mg twice daily, ramipril 1.25mg at night.

We discussed the management of stroke risk and rhythm. Given his CHA<sub>2</sub>DS<sub>2</sub>-VASc score of 2 (age, hypertension) anticoagulation was recommended. Anticoagulation treatment options were discussed. The patient showed a strong preference for one of the newer oral anticoagulants due to a previous bad experience of a family member on warfarin. We commenced him on apixaban due to the relatively low risk of bleeding, in particular gastro-intestinal, in comparison with other newer oral anticoagulants. Bisoprolol dose was increased for improved rate control.

Aspirin was continued as per the cardiologist recommendations as he previously had an instant restenosis requiring repeat stenting at one year. However due to the increased bleeding risk and his past medical history of Barrett's Oesophagus the GP was asked to review this if any significant issues with bleeding or anaemia occurred.

Atrial fibrillation was identified by the community pharmacist participating in the Enhanced AF MUR project led by the Arrhythmia Care Team at Harefield Hospital. This patient was rapidly seen by the arrhythmia team, anticoagulation initiated and medication optimised. Bleeding risk was assessed due to the combination of aspirin and apixaban.

This case study demonstrates that improved diagnosis and treatment of AF in a true multi-disciplinary and collaborative way across the primary/secondary care interface utilising innovative technology is possible and requires further exploration.



## Don't Wait To Anticoagulate

### Stephen Ray, Quality Improvement Programme Manager

WEST OF ENGLAND ACADEMIC HEALTH SCIENCE NETWORK (AHSN)

The Don't Wait to Anticoagulate Project (DWAC) by the West of England Academic Health Science Network (AHSN) aims to optimise anticoagulation for patients with atrial fibrillation (AF) to reduce potential AF-related strokes within primary care in line with NICE CG180 in the West of England.

Phase one of the DWAC project facilitated a review of all AF patients in 11 innovator practices. Patients considered at high risk (CHA<sub>2</sub>DS<sub>2</sub>-VASC > 1) were called for a shared decision-making review of their treatment with a clinician. In addition, practices used Quality Improvement (QI) methodology to review AF patient care pathways.

The challenges of DWAC were to:

- Implement CG180 guidance on the treatment of patients with AF using the CHA<sub>2</sub>DS<sub>2</sub>-VASC scoring. The guidance included a change in prescribing of antiplatelets and highlighted the need for shared decision-making.
- Increase the use of QI in a primary care setting specifically to review AF patient care pathways.
- Co-design elements of the project with primary and secondary care colleagues, patients and national charities including the AF Association.
- Spread the project at scale by implementing across a whole Clinical Commissioning Group (CCG) patient population.

To meet these challenges, the following actions were taken:

- In conjunction with a lead clinician, the AHSN provided a comprehensive clinical update and training session that reinforced the shift from 'why anticoagulate to why not anticoagulate?'
- The development of patient and clinician toolkits to support shared decision-making.

- Supporting practices in implementing shared decision-making approach to reviewing AF patients and to implement QI techniques.

#### Don't Wait To Anticoagulate

- Implementation of an innovative joint-working agreement with Bayer to support implementation.

The results for phase one are as follows:

- 2688 AF patients were identified for a review, of which 335 were found suitable.
- 170 patients were invited for a shared decision-making review, resulting in 133 additional patients being anticoagulated.
- Overall this improved anticoagulation rates by 8.21% across the innovator practices.
- A reduction of 15.7% in those receiving antiplatelet therapy for AF.
- Modelling has shown during phase one, DWAC has potentially prevented between five and seven strokes which is a saving of between £116,575 and £163,205.

Following phase one, several changes were made in phase two; toolkits were hosted on a website and the QI training extended to pharmacists.

By the end of phase two (July 2016) a total of 62 practices across the West of England will have reviewed current AF patient lists in line with NICE CG180 guidance using the DWAC methodology.



