

**A**trial Fibrillation (AF), also called AFib, is the most common type of irregular heartbeat, affecting more than 33 million people worldwide. It can have no symptoms and therefore frequently goes undiagnosed. AF can increase the risk of heart failure, stroke and even death.

#### ABOUT AF

AF is the most common form of abnormal heart rhythm (cardiac arrhythmia). It reduces the heart's ability to pump blood efficiently. As a result, blood can pool in the heart's atria which collect the blood flowing back to the heart, leading to clots forming inside the heart. When blood clots in the left atrium break free, they travel in the circulation and block arteries. This commonly affects the brain arteries, which can cause a severe stroke.

AF is therefore associated with increased risk of **stroke** and is found in one third of all ischemic strokes (those due to blocking the brain blood flow). Consequences of AF also include increased mortality, increased risk of hospitalization, reduction in quality

of life, reduction of exercise capacity and increased risk of heart failure, and even dementia.

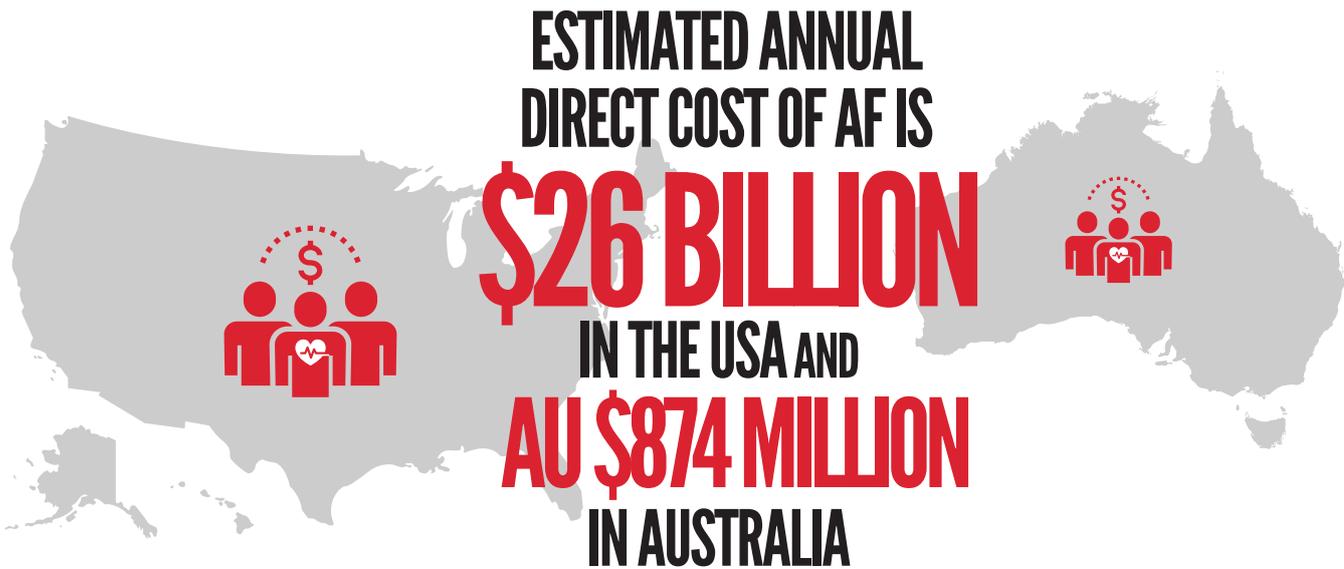
Underlying risk factors for getting AF include obesity, diabetes, and hypertension, though age is a major factor.

Because AF does not always cause symptoms, it often remains undiagnosed. Not only are many people unaware of AF, surveys also suggest that more than 50 per cent of AF patients do not know the name of their condition and are marginally aware of the risk of stroke, heart failure and death from AF.

#### THE MAGNITUDE OF THE PROBLEM

**Globally, the prevalence of AF is about 1–3% in the general population but rises with age (up to 9% for age ≥65 years; up to 17% for age ≥80 years),** presence of comorbidities and male sex, and varies depending on ethnicity and region. Because of the aging population and increasing AF risk factors, the number of people affected is expected to rise steeply in the coming decade.

