AF Association
www.afa-international.org

SHOWCASING AF PIONEERS OF 2023

AF ASSOCIATION HEALTHCARE PIONEERS REPORT

www.AFpioneers.org

MISSION

AF Association (AF Assoc): working to provide information, support and access to established, new or innovative treatments for Atrial Fibrillation (AF).

AF Association was established in 2007 by Trudie Lobban MBE & Prof A John Camm following the demand on its sister organisation – Arrhythmia Alliance – from individuals needing support and information for atrial fibrillation (AF).

AF Association works globally with medical experts to provide information, support, education and awareness on atrial fibrillation, delivering the latest technologies and treatments to both patients and healthcare professionals to optimise outcomes for all those living with AF.

FOREWARD

The Atrial Fibrillation Association was founded to help both patients and doctors to improve the treatment of the condition and contribute to its investigation to help the discovery of new approaches to its diagnosis and treatment. This gave rise to the mantra of the

AF Association: DETECT, PROTECT, CORRECT and PERFECT. AF Assoc contributes to all these critical elements:

- encouraging opportunistic screening and detection for AF through its Know Your Pulse campaign
- educating patients and health care professionals at the annual international Heart Rhythm Congress
- lobbying and fundraising (All Party Parliamentary Group, World Heart Rhythm Week, Global AF Aware Week)
- encouraging research (AF Healthcare Pioneers Report)

Work published in this years AF Association Healthcare Pioneers Report demonstrates innovative approaches to detecting, protecting, correcting, and perfecting atrial fibrillation management.

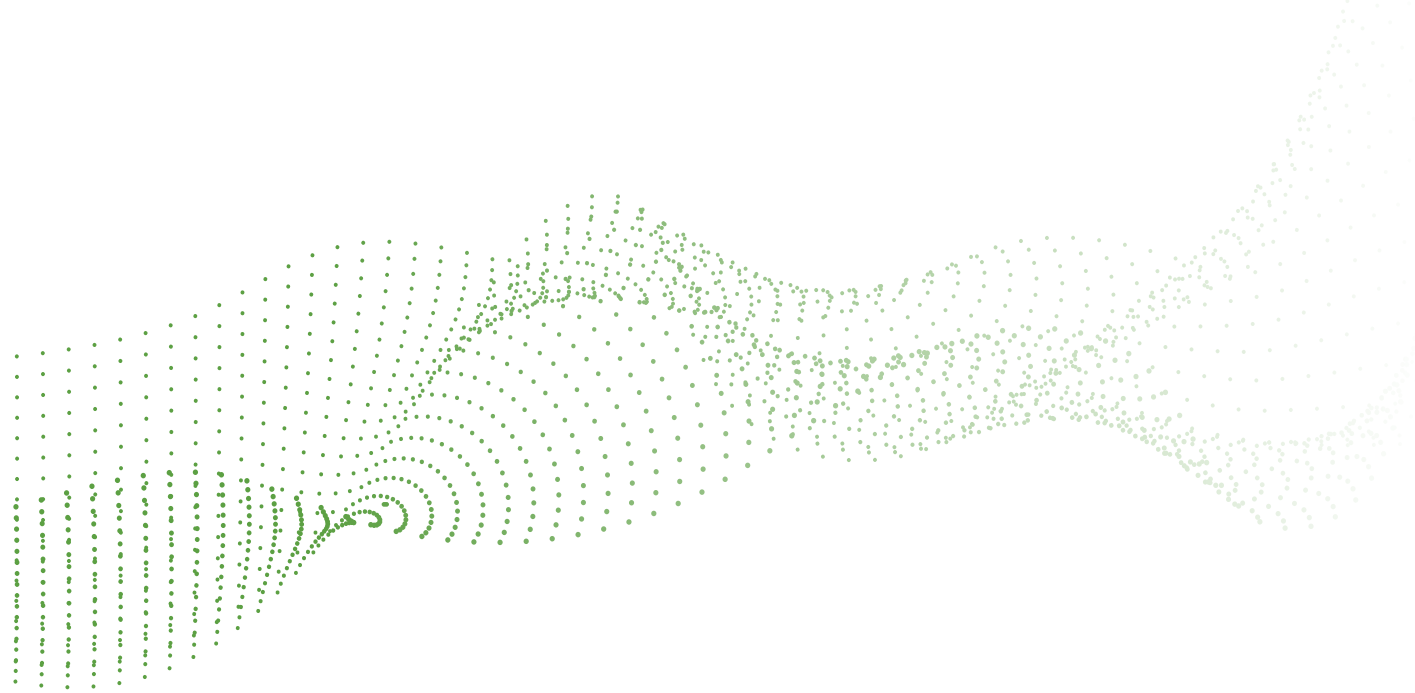
Our winners this year report the use of pharmacists in the management of patients with AF. They have proved particularly valuable in the detection of patients with AF and their protection with anticoagulant medications used to best advantage. Their report specifically identifies the need and the value of preventing bleeding complications by ensuring that anticoagulants and antiplatelet drugs are not used simultaneously, unless necessary.

We hope the 2023 AF Healthcare Pioneers Report will inspire you to explore new approaches to detecting and managing AF. This is even more important because of the rapidly increasing number of people who suffer from this condition, now calculated as over 80 million worldwide. Although AF is often silent initially it may ultimately have devastating effects on the lives of those who continue, without appropriate care.

We are grateful to everyone who submitted reports of their experience or research work looking at ways to improve care and quality of life for people living with AF.

Trudie Lobban MBE, FRCP (Edin)
Founder and CEO,
AF Association

Professor A John Camm
Trustee and Co-Founder
AF Association



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INTEGRATION OF A SPECIALIST PHARMACIST-LED MULTIDISCIPLINARY TEAM IN PRIMARY CARE: PREVENTING STROKES IN PEOPLE WITH ATRIAL FIBRILLATION ACROSS NORTH EAST LONDON

MR MITAL PATEL, DR SHABANA ALI, DR JOHN ROBSON, MR RICHARD CLEMENTS, DR ANGELA THEODOULOU, MS RACHEL SADAN, MS CELINE ALLEN, MS JAGJOT KAUR CHAHAL, MR PAUL WRIGHT, DR MATT KEARNEY, PROF RIYAZ PATEL, DR AFZAL SOHAIB, MR SOTIRIS ANTONIOU

Barts Health NHS Trust, North-East London Integrated Care Board, Clinical Effectiveness Group (Queen Mary University of London), UCL Partners (London), UK

ABOUT THE REPORT

This is a multi-organisational collaboration, as part of the East London Cardiovascular Disease Prevention (ELoPE) programme, between Barts Health NHS Trust, North East London Integrated Care Board, Clinical Effectiveness Group (Queen Mary University of London) and UCL Partners delivering on the national prevention agenda. The project entails specialist input from a multidisciplinary team to prevent atrial fibrillation (AF)-related strokes through improvement of anticoagulation rates in patients with AF. Further improvements have been demonstrated by optimisation of cardiovascular risk factors and minimising bleed risk for patients on dual antithrombotic therapy.

INTRODUCTION

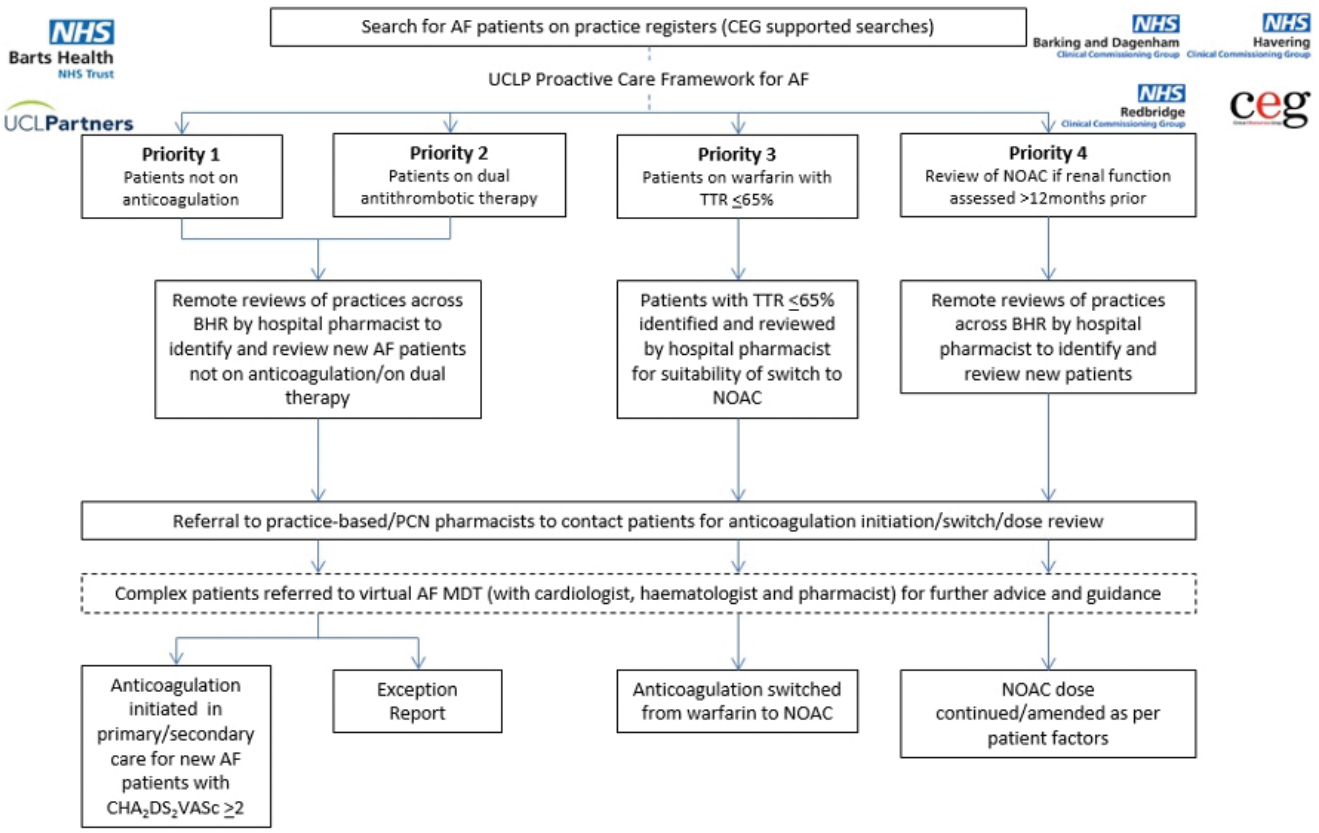
Public Health England (PHE) set a national ambition of anticoagulating 90% of patients with atrial fibrillation (AF) by 2029. In 2019/2020, across three London boroughs, serving a population of 770,000, the percentage of AF patients at high risk of stroke (CHA2DS2VASc>2) anticoagulated was 85%. This placed two out of the three boroughs in the bottom 10% of Clinical Commissioning Group (CCGs) compared to others within England. The Sentinel Stroke National Audit data for these three boroughs from 2019/2020 identified that 37% of patients with known AF admitted with strokes were not anticoagulated.