# Streamlining The Pathway For Patients Identified In Surgical Pre-Admission Clinics (PAC) With Previously Undetected Atrial Fibrillation

**Jayne Mudd, Nurse Consultant & Professor  
Nick Linker, Cardiac Rhythm Management Team**  
SOUTH TEES NHS FOUNDATION TRUST

## Why was this project implemented?

The Cardiac Rhythm Management (CRM) team at James Cook University Hospital (JCUH) manage patients with atrial fibrillation (AF) across a number of different settings. Patients with more complex needs are managed in the tertiary centre within doctor/nurse led services whilst those requiring more straightforward management are cared for in the community via a nurse led outreach service. All services are delivered and coordinated by the JCUH arrhythmia team. The overall aim across both settings is to initiate timely and effective management for this patient group. In 2015 a concern was raised relating to significantly delayed pathways for patients identified in general surgical pre-admission clinics with previously undetected AF. It was apparent that there was no dedicated pathway in place for these patients leading to significant delays in appropriate management of AF/stroke risk assessment/Oral Anticoagulation (OAC) as well as often unnecessary delayed/cancelled surgical procedures. On review, it was evident that there were delays of up to 12 weeks from detection of AF to first assessment by the arrhythmia team. Patients were being referred back to their GP by the surgical pre-admission team following cancellation/postponement of their surgical procedures and then onward referred by the GP for specialist opinion from the JCUH arrhythmia team.

## What does the project involve?

A multidisciplinary stakeholder group was formed led by the JCUH CRM team. The group had representation from consultants and specialist nurses from CRM, general surgery, anaesthetics, and pre-admission as well as General Practitioner (GP) and Care Commissioning Group (CCG) representation. A pathway (fig:1) was developed utilising all available resources and it was agreed that the pathway would be implemented in December 2015 as a 3-month pilot. The CRM nurse team agreed to monitor the numbers of patients identified and the impact this had on their current workload. A standardised letter was also developed with clear guidance for the GP in terms of any future management required. Packs were put

together to enable timely attendance at pre-admission clinics (PAC) which include patient information leaflets, standardised letter and 24hr ambulatory ECG monitor. It was also identified that there was a lack of confidence in making ECG diagnoses from some of the pre-admission team. Two ECG workshops were therefore organised by the CRM nurses with good attendance from the surgical pre-admission team.

The pathway highlights a clear strategy for managing these patients which includes the following:

- If previously undetected AF is identified or patients attend with known AF and rapid ventricular response the CRM nurse team are contacted and attend. They confirm the diagnosis on ECG and then initiate any management required.
- AF-related stroke risk and bleeding assessment are performed and recommendations made regarding OAC and monitoring. The standardised letter is completed and a copy given to the patient and one sent to the GP. Recommendations for changes to medical regime are faxed directly to the GP. Patient education is provided both verbally and in the form of AF Association patient information booklets along with the contact number for the CRM nurse helpline.
- 24-hour ambulatory ECG monitoring is initiated when required with results going to the CRM nurse team. Rate control is initiated by the team when necessary and follow up is arranged in the community outreach clinics in the next available appointment when necessary.
- The CRM team liaise with the surgical pre-admission/ anaesthetic team and patient GP with recommendations of fitness for planned surgery.



Patients with known AF with rapid ventricular response	Patients with previously undetected AF	Patients requiring new initiation of OAC	Patients with known AF identified as not being appropriately anticoagulated
7	11	11	2

### Other ECG findings

ECG finding	Numbers	Action
Atrial flutter	1	Same pathway as for patients with AF followed
Atrial tachycardia	1	Rate control recommended and patient reviewed in community arrhythmia clinic
Complete heart block	2	Patient admitted for pacemaker implant
Sinus rhythm with atrial ectopy	3	Reassurance given to patient and to surgical pre-admission nurses
Pre-excitation	1	Referral to cardiology for further assessment recommended

### What results have you seen?

In the first three months the CRM team were contacted for advice eighteen times. The reasons for contacting the team varied and included confirmation of diagnosis of AF through ECG analysis, assessment of previously undetected AF and stroke risk stratification and management of known AF with rapid ventricular response. The project was evaluated at this point and a decision made to continue. Over a six-month period 26 patients in total were identified as needing input from the CRM team. Results over a six-month period are highlighted below.

As well as the two admissions for patients found to have complete heart block one patient with AF and rapid ventricular response, was admitted to cardiology due to haemodynamic compromise.