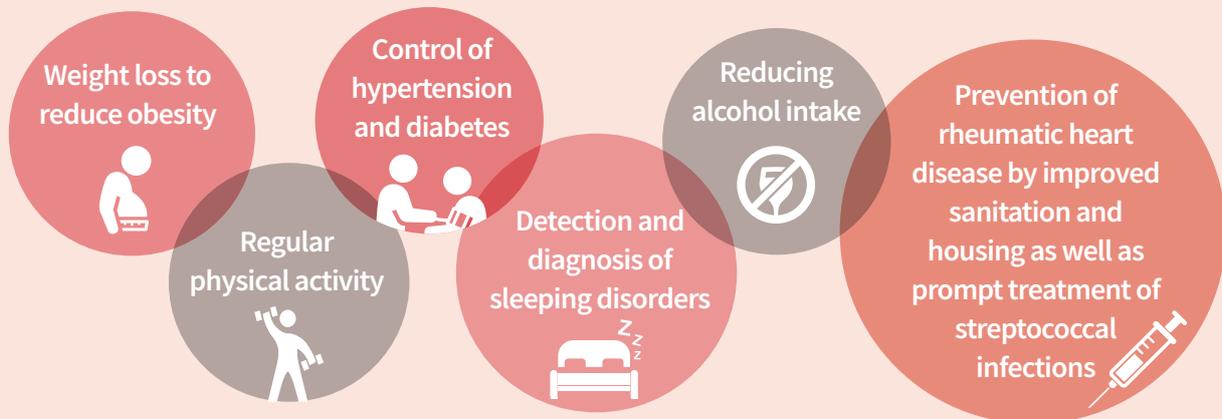
AF management imposes daunting financial burdens on health systems. These costs may be mitigated by early diagnosis using systematic or opportunistic screening and effective anticoagulation for patients with actionable (unrecognized or undertreated) AF.



The financial impact of AF management is most likely worse in LMICs with fragile health systems, but data are scarce.



## EFFECTIVE PREVENTION OF AF INCLUDES:



## EFFECTIVE MANAGEMENT OF AF INCLUDES:

- Alleviating symptoms using rate and rhythm control therapies (*drug treatment, pharmacological or electrical cardioversion, catheter ablation*)
- Delivering lifestyle advice and education
- Initiating oral anticoagulation to reduce stroke risk at the same time managing causes of bleeding risk, and using NOACs whenever possible
- Strengthening patient education and awareness to improve adherence to and long-term persistence with treatment.



# PATIENT STORIES



# ATRIAL FIBRILLATION

“

As I lay my head on my husband's chest watching TV one evening I said to him 'your heart is racing all over the place' Three weeks later he suffered a fatal AF-related stroke.

If only I had known then what I know now – he would probably still be with me. Knowing whether you have an irregular heart rhythm and seeking medical advice is vital. Improving awareness, improving education and ensuring that not only doctors look for AF but also that we know our pulse to help detect AF can save others experiencing what my family experienced - devastating or in many cases fatal, AF-related stroke.

”

“

I will be eternally grateful that a simple pulse check at an awareness event detected an irregular heart rhythm – something I was totally unaware of with no symptoms – and yet I was living with a ticking time bomb. In no time at all my doctor ensured I had medication to reduce the risk of a clot forming which could lead to an AF-related stroke, and referred me to a heart rhythm specialist (electrophysiologist) where I received an ablation and the irregular rhythm was restored to normal – long may it last!

”

*Testimonies by courtesy of Arrhythmia Alliance*

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“

When I am in AF I am overcome by anxiety, dizziness, shortness of breath. AF comes suddenly, unexpectedly. It has a strong impact on my quality of life. I am much less active than I used to be.

**PATIENT – ANONYMOUS**

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# POTENTIAL SOLUTIONS

## GEOGRAPHIC ACCESSIBILITY:

1. Improve accessibility of screening for rural populations.
2. Strengthen capacity for ECG testing and expert diagnosis in remote areas.
3. Promote the use of digital technology to improve screening and diagnosis of AF.



## AVAILABILITY:

1. Raise awareness of AF among health care professionals.
2. Reduce dependence on highly trained medical staff for AF screening and management.
3. Implement coherent rhythm control strategies.
4. Strengthen integration with other cardiology and medical services, and implement hub and spoke arrangements for delivery of care.

## AFFORDABILITY:

1. Improve affordability of OACs, especially NOACs, and other essential medicines so that every patient can access them.
2. Ensure that national essential medicines lists include NOACs.
3. Design novel treatment environments such as office-based labs.