METHODS

A specialist cardiovascular pharmacist was commissioned to identify high-risk AF patients (CHA2DS2VASc>2) by working with primary care clinicians (GPs and Pharmacists), utilising proactive care frameworks' created by UCL Partners and Clinical Effectiveness Group Queen Mary University of London. The specialist pharmacist stratified and prioritised patients for review. Patients not on anticoagulation were at highest risk, leading to an urgent review and initiation of anticoagulation where clinically suitable. Patients on dual antithrombotic therapy were assessed to determine if antiplatelet therapy could be stopped to minimise risk of major bleeding. A weekly virtual multidisciplinary team (MDT) consisting of a cardiologist, haematologist, GP and specialist pharmacist, reviewed complex patient cases and agreed an action plan.

RESULTS

At baseline (December 2020), 88% (7581/8582) of AF patients with a CHA2DS2VASc>2 across the three boroughs were anticoagulated. 1579 patients were reviewed by a specialist pharmacist between December 2020 and March 2023, with 415 patients initiated on anticoagulant therapy - translating to a prevention of 17 strokes. In March 2023, 94% (8859/9419) of AF patients with a CHA2DS2VASc>2 were suitably anticoagulated, an improvement of 6%. There was a reduction in dual antithrombotic therapy from 592 to 282 patients (52% reduction), preventing an estimated three major bleeds and improving patient safety. This improvement was a combination of specialist pharmacist reviews, increased training of GPs and pharmacists in primary care, as well as MDT reviews to initiate anticoagulation.



CONCLUSION

Integration of a specialist cardiovascular pharmacist into a system wide multidisciplinary team contributed to increased rates of anticoagulation and improved safety by reduction in use of antiplatelets for high-risk AF patients. By extrapolating this model nationally, 3,600 strokes can be averted over 18 months.

A NATIONAL PROGRAMME TO OPTIMISE ANTICOAGULATION IN PATIENTS WITH ATRIAL FIBRILLATION

MR ANTONY GRAYSON, MRS CAROL HUGHES
Inspira Health, UK

INTRODUCTION

Ensuring patients with atrial fibrillation (AF) are appropriately anticoagulated with the primary goal of reducing AF-related strokes.

METHOD

Primary Care Networks (PCNs) were invited by NHS England to apply for funding for the Primary Care Atrial Fibrillation (PCAF) service. PCNs were eligible if they were in the top two national quartiles for i) diagnosed AF but untreated, or ii) estimated undiagnosed AF patients; utilising Quality Outcomes Framework and Public Health England data.

The following approach was used for participating PCNs:

Step 1 - Creation of patient lists from AF registers

Step 2 - Comprehensive clinical audit of patients with AF who were not anticoagulated or who were either currently prescribed warfarin or direct oral anticoagulants (DOAC)

Step 3 - Systematic patient invitation for telephone consultations

Step 4 - Specialist-led telephone clinics to optimise anticoagulation therapy

Step 5 - Follow-up review

PCAF
Primary Care Atrial Fibrillation
Supporting Primary Care to Optimise Patient Outcomes

RESULTS

36 PCNs participated consisting of 138 GP practices covering a 1,600,703 population between October 2022 and March 2023. The AF prevalence was 2.9% (n=46,146). Of the AF patients, 40,687 were already on anticoagulants (88.2%); with 12.1% (n=4,903) on warfarin and 87.9% (n=35,784) on DOACs. Medical records were reviewed for 5,459 patients not on anticoagulation, with 4,369 (80%) patients deemed not eligible for anticoagulation. This left 1,090 (20%) patients who were eligible for, but not on, anticoagulation. 673 (13.7%) patients taking warfarin were deemed sup-optimal with regards to INR control with TTR <65%. Of the DOAC patients, 1,546 (4.3%) required dosage review and 17,313 (48.4%) were eligible for DOAC optimisation in line with NHS England guidelines. In total 20,622 patients were reviewed by a healthcare professional and either had anticoagulants prescribed, changed, or DOAC dose altered. Of these, 3,309 patients had a medication intervention which would reduce their risk of AF-related stroke and would therefore expect 132 strokes to be prevented and a cost saving in reduced stroke admissions of £3,176,640. A further cost saving of £5,193,900 per year was achieved with a reduction in medicine management budgets as per NHS England guidelines. In total, so far, the programme has achieved a total saving to NHS budgets of £8,370,540. Patient feedback regarding satisfaction with the programme gave a rating of 98.4%.

CONCLUSION

A national programme to optimise anticoagulation in AF patients has reduced the risk of stroke and led to significant cost savings to the NHS.

SCREENING FOR ATRIAL FIBRILLATION BY VILLAGE DOCTORS IN RURAL AREAS OF CHINA: A RURAL COMMUNITY PROJECT

PROF. MINGLONG CHEN, DR. MINGFANG LI, DR. MING CHU, DR. SHIMENG ZHANG, DR. YOUMEI SHEN, DR. XINGXING SUN, DR. JINLONG GONG, DR. GANG YANG, DR. JIAOJIAO SHI, DR. XIANGWEI DING, DR. ZHOUSHAN GU, DR. CHENGZONG LI, DR. CHAOQUN ZHANG, DR. YAODONGQIN XIA, DR. ZHIRONG WANG, PROF GREGORY Y.H.LIP

The First Affiliated Hospital of Nanjing Medical University, China

ABOUT THE REPORT

This cross-sectional AF screening programme, combined with relevant surveys, investigated the quality of AF care in rural China for the first time.

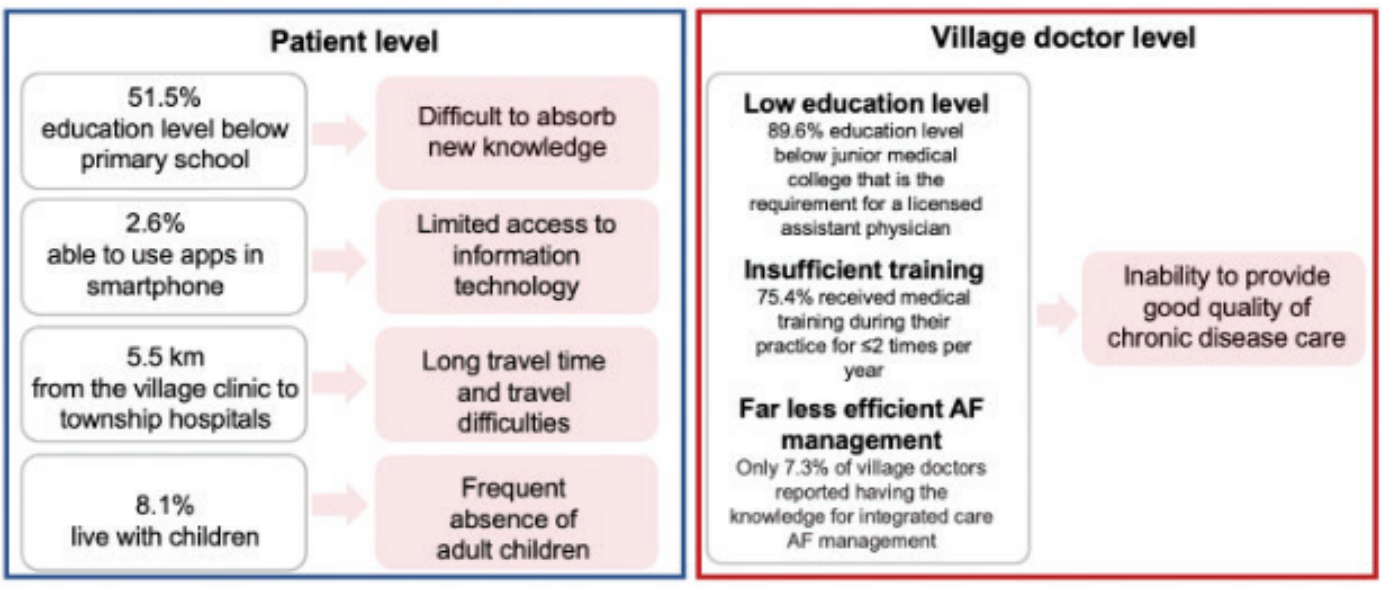
BACKGROUND

No study has systematically investigated the quality of long-term care delivered to the rural elderly with chronic diseases in China. Since atrial fibrillation (AF) is becoming an increasing burden on healthcare systems worldwide, we conducted an AF screening programme in rural elderly and evaluated healthcare efficiency led by the village doctors in China.

METHODS

This cross-sectional study of the rural population aged >65 years was conducted from April to June 2019 in Daqiao and Xiaoji towns of Jiangsu Province. AF was identified using 12-lead electrocardiography in the first-step (government-led health examination) and single-lead electrocardiography in the second-step (in-house AF screening). Questionnaire surveys were designed for the AF patients and their village doctors, respectively.