All patients were seen by the CRM nurses within 20 minutes of initial contact. Patients had waited up to 12 weeks prior to the new service. AF-related stroke risk stratification was performed at that point and recommendations made to anticoagulate where necessary.

During the project it was also identified that there was a lack of confidence in ECG analysis amongst the surgical pre admission team. Two ECG workshops were therefore held which were delivered by the CRM nurses. Evaluation of this has shown an increase in confidence and ECG analysis skills for those that attended.

Key improvements following the introduction of the pathway are:

- Patients previously waiting up to 12 weeks for stroke risk stratification/initiation of anticoagulation. Now seen and managed within 20 minutes at point of detection of AF
- Patients with AF rapid ventricular response receiving timely assessment and management
- Reduction in delayed/cancelled surgical procedures
- Increased ECG analysis skills within the surgical pre-admission clinic team
- Improved communication between general surgery and cardiology
- Improved communication between primary and secondary care

# Improving Detection And Management Of Atrial Fibrillation In Buckinghamshire

## Maria Smith, Senior Pharmacist Advisor

CHILTERN & AYLESBURY VALE CCG

### Summary

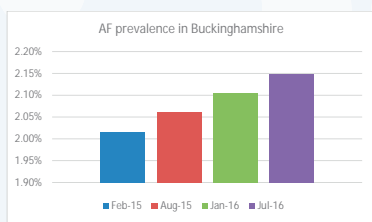
Commissioners, GPs, and secondary care providers in Buckinghamshire have together delivered a step-change in AF detection and in the number of high risk patients receiving anticoagulation.

### Key points:

- Collaborative approach
- Incentivised opportunistic screening
- Pharmacist-led NOAC clinic
- Recommissioning of anticoagulant monitoring services as an Any Qualified Provider (AQP) scheme (near patient testing for INR monitoring)
- Support and guidance from Thames Valley Strategic Clinical Network

### Opportunistic screening and GP education

Through education, a 'feel the pulse' campaign and a quality incentive scheme, the Buckinghamshire CCGs have encouraged practices to integrate opportunistic pulse checking into every patient contact (over 65) leading to an increase in AF prevalence from 2% to 2.1% between January 2015 and July 2016.



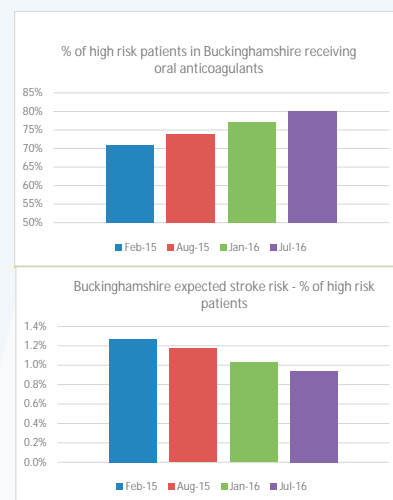
GRASP-AF data and targeted feedback is provided to practices twice yearly with GPs incentivised to use and act on the data.

Local Cardiology and Stroke Units have introduced a supportive feedback scheme to inform GPs when AF has not been adequately managed or a stroke has occurred in a patient with known AF who was not anticoagulated.

### Pharmacist-led clinic

Buckinghamshire Healthcare NHS Trust has introduced an award-winning Pharmacist-led clinic through which patients are offered appropriate anticoagulation in line with

clinical need and patient preference. All patients with AF who may be suitable for a NOAC are referred to this clinic where a team of Specialist Pharmacists, led by a Consultant Pharmacist, offers patients a thorough 30-minute consultation where the risks and benefits of anticoagulation are discussed and shared decision making techniques are used. Two weeks after the first prescription, patients have a follow-up telephone conversation to discuss any side effects or concerns. Feedback from patients and GPs has proven extremely positive. This effective clinic model, combined with a strong GP education and communication strategy to highlight the importance of referral, is estimated to have prevented 200 strokes since it commenced in 2012.



