Atrial Fibrillation (AF) toolkit
Detect, Protect and Perfect

Working together across London to prevent AF related strokes

This toolkit provides methodologies, resources and support for commissioners and clinicians working to reduce AF related strokes

Get Started
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FOREWORD

Every year in London about 2,000 (SSNAP 2015-2016) people get admitted to hospital with a stroke due to atrial fibrillation (AF). More than half of these people, despite being known to have AF before their stroke, are not receiving anticoagulation of any sort. Although we don’t have the data it is likely that many of the people who are listed as having been prescribed warfarin are not in therapeutic range. A conservative estimate is that 625 people a year in London could have their stroke prevented with correct management.

Stroke caused by AF tends to be severe and is associated with significant mortality and morbidity. The average costs of both health and social care for stroke have recently been calculated to be an average of £44,434 over the first 5 years (data not yet public). The top priority for commissioners is to fund services that are most likely to improve the health and wellbeing of their population. However, this has to be done within the available budget. Detecting AF through opportunistic pulse checks would cost virtually nothing. Anticoagulating these patients requires effective delivery systems and enhanced communication between all those responsible for patient care. Many patients can be managed perfectly well with warfarin, which is a cheap and effective anticoagulant when managed correctly. Increasingly, the advantages of the newer oral anticoagulants are being recognised by both clinicians and patients. Although these drugs are relatively expensive, the cost is considerably less than the costs for one person who experiences a stroke.

Failure to prescribe an important treatment needs to be seen as an error that is equally as serious as prescribing the wrong treatment. This toolkit provides useful information and support for those commissioning services for and treating people with AF in London. We hope that it will enable commissioners and clinicians in London to lead the way in showing that correct management of AF is not difficult to deliver, that in doing so we prevent a huge amount of suffering for individuals and their families and avoid an unnecessary burden on our health service.

Tony Rudd CBE
National Clinical Director for Stroke, NHS England

Matt Kearney
National Clinical Director for cardiovascular prevention, NHS England
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There are 15 Academic Health Science Networks (AHSNs) established by NHS England with the aim to spread innovation at pace and scale, improving health and generating economic growth.

In addition across England there are 12 Clinical Networks which provide the clinical expertise and leadership to drive commissioning decision making, reduce variation and direct service improvement. The London Clinical Networks are focussed on specific areas of clinical care, including the London Stroke Clinical Network.

The London AHSNs The Health Innovation Network, Imperial College Health Partners and University College London Partners, have collaborated with the London Stroke Clinical Network to deliver a pan-London approach, working with clinical commissioning groups (CCGs) and providers to reduce AF related strokes.
Within clinical and commissioning settings preventing AF related strokes is a priority. There is evidence of outstanding work delivered by the NHS, charities, and industry to improve AF care and outcomes for patients within London and nationally.

To ensure all commissioners and providers are aware of existing initiatives and accompanying resources this toolkit brings together a series of practical tools and case studies to inform those working on an AF project.

To navigate the available resources they are organised around the different parts of the AF pathway. There are three domains, Detect, Protect and Perfect. Within each domain there are three ‘opportunities for improvement’ in order to help determine where to focus improvement efforts.

Whichever domain or opportunities for improvement you concentrate on, our AF Improvement Cycle is designed to inform you of the core elements that make up the foundations of an AF improvement project.

It is anticipated that this repository will continue to grow as further examples of great practice or new resources are published.

This toolkit is aimed at health care professionals and commissioners. People with Atrial Fibrillation should consult with their healthcare professional as they would normally do, when discussing the management of their AF. We would like to emphasise that clinical decision making remains the sole responsibility of individual clinicians, and that any information provided is for information and educational purposes only and is not intended to constitute professional advice, diagnosis or treatment, or as a substitute for professional judgement. We cannot endorse resources developed by other organisations and therefore individuals and organisations take full responsibility for any use that they undertake of these resources.
Within the three AF domains Detect, Protect and Perfect we have highlighted nine opportunities for improvement. The AF Improvement Cycle on the following page provides a framework in which each opportunity for improvement should be considered.
The AF Improvement Cycle

Understand local data

**DETECT**
- Plan how to secure resources
- Appoint a team including clinical lead and project manager
- Secure senior/executive support
- Agree project governance, baseline metrics and reporting structure