## ACCEPTABILITY:

1. Improve awareness of and capacity for managing OAC therapy among physicians.
2. Improve patient understanding of importance of OAC therapy.

## QUALITY:

1. Implement robust mechanisms for the accreditation/certification of new devices, services and treatments.
2. Adopt a globally acceptable definition of quality indicators and markers.



# OBSTACLES TO EFFECTIVELY DETECTING, MANAGING AND CONTROLLING AF

## GEOGRAPHIC ACCESSIBILITY:

1. Long distances to clinics.



## AFFORDABILITY:

1. Unaffordability of OACs resulting in nonadherence to treatment.
2. Cost of non-pharmacological rhythm control strategies such as catheter ablation, LAAO.



## QUALITY:

1. Unavailability of standards or norms to ascertain the quality of certain new devices, services and treatments.



## AVAILABILITY:

1. Shortage of health care professionals with training in AF, especially in rural and remote areas, in many LMICs, and in underserved areas in HICs.
2. Absence of rhythm control strategies.



## ACCEPTABILITY:

1. Reluctance of physicians and patients to initiate Vitamin K antagonist anticoagulation therapy.



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## RECOMMENDED POLICY PRIORITIES

**1**. Improve the dissemination of knowledge on the importance of AF as one of the leading issues of cardiovascular disease complications.

**5**. Improve health literacy among the population and promote tailored, context-specific strategies to increase medication adherence and persistence.

**2**. Reinforce AF prevention strategies by increasing awareness of the role of risk factors and lifestyle in AF development.

**6**. Support an integrated-care approach to AF management.

**3**. Foster guideline implementation, for example by funding educational courses and 24/7 hub backup helplines.

**7**. Foster the use of mHealth technologies to educate patients, provide patient support in areas with less health care facilities, increase adherence to lifestyle and pharmacological therapeutic approaches, and to facilitate AF screening.

**4**. Improve access to cost-effective health care resources (accurate diagnosis, pharmacological treatment, preferentially modern oral anticoagulants using NOACs).

**8**. Organise local roundtables to improve understanding of local barriers and develop practical solutions to identified local barriers.

# FOCUS AREA 1: NOVEL TECHNOLOGIES



In 2020, there were an estimated 6.95 billion mobile phone and 3.5 billion smartphone users worldwide, with forecasts suggesting a likely rise to 7.1 billion, respectively 3.8 billion, in 2021. These major and rapid advances in internet and mobile technology, including in LMICs, bear an enormous potential to expand the reach of healthcare and reduce the burden of CVD.

Digital technology in smartphones or “wearables” might allow long-term, non-invasive screening to improve AF diagnosis in broad populations across the globe. From wearable devices, smartphone-ready apparatus and implantable monitors, the digital horizon is expanding rapidly to allow for detecting and monitoring AF. Some hand-held or chest-applied electrocardiogram (ECG) devices attached to smartphones work as event recorders, creating a “rhythm strip” that is able to relay information to diagnose AF. These devices can be used to screen for AF by either health professionals, or personnel with minimal training in LMICs or by individuals themselves. In addition, smartphone applications can be used to facilitate adherence to treatment. Further, investigational work is underway to use artificial intelligence (AI) for mapping clinical information to create a tool that can identify those at risk.

Connectivity will be a critical opportunity for ensuring access to care via digital means in the next decade.

At a policy level, this will in particular necessitate adequate regulations to ensure cyber-security and data privacy; interoperability between systems, appropriate legal and financial frameworks as well as sufficient healthcare worker and patient engagement and access to digital tools.

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**3.8**   
**BILLION**  
**SMARTPHONE USERS**  
**WORLDWIDE IN 2021**