### Warfarin monitoring services

The CCGs have recommissioned warfarin monitoring services under an AQP scheme to improve access to warfarin, consistency and equity of service and ensure high quality assurance in the anticoagulation of patients with warfarin. There is now wide provision of near patient testing anticoagulation service sites across Buckinghamshire. The service specification for delivery is comprehensive with detailed performance information produced by providers each quarter.

### Future initiatives

The CCGs, together with Buckinghamshire Healthcare NHS Trust, Oxford AHSN and Interface Clinical Services will undertake a project to identify the remaining cohort of high-risk patients with AF who are not currently prescribed warfarin or a NOAC. The treatment gap will be addressed through practice based Specialist Pharmacist-led review.

## Rapid Access Arrhythmia Clinic – Jersey

### **Dr Andrew Mitchell, Consultant Cardiologist & Angela Hall, Arrhythmia Nurse Specialist**

THE JERSEY HEART RHYTHM SERVICE

The Jersey Heart Rhythm Service (JHRS) was set up to enhance the care of patients with arrhythmias. The aims of the service included:

- To establish a dedicated heart rhythm clinic
- To improve patient access to specialist management and reduce waiting times
- To enhance diagnosis by prompt assessment
- To initiate medications as necessary to optimise health
- To provide a nurse delivered cardioversion service
- To establish a dedicated cardiology arrhythmia procedure list
- To provide support for patients undergoing catheter ablation
- To evaluate the use of novel digital health technologies for patient arrhythmia management

The JHRS was established in a relatively short space of time with excellent communication links across departments assisting in the development. Discussion was held with senior clinicians and administrators, in-patient departments, the Emergency Department and primary care practices. This facilitated good understanding, strengthened rapport and aided effective initiation of the new service.

A new nurse-delivered Rapid Access heart rhythm clinic was set up to see all newly referred patients within two weeks of referral and more urgently if indicated. The Arrhythmia Nurse Specialist (ANS) is qualified in history taking, physical assessment, has completed an arrhythmia management masters module and is also a non-medical prescriber. Patients are fully assessed, investigations requested and interpreted and medications prescribed. The patient pathway for management of atrial fibrillation typically incorporates; an assessment of stroke / thromboembolic risk, discussion around anticoagulation including education and support to enhance concordance, optimisation of rate control, discussions around rate versus rhythm control, and onward management for cardioversion / catheter ablation when required. A dedicated cardiology procedure list was established to

allow cardioversions to be rapidly performed by the ANS as well as providing pre-assessment and peri-operative support for interventional device procedures. Follow up can also be provided or referred on for medical input. Other key purposes of the heart rhythm clinic are to provide support and advice to patients and health professionals. Guidance is provided from initial referral to management of the more complex patients with paroxysmal, persistent and permanent atrial fibrillation. In addition, the service has integrated the research and use of novel digital health devices including a large series of published data on use of the AliveCor device, early use of the LINQ implantable monitor and ongoing assessment of the Cardiocity platform for community heart screening.

#### **The JHRS has provided:**

- Satisfied and informed patients
- Rapid access for the management of arrhythmias
- Support to health professionals
- Optimisation physiologically
- A uniformed approach to the management of atrial fibrillation
- Assessment of stroke risk and initiation of anticoagulation to reduce thromboembolic risk using stratified risk assessment tools
- Earlier appropriate discharge from hospital

#### **Sister Angela Hall**

Arrhythmia Nurse Specialist  
 Jersey

#### **Dr Andrew Mitchell**

Consultant Cardiologist  
 Jersey



## Day Case Cryoablation Service For AF In Secondary Care Centre

### Dr Vinit Sawhney, Cardiology EP SpR

BARTS HEART CENTRE

Dr Vinit Sawhney, Dr Rhona Schwartz, Dr Malcolm Finlay,  
Dr Ross J Hunter, Prof Richard J Schilling  
Barts Health NHS Trust  
Service lead: Professor Richard Schilling  
Corresponding Author: Vinit Sawhney

#### CASE STUDY

Catheter ablation is a curative treatment for AF. Given the procedural complexity, this service is provided by few specialist centres only. Cryoablation is a recent technological marvel that reduces procedure times considerably, lending it to a day-case approach. Recognising this potential, the day case cryoablation service was established with the dual purpose of managing demand for AF ablation and providing safe, efficient and equitable arrhythmia care for patients.