**PROTECT**
- Analyse local population data and benchmark against peers
- Learn from success elsewhere
- Review performance of existing services against agreed local or national standards
- Engage stakeholders and assess readiness for change

**PERFECT**
- Build capacity through engagement and training
- Agree an achievable target and how to track progress against baseline performance
- Create enablers for change e.g. incentives, practical resources, guidelines
- Agree the 'opportunity for improvement', target setting and patient cohort

**Prepare**
- Project manage the improvement and any risks
- Measure progress against improvement metrics as frequently as possible
- Collect and set up feedback from providers and users
- Capture and share learning

This cycle has been developed through understanding the critical success factors within AF improvement work undertaken in London. It can be applied to any of the three AF domains.
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Understand your local population

The pan-London AF Programme have produced a series of infographics for each CCG using Quality and Outcomes Framework data (QOF), Sentinel Stroke National Audit Programme (SSNAP) and the National Cardiovascular Intelligence Network (NCVIN) data.

For each CCG the infographics outline:
• The proportion of patients on a GP register with AF compared to the expected prevalence
• The percentage of people with known AF at risk of stroke who are treated with anticoagulants
• The number of GP surgeries who treated at least 80% of their AF patients at risk of stroke with anticoagulants
• The number of strokes in people with known AF
• The percentage of those people who had a stroke with known AF, who were not receiving anticoagulation therapy

Click here to download your local CCG infographic
Data - Understand your local population

Understanding your local data is vital to identify areas for improvement and is the first step in any AF project.

<table>
<thead>
<tr>
<th>Detect data</th>
<th>Protect data</th>
<th>Perfect data</th>
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<tbody>
<tr>
<td>Understand the actual local prevalence of AF compared to the expected prevalence</td>
<td>Identify people with AF not receiving optimal anticoagulation</td>
<td>Gather local knowledge on anticoagulant services. Ensure you capture data on the following areas:</td>
</tr>
<tr>
<td>QOF data shows actual AF prevalence. For CCG level data select QOF 2015-16 prevalence, achievement as exceptions at CCG Level v2</td>
<td>QOF data will show the proportion of patients with AF and at risk of stroke who are anticoagulated</td>
<td>• Criteria for referral (inclusion and exclusion)</td>
</tr>
<tr>
<td>The National Cardiovascular Intelligence Network (NCVIN) has produced models of expected prevalence of AF by CCG</td>
<td>Primary Care Intelligence Packs provide data on CVD prevention, detection and management</td>
<td>• Pathways (clinical and administrative)</td>
</tr>
<tr>
<td>Public Health England Health profiles give a snapshot of AF data for each local authority in England.</td>
<td>Sentinel Stroke National Audit Programme (SSNAP) will highlight the number of patients with known AF prior to their stroke who were not anticoagulated</td>
<td>• Waiting times from referral to anticoagulant treatment</td>
</tr>
<tr>
<td>Public health AF prevalence modelling</td>
<td>NHS RightCare CVD focus packs help CCGs identify ‘what to change’ by using data to identify improvement opportunities</td>
<td>• Time in Therapeutic Range (TTR)</td>
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<td></td>
<td></td>
<td>• Numbers of patients self-monitoring and self managing</td>
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The NHS Specialist Pharmacy service outlines how to access and use the various data sources on medicines optimisation in AF, to assess the quality of care.

Cardiovascular disease prevention optimal value pathway This evidence based pathway has been produced by NHS RightCare
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AF Business Case

Public Health England (PHE) and the Academic Health Science Networks have collaborated to develop the AF Care Pathway Business Case Model. This important tool uses local, publicly-reported data on AF to help each organisation identify opportunities for improving the identification and management of AF. The tool will also quantify the costs and savings associated with addressing these opportunities.

The business case assesses the potential gaps in:

- **Detecting** individuals with AF so that all those who need it have access to preventative care
- **Protecting** people with AF who are most at risk (those with a CHA\_2 DS\_2-VASc ≥ 2) by ensuring that all eligible patients have access to treatment with an anticoagulant
- **Perfecting** treatment approaches, to ensure optimal treatment for everyone with AF who is receiving an anticoagulant

This is an important resource for our members across London. Identifying the right investment at the right place in the AF patient pathway will directly translate into more lives saved. The AF Care Pathway Business Case Model can be used to guide clinical and health investment decision-making at every level.”