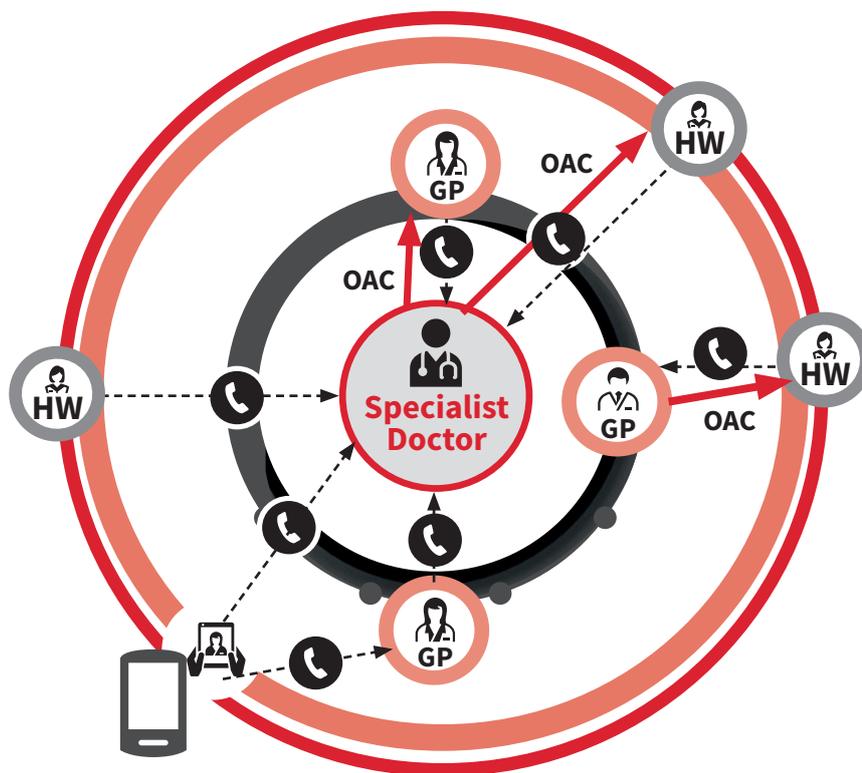


# FOCUS AREA 2: STRATEGIES FOR OAC UPTAKE



Appropriate initiation of anticoagulant therapy is the key intervention for AF-related stroke reduction in patients with stroke risk factors. Even though benefits of both oral anticoagulation with VKA and Non-vitamin K antagonist oral anticoagulants (NOACs) are well-established, uptake is still low, particularly in LMICs. Strategies to increase OAC uptake and promote adherence and persistence are essential. For example, delivery of anticoagulation services can be expanded to a large geographical area through a Hub and Spoke model, particularly relevant in rural and semi-urban zones. In this

model, a specialist physician trained in anticoagulation therapy serves as the expert at the hub, while general practitioners (GP), and community health workers, including trained nurses, aid in initiation of OAC therapy, case detection and follow-up. Standard anticoagulation services including point of care INR testing can be carried out in the periphery close to the patient. Setting-specific apps can facilitate OAC therapy and maintenance, Vit K antagonist dose, and other management. Workflow can be integrated through telemedicine, which acts as the bridge between the spoke and the hub.



Policy priorities include making OACs, and in particular NOACs, available and affordable to everyone. Additional complementary strategies, such as promoting medication adherence, boosting health literacy, filling patient knowledge gaps, enhancing the quality of educational resources and access to them and promoting the role of nurse-based support, are additional pillars to promote OAC uptake.

# TAKING ACTION AGAINST ATRIAL FIBRILLATION

Improving the availability and affordability of NOACS to prevent AF-related stroke  
Because Non-vitamin K antagonist oral anticoagulants (NOACs) have distinct advantages over VKA as they do not require monitoring and have fewer drug and diet interactions, reduce stroke, intracranial haemorrhage, and mortality, recent guidelines recommend preferred use of NOACs over VKA.



Based on these considerations, a team of WHF Emerging Leaders launched an initiative aimed at adding NOACs to the World Health Organization's Model List of Essential Medicines as part of the 2018 GOALPoST project (improving Global access to Oral Anticoagulants to Prevent Stroke in aTtrial fibrillation) – a project which aims to improve global access to oral anticoagulants to prevent stroke in atrial fibrillation. The GOALPoST team, which involved experts in cardiology, neurology and public health from ten countries, worked to establish robust evidence on the efficacy

and safety of NOACs in preventing stroke worldwide. In 2019, the EML panel reviewed efficacy, safety and cost-effectiveness of NOACs based on the submission by members of the WHF Emerging Leaders Programme, concluding that current evidence supported global use. Consequently, NOACs were added to the WHO EML, an important first step in global prevention of AF-related stroke, especially in LMIC, where OAC therapy uptake is low.

At a policy-making level, there is now a need to ensure that NOACS are now included onto national Essential Medicines Lists, and that their affordability is increased. Work is also needed to increase the acceptability of NOACs, for example by including it in national guidelines for the management of AF and in training packages for healthcare providers. Also discussion with the companies that manufacture these drugs to work with LMICs on price.