The service was launched in 2014 in response to greater demand for AF ablations and increasing waiting times at St Bartholomew's Hospital. As part of an innovative service delivery strategy, the catheter lab at Whipps Cross Hospital (secondary care centre within Barts Health NHS Trust) was used once a week for cryoablation for paroxysmal AF, led by a consultant electrophysiologist from Barts. Additional equipment for cryoablation was funded. Trained nursing staff, sedationist and cardiac physiologist were already part of the catheter lab team. The lead consultant provided additional ablation specific training as required.

Referrals for cryoablation are accepted from primary, secondary and tertiary care centres. Prior to listing, patients are reviewed by a consultant electrophysiologist. Pre-assessment clinics are run by ward clerks and catheter lab nurses. Patients are admitted for day case procedures. Simulation of complications was done to prepare the team and ensure the catheter labs had adequate facilities to deal with immediate complications. Anaesthetic support is available on site. Emergency surgical cover and admission requirements are provided at Barts.

Audit of the service has demonstrated its safety and efficacy. 166 procedures were performed over two years.

The average procedure time was 63 minutes. 98% of the patients were discharged home the same day. Four patients required admission due to procedural complications. No sedation related complications were seen. Anaesthetic/Surgical input was not required. At three-months follow-up, nearly 70% patients had complete resolution of symptoms with no arrhythmia recurrence.

The development of this service has enabled us to streamline the pathway for this cohort and improved access to specialist services by significantly reducing waiting time for AF ablations. It has fostered good work relations between secondary and tertiary care. Along with its distinct clinical advantage, it provides an excellent training opportunity for junior doctors.

Our service demonstrates that AF ablation can be safely and effectively introduced to well-equipped secondary care centres. Large-scale adoption of this model would ensure that this highly effective intervention is made available to many more people in a cost-effective manner.



## The Isle Of Wight (IOW) Clinical Commissioning Group (CCG) Demonstrates Best Practice In Delivering Self-care For AF Patients

### Pauline Mairs, Primary Care Commissioning Manager

ISLE OF WIGHT CCG

Isle of Wight CCG is the first CCG in England to launch a pilot INR self-care service for anticoagulation management. The pilot is transforming how patients on long-term anticoagulation medication (warfarin) are monitored. A review of the IOW anticoagulation service in 2014 recognised a need to improve the efficiency and sustainability of its warfarin service and, in line with NICE guidance, the CCG decided to pilot self-testing. A clinically risk assessed self-testing system was offered to 100 warfarin patients initially. The aim of the pilot is to review the impact of digital INR monitoring with the aim of extending the service to other patients on long-term anticoagulation therapy based on being able to improve outcomes and choice for the patient.

Digital self-testing involves the patient taking a finger prick blood sample at home, then entering the sample into the self-testing device. The patient then sends the reading securely to the local clinic via phone call or online, and the digital technology integrates this new data into the clinician's anticoagulation software which automatically updates the patient record. The patient's new warfarin dosage is calculated and sent back to the patient.

### Patient benefits

Feedback from patients taking part in the pilot has been exceptionally positive with some reporting that self-testing has changed their lives. A key benefit to patients is the opportunity to test their INR where and when convenient for them, which not only allows them to travel and take holidays but also saves them time and money due to not having to take time off work or attend clinic in person.

### Results

The pilot is delivering a new, more efficient model of care for patients, using digital technology to improve clinical outcomes and patient safety. Offering self-care as a warfarin management option frees up clinic capacity for service providers, allowing the anticoagulation team to direct resources to patients with more complex needs, improving outcomes for the whole patient population and reducing costs.

Pauline Mairs, IOW CCG's Primary Care Commissioning Manager explains: "We're thrilled to be leading the way with the launch of this pilot service. In addition to patient convenience, we hope that this digital service will allow patients to take a greater interest in their condition, monitoring their INR enabling them to stay within their therapeutic range and reducing their risk of an AF-related stroke."