Challenges faced by village doctors in chronic disease care in rural China

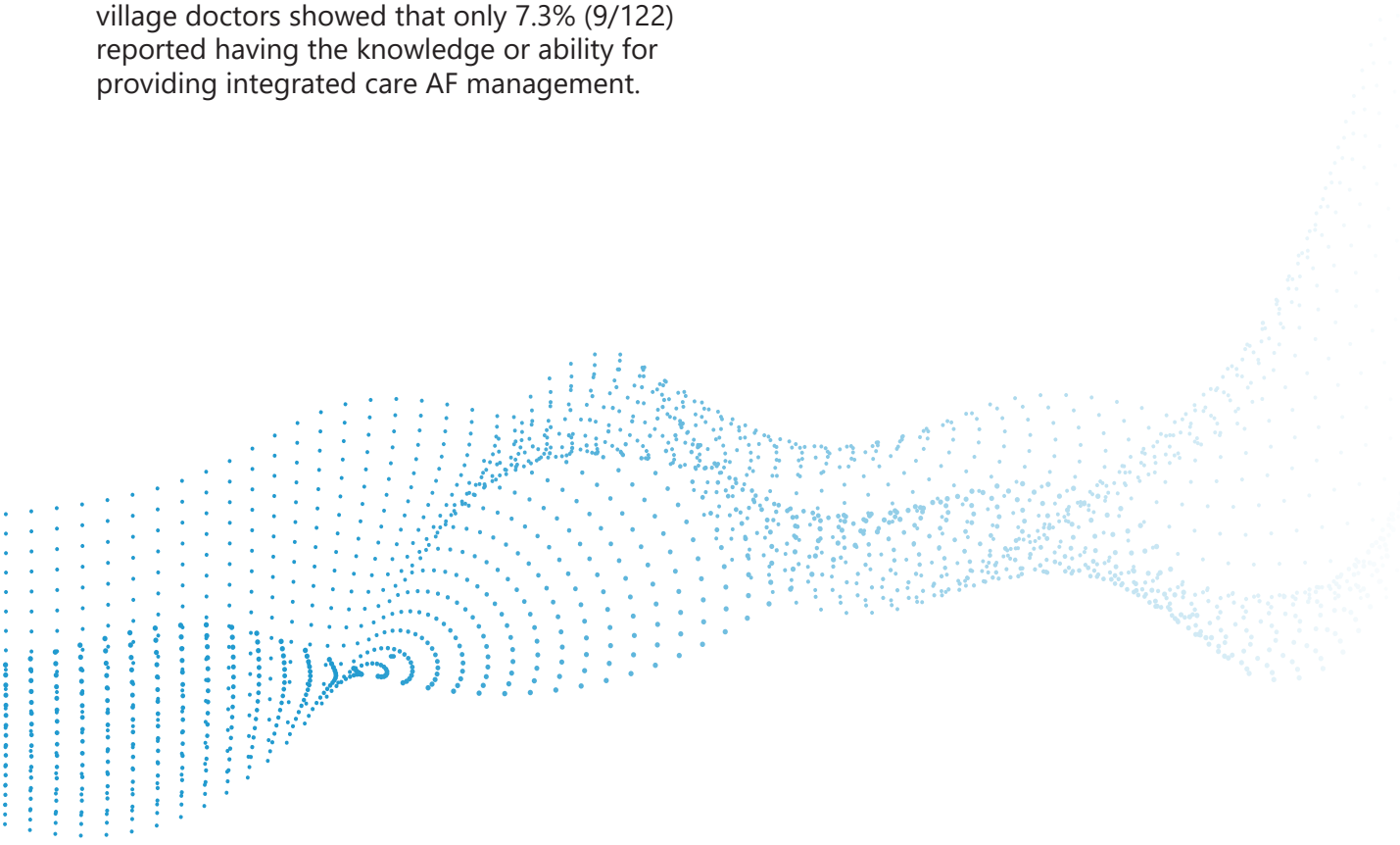


RESULTS

Among the 31,342 registered subjects, 12,630 (40.3%) declined, 7,956 (25.3%) participated in the first-step and 10,756 (34.3%) in the second-step. The overall AF detection rate was 4.3% (810/18,712). Of the 810 patients with AF (mean age 76.1±5.9 years; 51.4% female), 51.5% had education level below primary school, only 2.6% could use smartphone applications, and 8.1% lived with their children. Common risk factors were older age, male sex, hypertension, diabetes, prior stroke, vascular disease, and congestive heart failure. Among these 402 patients who were aware of AF, there were 367 were at high risk of stroke (CHA2DS2-VASc score >3 in women or >2 in men) and oral anticoagulants was currently used in only 10.9% (40/367) of these. Only 17.6% (91/516) of patients with hypertension had a resting blood pressure level <140/90 mmHg, and 6.0% (8/132) of patients with diabetes had a fasting blood glucose level >6.1 mmol/L. Our questionnaire survey for village doctors showed that only 7.3% (9/122) reported having the knowledge or ability for providing integrated care AF management.

CONCLUSIONS:

This screening project in rural villages identified AF in 4.3%, but AF management was suboptimal with low use of oral anticoagulation. The current village doctor-dominant rural healthcare system is far from delivering optimal standardized AF management for older patients in rural China. There is the urgent need to support these rural clinics and empower the village doctors in optimising the care of AF patients.



IMPLEMENTATION OF A NURSE-LED AMIODARONE INITIATION CLINIC

DR NORMAN QURESHI, MR F. GIL SOUSA, MRS TARA MEREDITH
Buckinghamshire Healthcare NHS Trust, UK

ABOUT THE REPORT

An amiodarone initiation clinic was set up to provide safe and effective care to patients within Buckinghamshire. It allows for a patient centred review prior to treatment initiation and provides patients with a point of contact to for support and report early signs of serious side effects. It also streamlines completion of shared care agreement and facilitates communication with primary care by providing a point of contact for advice regarding treatment with Amiodarone. The clinic has been running for over one year and seen an increase number of referrals over the past months. We provide a snapshot data over the last six months. Our experience is that this pathway benefits patients contributing to safe and effective care and enhancing communication and collaboration with primary care through shared care agreements. The growing focus on rhythm control for atrial fibrillation combined and increasing waiting lists for catheter ablation will possibly contribute to an increased use of ADD including amiodarone. This model could be easily replicated across the NHS to enhance care of patients treated with amiodarone.

INTRODUCTION

Although catheter ablation has been shown to improve clinical outcomes over anti-arrhythmic drug (AAD) therapy as a rhythm control strategy in patients with atrial fibrillation, it is not suitable or efficacious treatment option in some patients with adverse structural re-modelling. Amiodarone is the most effective AAD and is now often used as a bridge to catheter ablation. However, due to its risk profile with potentially serious extra-cardiac side-effects, it is not usually first line (except in heart failure). Treatment with amiodarone is therefore restricted to specialist initiation and ongoing monitoring is required. A nurse-led amiodarone initiation clinic was implemented within the Cardiac Rhythm Management division of Buckinghamshire Healthcare NHS Trust to improve safety through the provision of a patient centred review at initiation, promoting patient education and compliance and minimising the potential of harm.

DESIGN

A clinical assessment including detailed medical history, concomitant medication and potential drug interactions is performed. Baseline investigations are reviewed or requested as per current guidelines (including bloods, ECG, chest x-ray). Patients are then informed/educated on indication and duration of treatment, available alternatives, symptoms of potential side-effects and are given of a point of contact to report any adverse effects. There is an early follow-up at six weeks where a shared care agreement is completed, with continuing care then transferred to primary care. All patients receive a personalised Amiodarone-care Booklet.

RESULTS

Snapshot data from October 2022 to March 2023 was analysed. During this period 49 patients were reviewed for amiodarone initiation. N=39 (79.6%) patients were Male and N=10 (20.4%) were Female. Their average age was 70 years (Min 41 years, Max 88 years). The indication for therapy can be seen in adjacent chart. Treatment was not started in n=10 patients (20%) (four due to patient choice, 3 due to contra-indication to treatment e.g. conduction disease, three patients rate control was decided as treatment option). Concomitant medication was adjusted in n=25 (51%) patients (commonly other rate-controlling drugs, statins and less frequently anticoagulation dose that was subtherapeutic in two patients and other QT prolonging medication in one patient).

CONCLUSIONS:
A dedicated amiodarone clinic allows for safe and effective initiation of therapy by means of a holistic patient review. Patients receive appropriate information and are supported in making informed decisions about their treatment. The risk of complications is minimised through a complete medicines review, including, optimising patients' anticoagulation where needed.

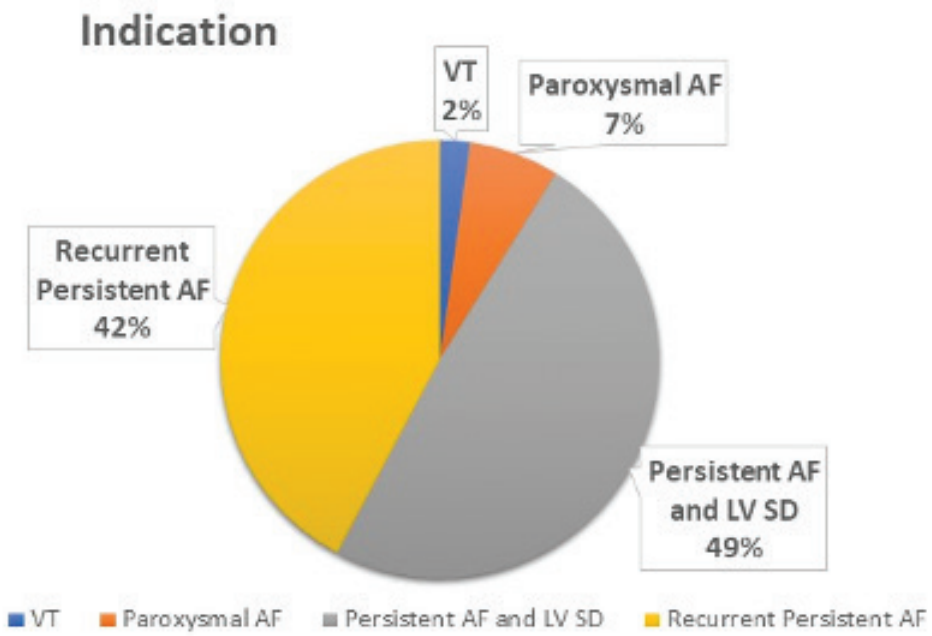


Figure 1. Indication for amiodarone therapy across 49 patients referred to the amiodarone clinic.