Helen Williams, Consultant Pharmacist from Health Innovation Network.
Across London there are an estimated 67,000 people with undetected AF. (QOF 2015, NCVIN 2015)

People with undetected AF are at risk of experiencing an AF related stroke, which may lead to death or significant disability. Early detection of AF to allow initiation of protective anticoagulant therapy is vital. Opportunistic screening of those aged over 65 has been proven to be the most cost effective strategy in detecting undiagnosed AF (Hobbs 2005; Moran 2013). UCLPartners published a position statement in 2015 which supports this strategy.

The irregularity of heart rhythm caused by AF can be:
- detected by manual pulse checks or using a device
- incorporated into routine clinical practice or case finding programmes.

AF awareness campaigns provide an opportunity to improve public awareness of AF and its associated risks, educate and encourage people to routinely check their own pulse rhythm and to detect new cases of AF.

Reference
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**DETECT**

### Public awareness campaigns

- highlight to the community the dangers associated with AF
- educate people to monitor their own pulse rhythm
- demonstrate to the public the link between AF and stroke

They can be carried out on a variety of scales and settings and offer a chance for opportunistic screening for AF.

**Every June the Arrhythmia Alliance organises Heart Rhythm Week, and the AF Association’s international AF awareness week occurs every November.**

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**Local Campaign case studies**

1. **Barking and Dagenham CCG raising awareness with the know your pulse campaign**

2. **Southwark CCG raising awareness with the know you pulse at work campaign**

3. **North West Coast Academic Health Science Network: A campaign to raise awareness of AF in Lancashire**

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**PROTECT**

**PERFECT**

- Anticoagulation myth busters

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**AF can be detected by a simple pulse check**

Protect your heart and your mind

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A two minute check can detect and protect:
Enable patients to check their own pulse and rhythm. Videos and advice for patients on how to check their own pulse rhythm can be found at the following websites:

1. British Heart Foundation
2. Arrhythmia Alliance

Innovative examples of services which have been successful in embedding pulse checks in routine clinical practice:

1. Bromley CCG has embedded pulse checks within all of their commissioned services
2. Wandsworth CCG undertook pulse checks in Flu clinics
3. Dorset CCG undertook Opportunistic Screening for over 65's
4. The Academic Health Science Network for North East and Cumbria, Podiatry and AF case finding
5. Heywood, Middleton and Rochdale CCG Locally Commissioned Service Specification for AF Check in Influenza Vaccination Programme
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DETECT
Detection Devices

The use of detection devices will enhance an AF detection programme by improving accuracy when identifying AF (compared to pulse checks alone), and therefore reduce the need for unnecessary and costly 12 lead electrocardiograms (ECGs).

Some devices produce an ECG reading of the heart's electrical activity, which can be shared upon referral, and will assist further investigations for paroxysmal AF.

The Health Innovation Network AF detection device review is a detailed report defining the current technology and software designs available to enhance AF detection. It contains examples of how to use these devices to improve actual prevalence in a variety of settings, and contains further information on:

- Rationale for screening
- Strategies for AF detection
- Diagnostic accuracy of AF detection devices
- Barriers, enablers & strategies for screening programmes using detection devices
- Factors to consider when choosing a detection device
- Product information on selected detected devices

Health Innovation Network’s AF Detection Devices Review

Case studies of successful examples of using detection devices in a variety of settings.

1. Chelsea and Westminster Hospital NHS Foundation Trust use of Samsung smartphone and a hardware/software solution called Kardia mobile, from AliveCor

2. North West Coast AHSN. Innovative approaches to increase the identification of AF in the community and primary care

3. Southwark CCG ‘Know your Pulse’ at the workplace

4. QIPP Case study, use of Microlife Watch BP Home A
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The risk of an AF-related stroke for people with AF can be substantially reduced by providing effective anticoagulation therapy to prevent the formation of clots in the heart.

For London, at least 25% of people diagnosed with AF are not receiving appropriate anticoagulation therapy in line with NICE guidance (lower than the national average). In real terms this equates to 19,000 people who are suitable for, but not yet receiving anticoagulation. (QOF 2015/16).

In England, over half of the estimated 16,000 people admitted to hospital with an AF-related stroke, were not receiving anticoagulation therapy prior to admission (SSNAP 2015/16).

For your local data of people on the GP register with known AF and not receiving appropriate anticoagulation therapy, refer to CCG infographics.