Mark Ormerod, (INRstar); Caroline Bolton, Helen Draper, Hayley Jackson, Pauline Mairs and Dr Peter Randall; (IOW CCG)

# Hounslow Atrial Fibrillation Quality Improvement Initiative

## Dr Sadia Khan, Consultant Cardiologist

HOUNSLOW AF GROUP

### Key Aims

- Community-wide approach to increase AF awareness
- Increase AF detection in at risk population through use of novel technology
- Increase compliance with NICE AF guidance
- Prevention of AF-related strokes

### Introduction

Hounslow Clinical Commissioning Group (CCG) commissions healthcare for over 305,000 residents of an ethnically and culturally diverse London borough. The Quality Outcomes and Framework (QOF) reported AF prevalence here was 0.89%, which is significantly lower than the national of 1.6%, and higher than average AF related stroke rates. In 2015, the Hounslow Cardiovascular Clinical Network, a collaborative of primary, secondary, community care and patient groups successfully bid for funding from NIHR CLAHRC North West London, aiming to improve the quality of care and outcomes for people with or at risk of AF in Hounslow by April 2017.

### Methods

The project has been planned as a number of phases as follows:

1. Development of an ambulatory care pathway for AF in the local secondary care Trust. This launched in May 2016.
2. Deployment of Kardia system into every GP (52) practice in Hounslow. This is coupled with the creation of an AF 'at risk' register and a patient status alert/flag on the practice information system that identifies those at high risk of AF to facilitate opportunistic testing using the Kardia mobile system.

3. A primary care clinical template to improve compliance with NICE guidance and patient centred anticoagulation choices.

### The next stages of the project are

1. Launching a nursing programme to facilitate confidence and enhance patient-centred anticoagulation in September 2016.
2. Development of information resources around AF including short videos in different languages.
3. A programme to upskill lay volunteers in AF care and detection using novel technology.

### Results

To date the results have been very encouraging. In month one, four patients were referred to the ambulatory pathway and by month three, this had increased to 16. Since June a total of 1400 patients on the AF 'at risk register' have had a screening ECG.

### Implications

Through the use of QI tools, this initiative is improving AF care by involving the whole community in Hounslow. This aligns with the 2016-2017 NHS mandate calling for better use of technology to increase access to and use of health and care. As the project progresses, we will report clinical outcomes, patient experience and the health economic impact.



## A Systematic Approach To Improving AF Outcomes In Primary Care

### Dr Yassir Javaid, GP

NORTHAMPTON

Dr Javaid is a highly passionate and articulate primary care cardiology clinical champion who over the past three years has worked tirelessly and successfully to improve the outcomes of patients with atrial fibrillation within the East Midlands and beyond. He has developed a primary care AF up-skilling programme which is now RCGP accredited and which he has delivered in over 12 CCGs, up-skilling over 500 GPs. He has focused on the key areas of improving detection of AF, rate control and who to refer for assessment for rhythm control, use of (CHA2DS2-VASC) as the default risk stratification tool, appropriate use of HAS-BLED to mitigate the bleeding risk and appropriate NOAC usage.

He has also devised and disseminated an innovative electronic AF clinical template, which runs across all GP software systems and sits within the patient notes, to facilitate the optimisation process in primary care. The template incorporates an innovative patient decision aid to facilitate GPs in involving patients in the decision-making rationale. By remotely reviewing the electronic clinical templates and providing direct feedback to GPs, he has overseen a huge reduction in patients exception reported for anticoagulation and an overall 18% annual increase (over 4500 patients) in anticoagulation of AF patients across the East Midlands.

Not surprisingly many CCGs who have run his programme (including Leicester City CCG, West Leicestershire and Rutland CCG and Nene CCG) are now benefitting and seeing a significant reduction in stroke admission rate as a result of the huge increase in AF patients anticoagulated and a huge reduction in aspirin usage for stroke prevention in AF.

His work has now been recognised across other strategic clinical networks outside of the East Midlands and he has shared best practice and the tools he has devised to both West Midlands SCN and Wessex SCN. His electronic AF clinical templates have to date been requested by and uploaded to over 12 CCGs. He has been invited to present his innovative solutions for primary care at the inaugural National Conference on Atrial Fibrillation in September at the King's Fund, organised by Public Health England

and chaired by Professor Anthony Rudd, National Clinical Director of Stroke, NHS England.