RAPID ACCESS NURSE-LED AF CLINIC

MRS DEBBIE DU PREEZ, DR MEHRAN ASGARI, DR JAMIE SMITH
NHS Highland, Scotland, UK

HIGHLY COMMENDED

ABOUT THE REPORT

The first nurse-led AF service in NHS Highland.

REPORT CONTENT

NHS Highland covers a population of approximately 250,000 people over a vast region (32,500km^2), some living in very remote areas. AF is more prevalent in older adults and there is an aging population in Highland with more than 23% aged 65 and over. Raigmore cardiology department recognised the need for providing more efficient AF care to patients. There was variation in clinical practice and long waiting times for consultant review. After numerous meetings, and consultation with colleagues having similar experience in another NHS trust, funding was approved to set up the first specialist nurse-led Rapid Access AF Clinic in 2021. This was initially for a six-month pilot, but the value of this service was quickly acknowledged and permanent funding obtained. The service has been running successfully ever since with an increased number of referrals. The clinic is specialist nurse-led with support of a consultant cardiologist.

Referrals to the clinic are accepted from primary care and acute hospital physicians. Patients are seen in clinic with same day echocardiography, which results in fewer trips to the hospital. This service is further streamlined with the nurse providing cardioversion and liaison with the visiting electrophysiologist consultant when indicated.

Within the first three months, 80 patients were thoroughly assessed and AF management planned. Patient feedback positively reflected on a better patient-healthcare professional relationship, better understanding of the condition and quicker symptom improvement. Compared to previous patient waiting times, assessment has significantly improved for AF patients (from twelve to three weeks for routine and six to one week for urgent referrals).

This AF clinic has now become a permanent service with expanded clinic capacity. At present we see 40 patients a month in outpatient clinics, as well as 16 return telephone appointments and on average 12-14 elective cardioversions. Patients are able to have telephone follow up remotely depending on their location and clinical requirements. Current plans are to develop the service by further increasing the number of nurse-led clinics and expanding the patients seen to include those with other arrhythmias and syncope. We are adding further flexibility for patients by facilitating on-going care with easy access ECG monitoring devices sent out to those who live in remote areas. This is essential for directing continued optimal care and will meet the needs of patients in our challenging location.

A MULTIDISCIPLINARY PATHWAY FOR IMMEDIATE, PRE-DISCHARGE, IMPLANTATION OF IMPLANTABLE LOOP RECORDERS AND MANAGEMENT OF ATRIAL FIBRILLATION IN CRYPTOGENIC STROKE PATIENTS

JACQUELINE HUNT, DR. RAJDIP DULAI, HANNAH WALLER, DR BARBORA O'NEILL, DR. CHEMINDRA BIYANWILA, DR RICK VEASEY, PROF NIKHIL PATEL
East Sussex Healthcare NHS Trust, UK

ABOUT THE REPORT

Atrial fibrillation (AF) is suspected as the main cause of stroke in the majority of patients presenting with cryptogenic stroke (CS). We developed a multidisciplinary pathway facilitating inpatient ILR insertion and prompt initiation of anticoagulation therapy following detection of AF.

INTRODUCTION

The detection of atrial fibrillation (AF) post cryptogenic stroke (CS) has a variable diagnostic yield depending on the methodology for screening used. Implantable loop recorders (ILRs) are NICE approved for the detection of AF in CS patients. The uptake is variable and the majority are inserted after discharge. In our trust, a multi-disciplinary team (MDT) pathway was established to standardise care and maximise the yield for AF detection post CS. Using a MDT approach, a pathway was established with the stroke and cardiology teams. This facilitated patients being fully evaluated and receiving an ILR prior to discharge. Using a nurse and physiology integrated approach, initiation of anti-coagulation occurs as soon as AF is detected.

METHODS

Following consultation the pathway was initiated in May 2020 at East Sussex Healthcare NHS Trust. All patients underwent diagnostic testing including echocardiogram, carotid doppler imaging and Holter monitoring before ILR implantation to rule out other causes of stroke. All patients were remotely monitored via the FOCUSON™ monitoring and triage service.

RESULTS

Between May 2020 and May 2022, 186 patients were included in the study and were followed up for a mean period of 363.0 +/- 222.6 days. The average age was 68.7 +/- 10.8. 118 (63.4%) patients were male. The mean time between stroke and ILR was 7.0 +/- 5.5 days. The mean time between referral and ILR was 1.0 +/- 2.0 days. AF was detected in 25 (13.4%) patients. In nine (5.35%) patients AF was detected within 30 days of monitoring. All patients with AF detected were commenced on anticoagulation therapy. 107 (57.5%) implants were performed by a specialist nurse. There was no significant difference in the major complication rate (requiring device removal) between nurse and physician implant (1 (0.95%) vs 0 (0%), p value = 0.389).

CONCLUSIONS:

We have demonstrated that with an integrated approach, inpatient ILR implantation is feasible. This has demonstrated higher rates of AF detection and an opportunity for rapid initiation of anti-coagulation. The pathway is nurse and physiology led with consultant oversight. This integrated approach ensures the most appropriate patients are selected for ILR implantation promptly and care is standardised. We have demonstrated the feasibility of patients having their diagnostic implant prior to discharge and with a low complication rate.

Name: Consultant:
(Patient Label)

INCLUSION CRITERIA

Age more than 40*	Yes / No
Is acute ischaemic stroke (**non lacunar**) confirmed by CT or MRI scan? Details:	Yes / No
24 hours monitoring performed showing no AF	Yes / No
Is patient suitable for anticoagulation?	Yes / No
Focused echo scan performed	Yes / No
Carotid doppler	Yes / No

When ALL steps completed please refer to cardiology / specialist nurse

*If less than 40 to discuss with cardiology registrar or consultant

EXCLUSION CRITERIA

Lacunar infarct	Yes / No
Life expectancy less than 1 year	Yes / No
Already taking anticoagulation	Yes / No
Contraindication to anticoagulation (e.g. bleeding)	Yes / No
AF already diagnosed	Yes / No
Patient has or requires pacemaker	Yes / No

CHA2DS-VASc SCORE		
Age	< 65	
	65 -74 (1 point)	
	75 + (2 points)	
Female Gender		
CHF History		
Hypertension		
Stroke/ TIA (2 points)		
Vascular disease		
Diabetes		
Total		

Please give details of antiplatelet therapy & dose (Aspirin/ Clopidogrel / Ticagrelor/ Prasugrel)

.....

.....

Signed..... Contact Number/ bleep..... Date.....

CONDUCTION SYSTEM PACING AND AV NODE ABLATION FOR PATIENTS WITH SYMPTOMATIC PERSISTENT AND LONGSTANDING PERSISTENT AF

DR MOKHTAR IBRAHIM, DR HARSHIL DHUTIA, DR RIYAZ SOMANI, DR ZAKARIYYA VALI, DR SHARON MAN, PROFESSOR ANDRÉ NG
University Hospitals of Leicester NHS Trust, University of Leicester, UK

HIGHLY COMMENDED

ABOUT THE REPORT

We have introduced and developed the service of conduction system pacing (CSP) and AV node ablation for patients with symptomatic persistent (PeAF) and Long-standing persistent AF (LSPAF) who are not eligible for rhythm control strategy or after failed rhythm control. We established the service at our centre and started training and proctoring other operators from across the UK.

INTRODUCTION

Despite all the advances of catheter ablation, the outcome remains suboptimal especially in persistent (PeAF) and longstanding persistent AF (LSPAF). Pacemaker implantation and Atrioventricular (AV) node ablation remain the last and most definite option to treat these patients. There is a growing evidence and interest for CSP to deliver physiological pacing, thereby avoiding right-ventricular pacing and its negative sequelae.

THE INNOVATION

Previous reports of HIS pacing were promising. However, the initial experience showed variable success with some concerns regarding long-term performance of the lead and the proximity to the ablation site. We have modified the technique of HIS pacing by moving the lead position to a more distal/RV position. We used Left Bundle Branch Area Pacing (LBBAP) as an alternative if HIS implantation failed. Therefore, we started our unique CSP course at the Glenfield Hospital inviting consultants from across the UK to attend our regular workshops and learn about our modified technique. We managed to get a research grant to conduct a randomised control trial to show the efficacy of this new pacing modality in AF patients referred for Ablate and Pace strategy.

METHODS AND RESULTS

We performed a single centre, retrospective, observational study for patients undergoing AV node ablation following His-bundle pacemaker implantation with the lead in a distal position between February 2020 and December 2022. Forty-one procedures were performed with a mean follow up of 7.1 months (+/-8.7). Overall, conduction system pacing was successful in forty patients (97.6%). Distal His bundle pacing was successful in thirty-one patients (75.6%) and LBBAP was successful in nine patients (22%) in whom His bundle pacing was unsuccessful. Twenty-nine patients (70.7%) had AV node ablation on the same day as conduction system pacemaker implantation. The mean procedure and fluoroscopy duration for conduction system pacemaker implantation overall was 79.2 (+/- 23.6) minutes and 13.7 (+/- 10.6) minutes respectively. Lead parameters were stable during follow up with two patients had a rise in HIS threshold.

CONCLUSION

This study shows that distal conduction system pacing (distal His bundle pacing or Left bundle pacing) preceding AV node ablation appears safe and feasible. We showed how this innovation could improve AF management.

