



IMPROVING TREATMENT AND MANAGEMENT OF ATRIAL FIBRILLATION

February 2019

EXECUTIVE SUMMARY

- Birmingham researchers have introduced new screening guidelines to increase early detection and have developed a tool for clinicians to conduct an effective assessment of a patient's stroke risk.
- The team have developed novel, integrated approaches to care for patient with atrial fibrillation, including two apps to help patients and clinicians manage the condition more effectively.
- Ongoing work is aimed to further improve the lives of patients with atrial fibrillation through precision medicine approaches to prevention and therapy.

Introduction

Working closely with local NHS Trusts, researchers at the Institute of Cardiovascular Sciences (ICVS) at the University of Birmingham are transforming how we understand atrial fibrillation and care for patients with the condition.

Atrial fibrillation is an irregular heart rhythm (arrhythmia) caused by an electrical dysfunction in the heart. It is the most common heart rhythm disturbance in the UK and EU. Atrial fibrillation is found in 3% of the UK population and one quarter of people over 40 will have the condition. Research from ICVS has shown that prevalence of atrial fibrillation will double in the new few decades.

There is still a high rate of mortality for patients with atrial fibrillation, even on the optimal guideline-recommended therapy. This highlights the clear need for novel therapeutic strategies and precision medicine approaches.

Early detection, stroke risk assessment and management

One major challenge is that atrial fibrillation can often go undetected until someone experiences a stroke. A study carried out in Birmingham defines best practice for atrial fibrillation screening in primary care and screening in the elderly population, which has helped to improve early diagnosis rates. Ongoing work is refining screening recommendations for at-risk populations, e.g. in stroke survivors.

In 2010 researchers from Birmingham and Maastricht University developed the novel CHA₂DS₂VASc score, which enables clinicians to conduct an effective assessment of a patient's stroke risk and begin anticoagulation therapy (treatment with blood thinners) where needed. Since then, the CHA₂DS₂VASc score has been included in NICE clinical guidelines and almost every major atrial fibrillation guideline worldwide.

The team at the ICVS have also shown how heart failure and atrial fibrillation interact, influencing the consequences for treatment of these conditions, and have defined a clinical role for short-term antiarrhythmic drug therapy. This research has informed current international guidelines for the management of patients with atrial fibrillation.

Ongoing work aims to develop precision medicine approaches to further improve the lives of patients with atrial fibrillation.

Putting patients at the heart of care

Two apps have been developed by ICVS in partnership with the European Society of Cardiology (ESC) and CATCH ME Consortium, which is funded by the EU Horizon 2020 programme. These apps

facilitate integrated and personalised care and research for patients with atrial fibrillation.

- The 'AF Manager' healthcare professional app has been designed to improve quality of care by prompting the European Society of Cardiology guidelines adherent treatment ([Apple](#) / [Google Play](#))
- The 'MyAF' patient app has been developed to enable the capture and transmission of the patient's digital medical history before each hospital visit ([Apple](#) / [Google Play](#))



These tools, which have also been integrated into the ESC pocket guidelines app, have been downloaded onto over 180,000 mobile devices worldwide.

Key academics

Professor Paulus Kirchhof, Dr Larissa Fabritz, Dr Dipak Kotecha, Dr Winnie Chua

Find out more

<https://www.birmingham.ac.uk/research/heroes/atrial-fibrillation.aspx>

Contact

Jeremy Swan
Public Affairs Manager (Policy Impact)
University of Birmingham
j.m.a.swan@bham.ac.uk

 @BhamPolicy