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“ Recently, the IMPACT-AF study, including education of patients, their families, and health care providers, led to a significant increase in OAC treatment and significantly fewer strokes. This suggests that education needs to be extended to health care professionals and patient families to achieve increased prescription and appropriate advice for patients.

**GERHARD HINDRICKS**

Co-chair WHF Roadmap on AF

“ WHF Roadmaps are scientific documents for translating science into policy. They provided a global framework which can be adapted locally to achieve progress in the fight against CVD.

**FERNANDO LANAS**

WHF Roadmaps Liaison Officer

“ mHealth technologies bear an enormous potential to improve the detection, management and control of AF as they can be used to educate patients, provide patient support in areas with less health care facilities, increase adherence to lifestyle and pharmacological therapeutic approaches, and to facilitate AF screening.

**BEN FREEDMAN**

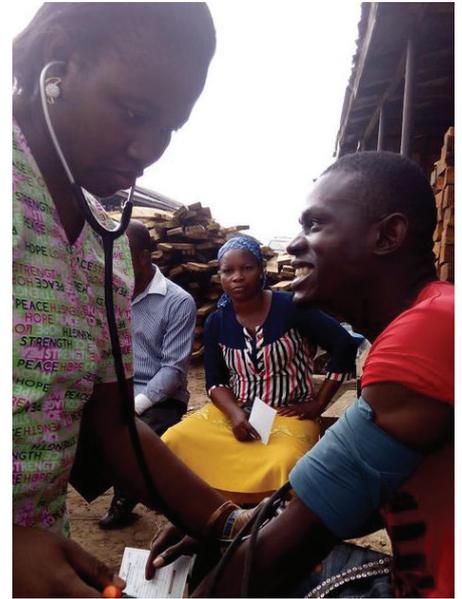
Co-chair WHF Roadmap on AF

# WORLD HEART FEDERATION ROADMAPS

Already the **world's number one killer**, deaths from cardiovascular disease (CVD) are increasing globally.

CVD and related conditions can often be prevented, but if not, can be detected early

and treated cost-effectively, preventing costly hospitalizations and death. But this requires coordinated national policy and health systems responses built around evidence-based strategies. Health resources are limited and so cost-effective interventions for the prevention, detection and management of CVD must be prioritized in order to plan effective health systems responses.



## WHAT ARE ROADMAPS?

WHF Roadmaps are a global framework that are adapted and used at national or regional level.

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### THEIR PURPOSE IS TO:

1. Summarize current recommendations to reduce the burden of CVD that are proven, practical and cost effective
2. Highlight obstacles to implementing these recommendations
3. Propose potential solutions for overcoming these obstacles
4. Provide tools and strategies to adapt solutions to local needs.



### HOW DO THEY WORK?

WHF Roadmaps offer a global framework, tools and solutions that can then be used and adapted, through stakeholder collaboration, to meet the specific needs of individual regions and nations.

#### This requires:

- A situation analysis of the current health system based on tools such as WHF CVD Scorecards
- Roundtables with multiple stakeholders to discuss obstacles, solutions and appropriate strategies

- A plan to implement and evaluate the proposed strategies

### WHO ARE THEY FOR?

WHF Roadmaps empower our Members, including CVD foundations, societies and patient associations, to lead country-specific, action-oriented initiatives, including Roundtables.

#### These involve diverse stakeholders, such as:

- Governments and policy makers
- NGOs, health activists and advocates

- Healthcare professionals
- Corporate entities
- Academic and research institutions
- Patients and patient groups

### WHY ARE THEY IMPORTANT?

To trigger effective action that can measurably reduce premature deaths and the associated global economic burden caused by CVD.

**TO DOWNLOAD THE FULL ROADMAP PLEASE VISIT – [CVDROADMAPS.ORG](http://CVDROADMAPS.ORG)**

# ATRIAL FIBRILLATION

## ROADMAP FOR ATRIAL FIBRILLATION



WORLD HEART FEDERATION  
32, rue de Malatrex, 1201 Geneva, Switzerland  
(+41 22) 807 03 20  
[info@worldheart.org](mailto:info@worldheart.org)  
[www.worldheart.org](http://www.worldheart.org)



World Heart Federation

@worldheartfed

World Heart Federation

@worldheartfederation