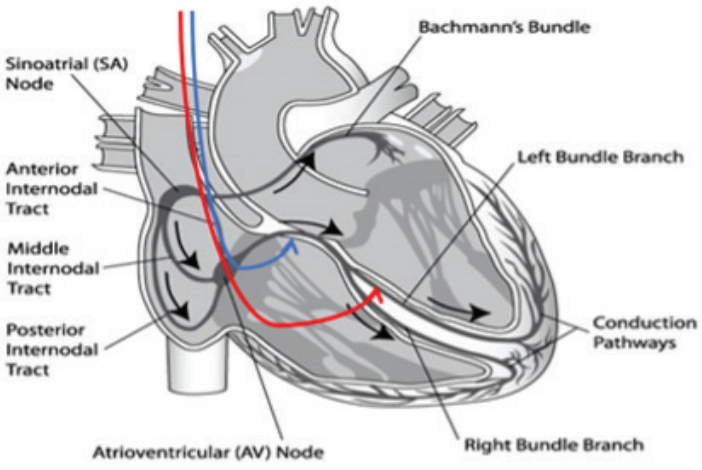


Figure 1: Schematic diagram illustrating the modified HIS lead position (blue) and the Left bundle area pacing lead (red) and the relation to tricuspid valve and AV node

IMPROVING EDUCATION AND MANAGEMENT OF CARDIOVASCULAR DISEASE (CVD) THROUGH A PRIMARY CARE FELLOWSHIP PROGRAMME – A SOUTH LONDON EXPERIENCE

ROY JOGIYA, SOPHIE MIZEN, MARGARET CONNOLLY, ROD WATSON, KRISTINA LEONNET, AMBRA CARUSO, OLIVER BRADY, NATASHA CURRAN, RISHI DAS-GUPTA

Heath Innovation Network, London, UK

INTRODUCTION

The NHS Long Term Plan identifies CVD as the single biggest area where lives can be saved. Primary care provides a crucial role in the management of patients at risk of CVD. Offering a programme can help empower and improve confidence and management of high-risk conditions among clinicians.

METHODS

We held series of monthly clinical webinars over seven months for healthcare professionals in south London. Topics included: atrial fibrillation (AF), lipid management, AF case studies. Alongside this, the fellows undertook an improvement project. This concluded with a showcase and learning event where case studies were shared, learnings discussed, future CVD work considered, and fellows encouraged to continue their work.

RESULTS

In total there were 19 educational sessions over 17 hours of lectures. 104 Fellows signed up to the programme. 85 (81%) were upskilled in different clinical aspects of CVD prevention.

54 fellows submitted final reports on their improvement projects. There were:

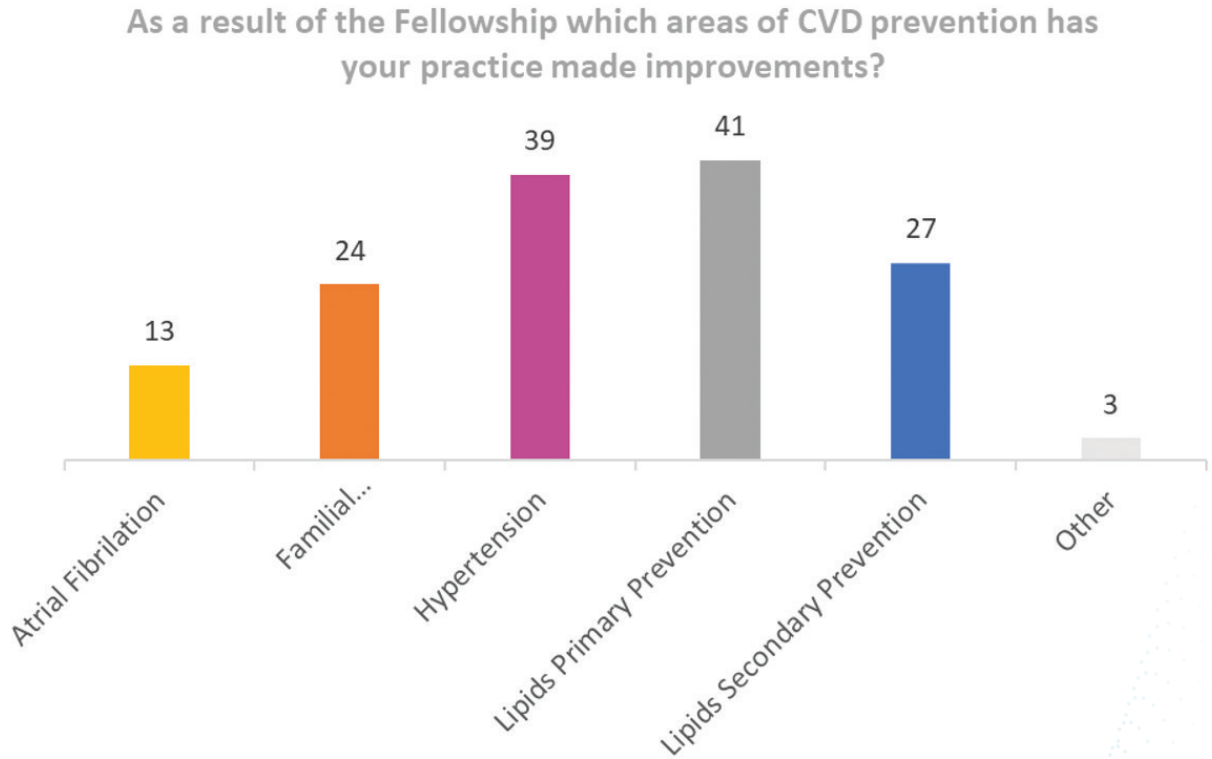
- 4 projects in atrial fibrillation, impacting eight GP surgeries
- 19 projects in hypertension, impacting 21 GP surgeries
- 14 projects in Lipids, impacting 22 GP surgeries
- 3 projects in familial hypercholesterolaemia, impacting seven GP surgeries

A survey conducted at the end of the Fellowship with feedback from 47 Fellows revealed that as a result of the fellowship:

- 97% felt they were supporting colleagues more with CVD care
- 97% felt more confident in delivering CVD care
- 74% felt their PCN/practice has improved the way it manages patients as risk of CVD
- 95% felt their patients' at risk of CVD have benefited.

CONCLUSIONS:

Overall, primary care practitioners considered the Fellowship program as relevant and beneficial to patient care. The high-risk conditions for cardiovascular disease (atrial fibrillation, high cholesterol and hypertension) can be asymptomatic. They are often underdiagnosed and undertreated. Earlier recognition and management may improve long term outcomes. Following the educational sessions, a number of QI projects were undertaken in these fields, addressing areas of CVD prevention and management locally. Small improvements may have long term impact. Primary health care is a complex environment that may benefit from structured systems of education to aid the adoption of best practice. With so many competing demands there remain gaps between CVD management guidelines and practice in primary care. Although substantial challenges remain in implementing change, this programme was seen as a beneficial and helpful method of facilitating long term improvement of the management of patients with or at risk of CVD.



STAT SEAL GROIN CLOSURE AFTER AF ABLATION TO ALLOW RAPID SAME DAY DISCHARGE

MR RHOEL PERALTA, DR AJAY SHARMA, DR NEIL SRINIVASAN, DR DAVID FARWELL
Essex Cardiothoracic Centre, UK

ABOUT THE REPORT

A new method of groin closure to allow rapid same discharge in AF ablation.

INTRODUCTION

Atrial Fibrillation (AF) catheter ablation is an increasingly performed procedure in the management of symptomatic patients with paroxysmal and persistent atrial fibrillation . At the Essex Cardiothoracic Centre, in Basildon, UK, we perform these procedures as a day-case procedure, allowing the large majority of patients safely home the same day after their procedure. A vital determinant of this process is safe and swift patient recovery on the ward post procedure. As atrial fibrillation procedures are performed via femoral vein across whilst the patients continue their anticoagulation medication such as a direct oral anticoagulant (DOAC) or warfarin, wounds had been closed with a Z or figure of 8 suture been used to minimise development of a haematoma. Z-Suturing requires a minimum of two hours before patients can start to sit up and another two hours before they can mobilise, thus a total of four hours recovery prior to discharge. More recently at our centre we have begun to use the STAT SEAL Advanced PLUSTM by Biolife. This small disc contains hydrophilic polymer and potassium ferrate which rapidly dehydrates blood when it come in contact causing it to form a solid seal. The potassium ferrate then brings the solids and proteins together, adhering the seal to the wound to stop bleeding and oozing. This results in patients being mobilized within one hour. We hypothesised a reduction in haematomas post procedure and a reduced recovery time, allowing patients to safely be discharged faster.

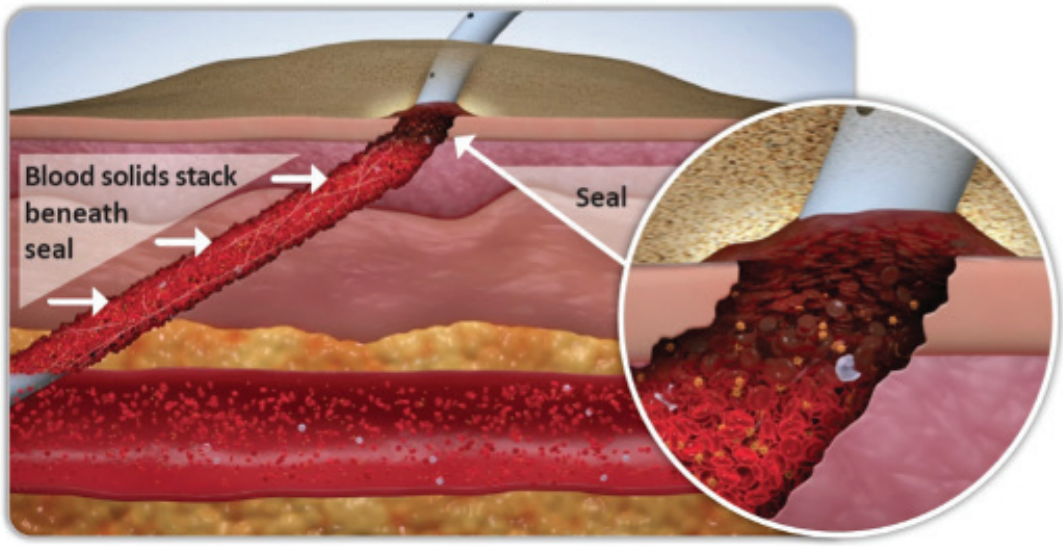
METHODS AND RESULTS

From September with the introduction of Statseal, 50 AF ablations were performed. The median recovery time was 2 hours and the median discharge time was 2.5 hours, this compared with four hours and five hours respectively with our previous method ($p = <0.01$). There was only one patient that has had a complication (haematoma /bleeding).