Opportunities to PROTECT someone with AF from an AF-related stroke include:

1. **Improving anticoagulation**
   - Ensure patients at risk of an AF-related stroke are appropriately anticoagulated, and that their blood pressure and cholesterol is managed.
   - Review all patients on antiplatelet therapy and do not use aspirin or clopidogrel as monotherapy for stroke prevention.

2. **Initiating anticoagulation in community settings**
   - Consider initiation of anticoagulation in community settings, so care is delivered closer to home.

3. **Correct heart rate and rhythm where necessary**

4. **Ensuring mechanisms are in place to monitor and support people on anticoagulation** (see the Perfect section for further information).
PROTECT
Improving anticoagulation

Review general practice AF registers to identify those either not receiving anticoagulation or receiving suboptimal medication (e.g. antiplatelet therapy), with the view to:

- Initiating anticoagulation where appropriate
- Discontinuing use of antiplatelet therapy such as Aspirin, Clopidogrel solely for stroke prevention, and reviewing all those receiving it
- Managing blood pressure and other risk factors including the use of statins
- Reviewing patients who have been ‘exception reported’ and are therefore not currently receiving anticoagulation or other effective therapies, such as coronary ablation

Resources and guidelines

From the Quality and Outcomes Framework (QoF) the numbers of people with AF can be identified on an annual basis at CCG and practice level. Follow this link for QOF data.

Clinical decision support software can also be used to identify individuals at a practice level on a more frequent basis. These include:

- GRASP-AF
- APL-AF

Guidelines and risk assessment tools for effectively managing AF include:

1. NICE AF guideline (particularly sections: 1.4 and 1.5)
2. European Society of Cardiology guidelines
3. CEG/UCLP Anticoagulation guideline
4. Clinical CHA₂DS₂-VASc
4. Clinical HAS-BLED

Wessex AHSN have worked with partners to develop a video ‘Starting Anticoagulation with Jack’, which can be used to support practitioners in their discussions with people when considering anticoagulation therapy, and can also be a resource for patients to refer to after discussions in clinic.
When considering initiation and/or monitoring of anticoagulation, the preference is to provide this service ‘closer to home’ in community settings. There are a number of resources and examples of work to draw upon.

### Service specifications

**Newham CCG Atrial Fibrillation Pathway Commissioning Model**
- Visit Here

The London Stroke Clinical Network have developed a checklist to assist commissioners to benchmark their anticoagulation service against best practice [Visit Here](#).

Camden CCG service specification provides an overview of different community-based anticoagulation services, including key parameters commissioners will need to consider when commissioning an anticoagulation therapy service, e.g. patient eligibility criteria, clinical accountability, contract management and governance arrangements [Visit Here](#).

### Community-based models of good practice

A range of different models of care have been established across the country, which have delivered improvements in anticoagulation, for example:

- **NHS Blackpool** makes effective use of GRASP-AF: [Visit Here](#).
- **Southwark and Lambeth CCGs**, Optimising Anticoagulation for AF in Primary Care, use of virtual clinics [Visit Here](#).

### Industry solutions

- **Helicon Health** is a web-based service to support people with AF, and is part of the [Digital Health.London Accelerator](#).
- **Inspira Health** support primary care AF management [Visit Here](#).
CORRECT
Heart rate and rhythm control, blood pressure and cholesterol

Alongside anticoagulation, review patients with respect to:

- Optimising control of raised blood pressure (140/90 mmHg) and statin use where appropriate - if cardiovascular risk is high (>10% over 10 years), when calculated using Qrisk.
  [www.qrisk.org/2016](http://www.qrisk.org/2016)
- AF rate and rhythm control

**Recommendations for Correct, aligned with NICE guidance CG 180 (section 1.6) and**

**The European Society Guidelines on Management of AF (2016):**

**Referral for specialised management**
Refer people promptly at any stage if treatment fails to control the symptoms of AF and more specialised management is needed.

**Offer rate and rhythm control where appropriate**
Offer rate control as the first-line strategy to people with AF, except in people:

- Whose AF has a reversible cause
- With heart failure thought to be primarily caused by AF
- With new-onset AF
- With atrial flutter considered suitable for an ablation strategy to restore sinus rhythm

**Ablation or pace and ablate strategies**
- If drug treatment is unsuitable or has failed to control symptoms of AF, offer ablation strategy to people with paroxysmal AF or those with persistent AF, (and discuss the risks and benefits with the person).
Even when people with AF are correctly diagnosed and treatment started, strokes still can and do occur, often due to poor quality of anticoagulation and poor adherence to treatment. Patients supported in the correct use of anticoagulation treatment have less risk of adverse events such as bleeding.