Within his own CCG, Nene CCG, screening for AF, rate controlling and appropriate anticoagulation (including appropriate and safe use of NOACs) has become routine 'bread and butter' general practice. The most recently available SUS data from April 2015 demonstrates a 12% reduction in stroke admissions which is the largest reduction seen over the past 5 years in the 5th largest CCG in the country.

Dr Javaid's enormous passion, infectious enthusiasm and drive has engaged and motivated primary care clinicians across a number of CCGs in the East Midlands and beyond. He has developed and disseminated a proven replicable and sustainable solution to address this critical disease area and he is realising his ambition of leaving a legacy of preventing avoidable stroke across the East Midlands and widespread roll out of this solution.

He was awarded GP of the year for his contribution to sustainable stroke reduction seen across the East Midlands:

<http://www.pulsetoday.co.uk/news/stroke-prevention-champion-named-gp-of-the-year/20030553.fullarticle>

## Atrial Fibrillation Association

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

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

All information booklets published by AF Association have been approved by an AF medical panel and endorsed by the Department of Health. AF Association has published eleven patient information booklets, two AF checklists and thirty-three AF fact sheets. Many of the titles are now available in twelve languages and AF Association International is growing throughout the world, from Australia to various countries across the Asia Pacific region, the United States and many parts of Europe.

AF Association also organises annual events for healthcare professionals involved in the management and treatment of arrhythmias, such as atrial fibrillation. These meetings include our regional Cardiac Update Meetings and our annual conference Heart Rhythm Congress (HRC) – [www.heartrhythmcongress.org](http://www.heartrhythmcongress.org). These events provide a platform for education as well as sharing best practice and information on the latest topics. As well as this they also provide an opportunity to network with healthcare professionals in all areas of cardiac provision, academic institutions and professional bodies.

Furthermore, AF Association is also involved in the collection of the most up-to-date data on AF services in the NHS and represents a valuable source of statistical information for researchers. If you require any AF-related data, including a recent nationwide review of ablation services, or would like to contribute to developments in the clinical management of AF, please visit [www.heartofaf.org](http://www.heartofaf.org) or please contact Trudie Lobban MBE, FRCP (Edin), AF Association Founder and CEO, at the address to the right.

### AF Association aims to:

1. Provide support and information on AF to those affected by this condition
2. Advance the education of the medical profession and the general public on the subject of AF
3. Promote research into the management of AF

AF Association is affiliated to Arrhythmia Alliance ([www.heartrhythmalliance.org](http://www.heartrhythmalliance.org)). The charity is proud to support World Heart Rhythm Week ([www.heartrhythmweek.org](http://www.heartrhythmweek.org)), an international campaign dedicated to raising the profile of arrhythmias, including AF.

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## APPG-AF

### All-Party Parliamentary Group on Atrial Fibrillation

On 8 June 2011, the All-Party Parliamentary Group on Atrial Fibrillation held its inaugural meeting in Parliament.

It was agreed at the meeting that the aim of the group would be:

“To raise awareness of the issues affecting patients diagnosed with atrial fibrillation (AF), and work to ensure the diagnosis, care, treatment, management, and research of AF is a priority for the NHS.”

For more information, please see the Register of All-Party Parliamentary Groups at: <http://www.publications.parliament.uk/pa/cm/cmallparty/register/register.pdf>

## 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

### **CHA2DS2-VASC**

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

**C**ongestive heart failure

**H**ypertension

**A**ge (75 years or older)

**D**iabetes

**S**troke

**V**ascular disease

**A**ge (65 – 74 years)

**S**ex (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:

**H**ypertension

**A**bnormal renal/liver function

**S**troke

**B**leeding history/predisposition

**L**abile INR (measure of blood coagulation)

**E**lderly (over 65 years)

**D**rugs/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

## HEALTHCARE PIONEERS SHOWCASING BEST PRACTICE IN AF

Supported by the All-Party Parliamentary Group on Atrial Fibrillation (APPG-AF)

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