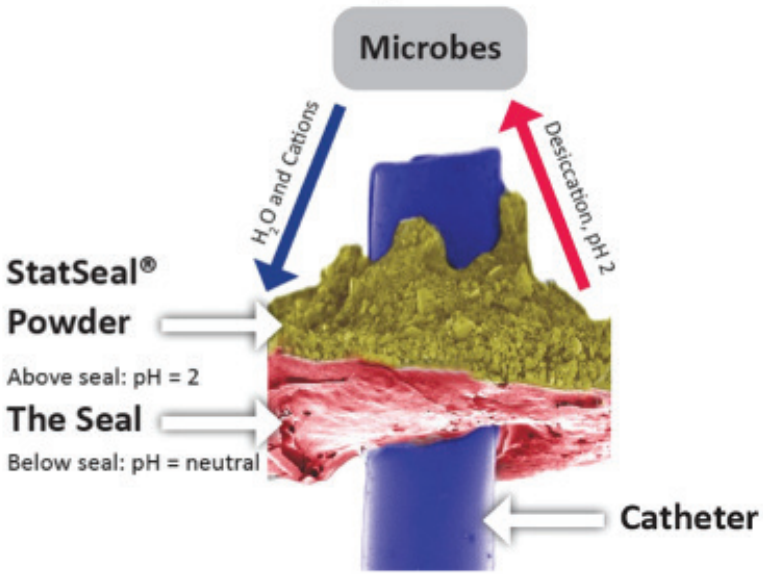
CONCLUSIONS

Since the use the STAT SEAL Advanced PlusTM disc, we have noticed at least a 50% decrease in patient recovery time requirement allowing patients to safely mobilise and get home up to an hour earlier compared to the use of a suture for wound closure. There has not been any significant rise in complication as a result of its use. We suspect this will likely lead to preventing overnight hospital stay especially in elderly patients whose procedure occur later in the afternoon or evening and are therefore able to get home safely following a shorter recovery.

StatSeal® Powder on Indwelling Catheter



Colorized Microscopic Image of Seal



STEPPING-STONE TO STRENGTHENING AND STREAMLINING THE MANAGEMENT OF ATRIAL FIBRILLATION IN NORTHERN PROVINCE OF SRI LANKA

V ANTONY SHERON, RAJENDRA SURENTHIRAKUMARAN, GREGORY LIP, POWSIGA URUTHIRAKUMAR, TIFFANY E. GOODEN, G. NEIL THOMAS, KRISHNARAJAH NIRANTHARAKUMAR, BALACHANDRAN KUMARENDRAN, KUMARAN SUBASCHANDRAN, SHRIBAVAN KANESHAMOORTHY, MAHESAN GURUPARANA

Faculty of Medicine, University of Jaffna, Sri Lanka

ABOUT THE REPORT

A pioneer AF project of a Low Middle-Income Country funded by National Institute of Health Research, UK.

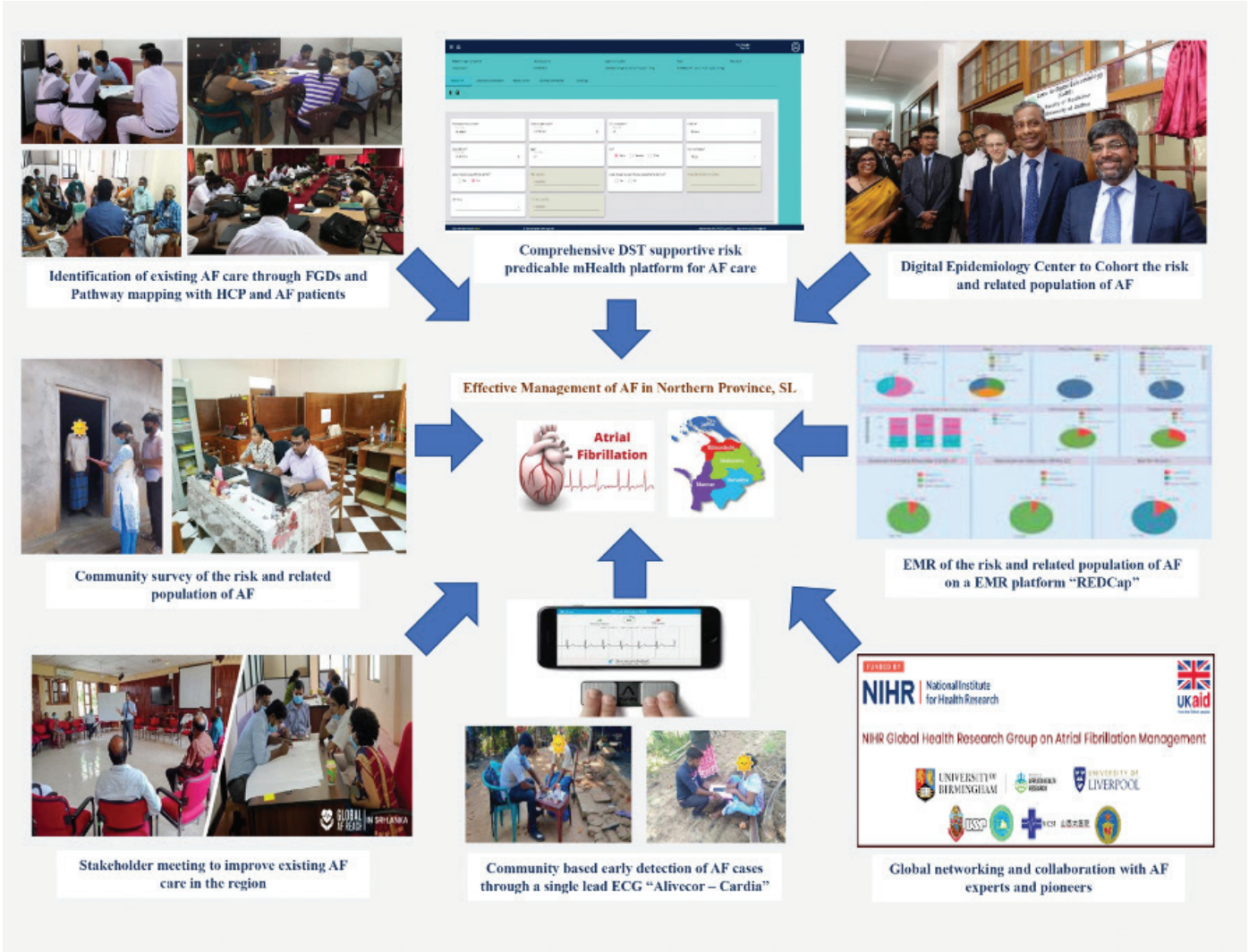
REPORT CONTENT:

Atrial fibrillation (AF) is the most common heart rhythm disorder globally, conferring a major burden of morbidity and mortality (Lane et al., n.d.; Uruthirakumar et al., 2023). Sri Lanka (SL), a Lower Middle-Income Country (LMIC) country that has sustained recent conflict which has the government lead healthcare system which is rapidly rebuilding and strengthening (Kanesamoorthy et al., 2022; Sheron et al., 2022). Considering the AF, it is not addressed properly in Sri Lanka especially in the Northern Province, especially lack of case finding strategies in the primary care settings, centralization of the AF treatment, inequalities and inadequate distribution of health care resources between the primary and secondary care health facilities and lack of inter-coordination between these settings which resulted in misdiagnosed, failed to diagnose, loss to follow-up of AF cases.

Therefore, to mitigate this unaddressed problem, ABC pathway was proposed for better management to streamline primary and secondary care AF management, i.e., Avoid stroke (Anticoagulation), Better symptom management (with rate or rhythm control) and Cardiovascular/comorbidity risk management (Kanesamoorthy et al., 2022; Lip, 2017; Pastori et al., n.d.; Proietti et al., 2018; Sheron et al., 2022).

To address the AF burden in SL we have conducted two studies; a community survey (Kanesamoorthy et al., 2022) with laboratorial assessment among 10,000 fifty years and above individuals of Northern Province, SL to assess the prevalence and the distribution of associated risk factors of AF, and a hospital-based study to investigate the existing AF management (Sheron et al., 2022). With the baseline information we implemented an mHealth platform to effectively manage the AF. The community-based survey was conducted from June 2021 to March 2023 among the five districts of Northern Province (Kanesamoorthy et al., 2022) through a mobile based data collection called REDCap (Mobile App User's Guide, n.d.). To detect the AF condition, we have used a mobile based single lead ECG Alivecor with Kardia (Giebel & Gissel, 2019) mobile-app and it was confirmed with standard ECG interpretation by a consultant cardiologist.

Following the community survey an anthropometric and lab based was conducted. The study received approval from the Ethics Review Committee of Faculty of Medicine, University of Jaffna. To investigate the current clinical pathways and referral practices, 12 pathway mapping sessions were conducted over a six-week period from June to August 2020 at primary and secondary care settings (Sheron et al., 2022). Further we have done qualitative and quantitative studies with AF patients to investigate the existing AF care managements to identify strengths, positives, challenges and barriers to implement the mHealth platform. Risk scores (CHADS-VASc and HAS-BLED) and decision based on auto calculable warfarin dose sequences were incorporated. We have implemented the mHealth platform in both primary and secondary care health settings to effectively and inter-co-ordinately manage the AF.


Identification of existing AF care through FGDs and Pathway mapping with HCP and AF patients
Comprehensive DST supportive risk predicable mHealth platform for AF care
Digital Epidemiology Center to Cohort the risk and related population of AF
Effective Management of AF in Northern Province, SL
Atrial Fibrillation
Community survey of the risk and related population of AF
EMR of the risk and related population of AF on a EMR platform "REDCap"
Stakeholder meeting to improve existing AF care in the region
Community based early detection of AF cases through a single lead ECG "Alivecor – Cardia"
NIHR National Institute for Health Research
UKaid
NIHR Global Health Research Group on Atrial Fibrillation Management
UNIVERSITY OF BIRMINGHAM
UNIVERSITY OF LIVERPOOL
Global networking and collaboration with AF experts and pioneers

IMPLEMENTING AN END-TO-END PATHWAY FOR DETECTION, DIAGNOSIS, AND MANAGEMENT OF ATRIAL FIBRILLATION IN RISK-STRATIFIED PATIENTS: RESULTS FROM THE ATRIAL FIBRILLATION STROKE PREVENTION HUB PROGRAMME

MS WENDY READ, MRS SUMA KURIAKOSE, MR STIJN EVENS, MRS ANN BALDWIN, MS KATY GORDON, MR DEVESH SINHA, MR AFZAL SOHAIB, MR JEREMY KIDD

Barking, Havering and Redbridge University Hospitals NHS Trust, UK

HIGHLY COMMENDED

ABOUT THE REPORT

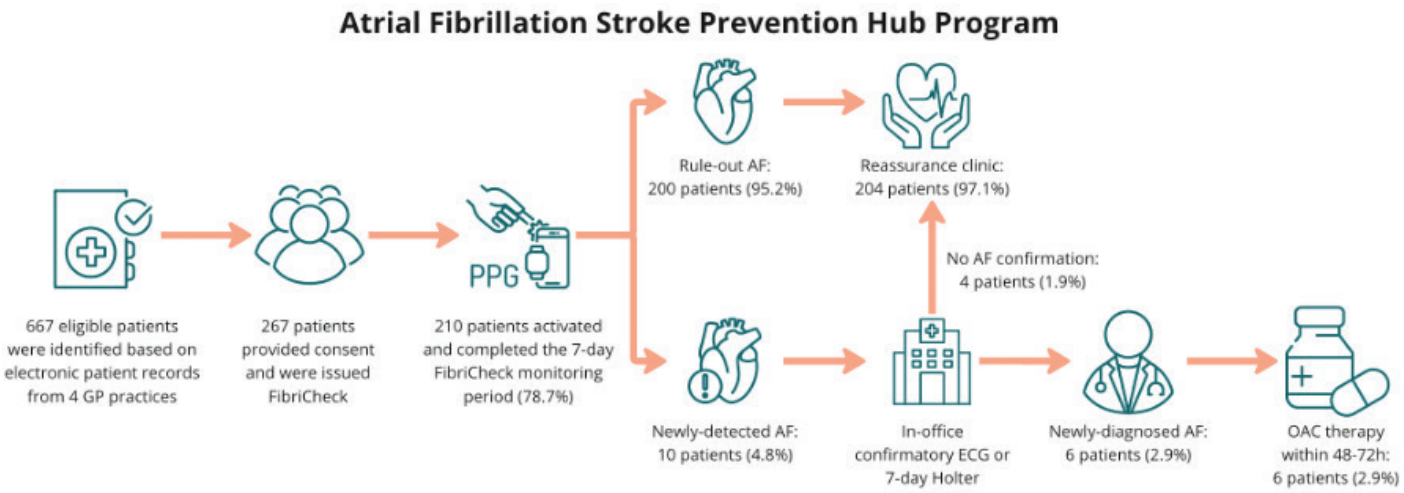
The AF Stroke Prevention Hub is a pilot programme set up to identify those who are in high-risk factor groups with the aim to prevent AF-related stroke and associated mortality through the early detection, diagnosis, treatment and management of patients with previously undiagnosed AF.

INTRODUCTION

Atrial fibrillation (AF) is a major risk factor for stroke and associated with high mortality rates. The AF Stroke Prevention Hub aims to prevent AF-related stroke and mortality by identifying high-risk patients and providing early detection, diagnosis, treatment, and management of previously undiagnosed AF. The Hub connects primary and secondary care to improve access to care and provide better outcomes for patients.

METHODS AND RESULTS

The programme established an end-to-end pathway to identify, detect, diagnose, and manage high-risk patients. The inclusion criteria were patients aged 65 years and above with a history of heart failure or stroke/transient ischaemic attack. Exclusion criteria consisted of prior diagnosis of AF, implanted cardiac devices, end-stage renal disease and end of life care. Digital photoplethysmography (PPG) technology was used to allow for remote heart rhythm, heart rate and symptom monitoring. Patients were instructed to perform two recordings per day for seven days with additional recordings if experiencing symptoms. Those who were digitally excluded were offered a face-to-face clinic appointment for assessment. Based on the PPG recordings, patients with a positive finding received confirmation via an electrocardiogram (ECG) recording and anticoagulation therapy when the diagnosis was established.

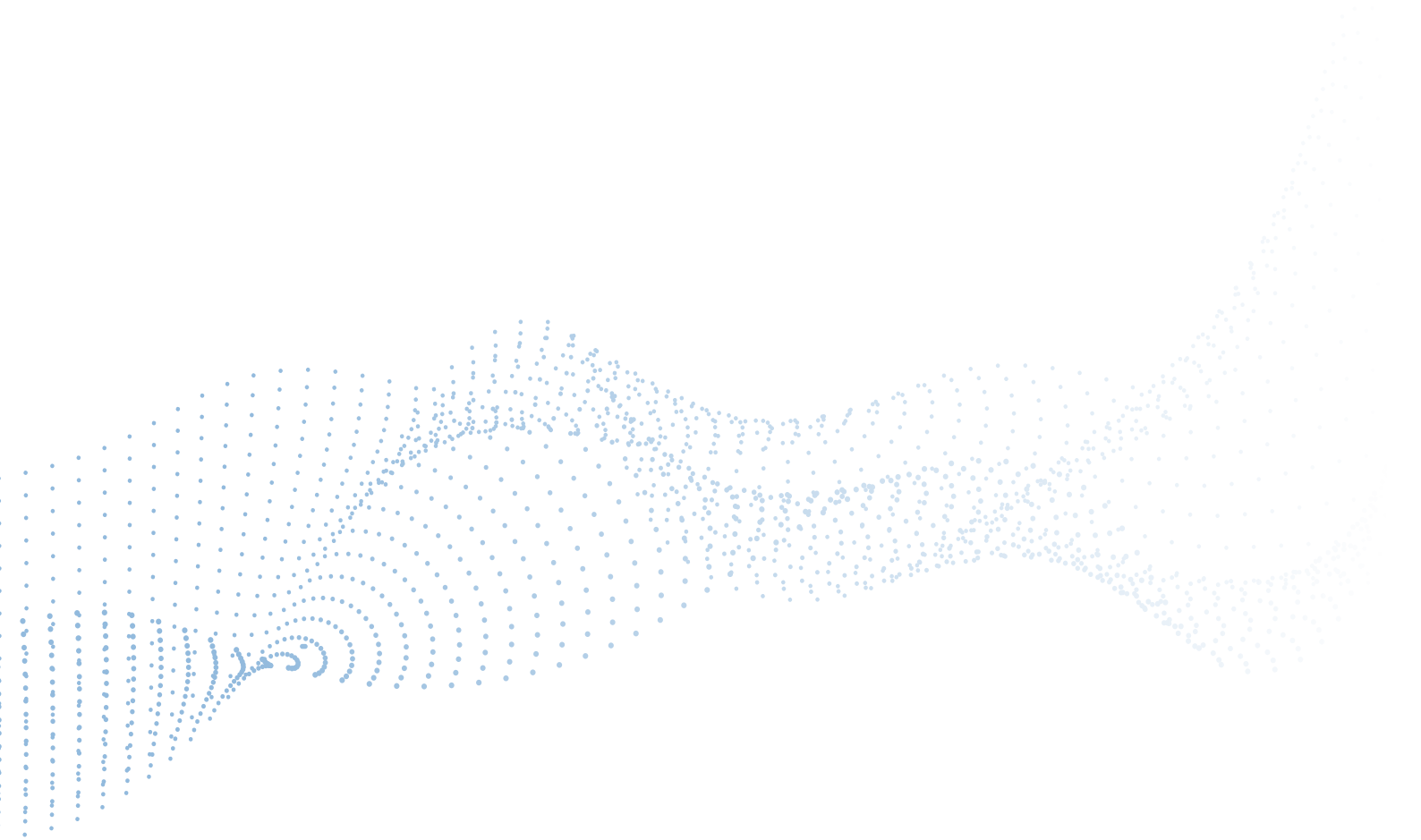


RESULTS

Between February 2022 and February 2023, 669 patients were eligible from four primary care practices. In total, 267 patients were issued PPG, and 210 patients completed the 7-day monitoring period, resulting in a 78.7% adoption rate. Ten patients (4.8%) were detected with possible AF based on the PPG recordings. Of those, six patients (2.9%) were diagnosed with AF based on a confirmatory 12-lead ECG or 7-day Holter. Among the highest risk group of elderly with diagnosed heart failure, four patients were detected with possible AF based on the PPG recordings. All patients were confirmed, resulting in a detection rate of 9.1% in this group, and were treated accordingly. 100% of all patients with newly diagnosed AF received anticoagulation therapy within 48-72 hours, while the remaining patients received advice regarding self-management, lifestyle, and annual assessment.

CONCLUSION

The AF Stroke Prevention Hub programme successfully identified patients, achieving a significantly higher detection rate compared to the current NHS opportunistic pulse checks (<1%). The use of digital PPG technology allowed for near real-time detection, early confirmation, and rapid treatment. The Hub delivered an end-to-end pathway for AF prevention and management, potentially avoiding strokes and improving outcomes for patients.



INTEGRATING WEARABLE ECG DATA FROM HIGH-RISK PATIENTS INTO CONTEMPORARY DEVICE CLINICS: EVALUATION OF WORKLOAD, ACCURACY AND IMPACT

NIKHIL AHLUWALIA, HAKAM ABBASS, EDD MACLEAN, CHARLES BUTCHER
Barts Health NHS Trust, London, UK

ABOUT THE REPORT

An evaluation of the clinical Apple Watch ECGs in patients at high risk of clinically significant AF events. Future-looking consideration of workflow integrating ECG-level data and interpretation into device clinic services.

INTRODUCTION

Wearable devices like the Apple Watch offer non-invasive, long-term heart rhythm monitoring and patient-led single-lead ECG recording. Although validated in the general population, the accuracy and clinical utility in patients at a high risk of atrial fibrillation (AF) events have not been evaluated. Understanding the clinical burden is crucial to determine the real-world impact of wearables for AF surveillance and the development of structured data-handling tools is important.

METHODS

Patients referred for first-time AF catheter ablation between January 2022 and March 2023 were invited to undergo a study of augmented post-ablation follow-up using a loaned Apple Watch (Series 5, Apple Inc.). Participants underwent an education session and were asked to perform daily ECGs; sending through any labelled as AF, inconclusive, or in the context of symptoms. The accuracy of the automated ECG labelling was determined against labelling by experienced Electrophysiologists. To evaluate eligibility bias, baseline characteristics of patients with versus without compatible smartphones were compared.

RESULTS

1093 remote transmissions were received during the study period from 52 patients; a median of 6 (2, 17) per patient or 2 (1, 4) ECGs per day. 475 were categorised by the AW as AF with moderate sensitivity of 0.71 and high specificity of 0.96. 342 (31%) were not categorised, with 'inconclusive' interpretation (161 [47%]) and 'high heart rate' (108 [32%]) most cited reasons. 178 (55%) uncategorised ECGs were overread as AF. Accompanying symptoms were reported with 324 (30%) of ECGs, most commonly palpitations. Enrolled patients were younger (58±9 vs 63±9 years, $p<0.05$), without significant differences in AF characteristics.

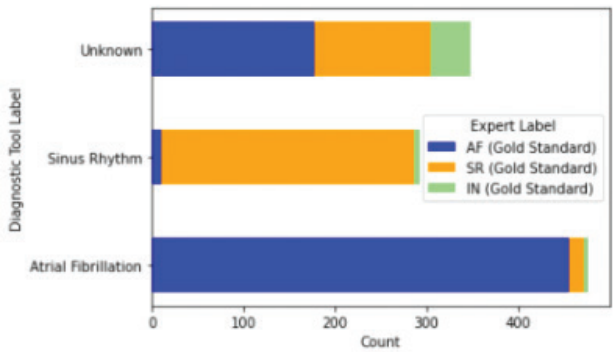
CONCLUSION

This is the first report evaluating Apple Watch ECG recordings as part of a remote patient rhythm surveillance workload after catheter ablation. The high positive predictive value of 'sinus rhythm' and 'AF' and specificity of 'AF' is high and may help triage high-risk patients when AF or SR is labelled by the watch. Specialist interpretation of Apple Watch ECGs is needed to increase the diagnostic yield of uncategorised ECGs. The selection bias of this study is noted and if clinical utility is demonstrated in future studies, equity of access must be considered. To support individual or institutional services receiving ECG PDFs from patients, the source code has been made available to automate mailbox exporting, data curation and facilitate structured databasing to support healthcare providers considering systematic integration of wearable ECGs into device monitoring workflows.

Accuracy and impact of Apple Watch ECGs in patients following catheter ablation for atrial fibrillation

NHS
Barts Health
NHS Trust

Evaluation of Apple Watch rhythm labels versus expert assessment



AW label	Sensitivity	Specificity
AF	0.71	0.96
SR	0.66	0.98

52 patients
6 ECGs/patient
2 ECGs/day

1093 ECGs
31% 'unknown'
55% of these AF

96% PPV of AF
95% PPV of SR

Changed management in 92% patients

The following centres (listed in geographical order) are acknowledged as an Atrial Fibrillation (AF) Centre of Excellence. As evidenced by the work that has been published in this report, each centre takes an innovative approach to either detecting, protecting, or correcting AF. Their work can be used to inspire other healthcare professionals to correct practice by improving care and quality of life for people with atrial fibrillation.

CHINA

Screening for Atrial Fibrillation by Village Doctors in Rural Areas of China: a Rural Community Project

Prof. Minglong Chen, Dr. Mingfang Li, Dr. Ming Chu, Dr. Shimeng Zhang, Dr. Youmei Shen, Dr. Xingxing Sun, Dr. Jinlong Gong, Dr. Gang Yang, Dr. Jiaojiao Shi, Dr. Xiangwei Ding, Dr. Zhoushan Gu, Dr. Chengzong Li, Dr. Chaoqun Zhang, Dr. Yaodongqin Xia, Dr. Zhirong Wang, Prof Gregory Y.H. Lip

The First Affiliated Hospital of Nanjing Medical University, China

UNITED KINGDOM

BUCKINGHAMSHIRE

Implementation of a Nurse-led Amiodarone Initiation Clinic

Dr Norman Qureshi, Mr F. Gil Sousa, Mrs Tara Meredith

Buckinghamshire Healthcare NHS Trust, UK

www.buckshealthcare.nhs.uk

EAST SUSSEX

A multidisciplinary pathway for immediate, pre-discharge, implantation of implantable loop recorders and management of atrial fibrillation in cryptogenic stroke patients.

Jacqueline Hunt, Dr. Rajdip Dulai, Hannah Waller, Dr Barbora O'Neill, Dr. Chemindra Biyanwila, Dr Rick Veasey, Prof Nikhil Patel

East Sussex Healthcare NHS Trust, UK

www.esht.nhs.uk

ESSEX

Stat Seal Groin Closure After AF Ablation To Allow Rapid Same Day Discharge

Mr Rhoel Peralta, Dr Ajay Sharma, Dr Neil Srinivasan, Dr David Farwell

Mr Nick Mills, Viki Carpenter, Essex Cardiothoracic Centre, UK

www.mse.nhs.uk/essex-cardiothoracic-centre-ctc

ESSEX

Implementing an end-to-end pathway for detection, diagnosis, and management of atrial fibrillation in risk-stratified patients: results from the atrial fibrillation stroke prevention hub programme

Ms Wendy Read, Mrs Suma Kuriakose, Mr Stijn Evens, Mrs Ann Baldwin, Ms Katy Gordon, Mr Devesh Sinha, Mr Afzal Sohaib, Mr Jeremy Kidd

Barking, Havering and Redbridge University Hospitals NHS Trust, UK

www.bhrhospitals.nhs.uk

LEICESTER

Conduction system pacing and AV node ablation for patients with symptomatic persistent and longstanding persistent AF

Mokhtar Ibrahim, Harshil Dhutia, Andre' Ng, Riyaz Somani, Zakariyya Vali, Sharon Man

University Hospitals of Leicester, UK

www.leicestershospitals.nhs.uk

LONDON

Integration of a Specialist pharmacist-led multidisciplinary team in primary care: Preventing strokes in people with atrial fibrillation across North East Londonh

Mr Mital Patel, Dr Shabana Ali, Dr John Robson, Mr Richard Clements, Dr Angela Theodoulou, Ms Rachel Sadan, Ms Celine Allen, Ms Jagjot Kaur Chahal, Mr Paul Wright, Dr Matt Kearney, Prof Riyaz Patel, Dr Afzal Sohaib and Mr Sotiris Antoniou

Barts Health NHS Trust, London, UK

www.bartshealth.nhs.uk

LONDON

Integrating Wearable ECG Data from High-Risk Patients into contemporary device clinics: Evaluation of Workload, Accuracy and Impact

Nikhil Ahluwalia, Hakam Abbass, Edd Maclean, Charles Butcher

Barts Health NHS Trust, London, UK

www.bartsaf.com

LONDON

Improving Education and Management of Cardiovascular Disease (CVD) Through a Primary Care Fellowship Programme – a South London Experience

Roy Jogiya, Sophie Mizen, Margaret Connolly, Rod Watson, Kristina Leonnet, Ambra Caruso, Oliver Brady, Natasha Curran, Rishi Das-Gupta

Heath Innovation Network, London, UK

www.healthinnovationnetwork.com

SCOTLAND

Rapid Access Nurse Led AF Clinic

Mrs Debbie du Preez, Dr Mehran Asgari, Dr Jamie Smith

NHS Highland, Scotland, UK

www.nhshighland.scot.nhs.uk

SCOTLAND

A National Programme to Optimise Anticoagulation in Patients with Atrial Fibrillation

Mr Antony Grayson, Mrs Carol Hughes

Inspira Health, Scotland, UK

www.inspirahealth.co.uk

SRI LANKA

Stepping-stone to strengthening and streamlining the management of Atrial Fibrillation in Northern Province of Sri Lanka

V Antony Sheron, Rajendra Surenthirakumaran, Gregory Lip, Powsiga Uruthirakumar, Tiffany E. Gooden, G. Neil Thomas, Krishnarajah Nirantharakumar, Balachandran Kumarendran, Kumaran Subaschandran, Shribavan Kaneshamoorthy, Mahesan Guruparan

Faculty of Medicine, University of Jaffna, Sri Lanka

https://project.jfn.ac.lk/global-af-reach/

AF Association
www.afa-international.org

PROVIDING INFORMATION, SUPPORT AND ACCESS TO ESTABLISHED, NEW OR INNOVATIVE TREATMENTS FOR ATRIAL FIBRILLATION

To view case studies, centres of excellence, AF healthcare pioneer reports or to submit a case study visit:
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Founder & CEO
Trudie Lobban MBE FRCP (Edin)

UK Registered Charity No:
1122442

US Registered non-profit organization:
501(c)(3)

E: info@afa-international.org

T: +44 (0) 1789 867 503 (UK)
+1 (843) 415 1886 (US)

W: www.afa-international.org

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Published June 2023