A high quality anticoagulation service allows people with AF to be supported with their choice of anticoagulation, to self-monitor their INR, and provides education on access and adherence to treatment.

The resources in this section will help you improve your anticoagulation service

- Quality of anticoagulation management
- Self-monitoring and self-management - please refer to pan-London information on patient self-monitoring
- Promoting adherence during anticoagulant therapy
PERFECT Excellence in anticoagulant care

Key components of a high quality anticoagulation service include:

- Patient education about the benefits and risks of anticoagulation treatment and the importance of medication adherence
- Support for patients and carers in the choice of treatment options
- Support for patients to self-monitor and self-manage their anticoagulation therapy
- Staff education to improve skills for supporting self-monitoring and improve adherence
- Robust mechanisms in place to assess “time in therapeutic range” (TTR) information, with clear protocols to optimise the quality of anticoagulation control
- Key performance indicators (e.g. referral to treatment time, TTR, adverse events, number of patients self-monitoring/managing warfarin)
- Annual review of the service

Excellence in anticoagulant care is a guide for commissioners and service providers, to help deliver a high quality anticoagulation service.
PERFECT Service Review

The London Stroke Clinical Network have developed a checklist to assist commissioners to benchmark their anticoagulation service against best practice. When using this checklist to benchmark a service or create a service specification consider it alongside the Excellence In Anticoagulant Care document.

The pan-London AF programme is working in partnership with clinicians and patients to develop a consensus workforce competency framework and training guide for London. In the meantime examples of workforce competencies for anticoagulation services are included in the diagram.
PERFECT
Educational resources for patients and staff

Staff
- National Patient Safety Alert - actions that can make anticoagulant therapy safer
- Commissioning effective anticoagulation services for the future
- Don’t wait to anticoagulate - Medication FAQ
- Practical guide on use of DOACs
- Promoting adherence during anticoagulant therapy

Service users
- Factsheets on anticoagulation self-monitoring
- Pan London patient information leaflet
- Coaguchek - Because it’s my life
- Information on patient self-testing and self-management of oral anticoagulation
- Pan-London information on patient self-monitoring (for staff)

Online support websites for service users:
- European Heart Rhythm Association
- Atrial Fibrillation Association
- Anticoagulation Europe
- Don’t wait to anticoagulate - Medication FAQ for patients
Anticoagulation Myth Busters

As treatment guidance has developed, there remains some common questions and misconceptions relating to AF anticoagulation therapy. Within this section, we aim to identify common myths and questions and provide evidence based answers.

### Anticoagulation Myth Busters

<table>
<thead>
<tr>
<th>Myth</th>
<th>Answer</th>
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<tbody>
<tr>
<td>Antiplatelet agents (such as aspirin or clopidogrel) can be used to reduce stroke risk in patients with Atrial fibrillation</td>
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</tr>
<tr>
<td>Aspirin should always be continued with anticoagulants if a patient has cardiovascular disease</td>
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</tr>
<tr>
<td>DOACs cannot be reversed and are therefore unsafe</td>
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</tr>
<tr>
<td>I cannot give anticoagulation to an elderly or frail patient in case they fall</td>
<td>I cannot give anticoagulation to an elderly or frail patient in case they fall.</td>
</tr>
<tr>
<td>DOACs do not interact with other medication</td>
<td>DOACs do not interact with other medication.</td>
</tr>
<tr>
<td>I need to give heparin bridging to my patients with AF when they are taking warfarin or DOACs</td>
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</tr>
<tr>
<td>My newly diagnosed AF patient is on a DOAC already for joint replacement, so they are already anticoagulated for their AF</td>
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</tr>
<tr>
<td>Aspirin should always be continued with anticoagulants if a patient has cardiovascular disease</td>
<td>Aspirin should always be continued with anticoagulants if a patient has cardiovascular disease.</td>
</tr>
<tr>
<td>My patient is renally impaired, so they cannot have an Oral Anticoagulant</td>
<td>My patient is renally impaired, so they cannot have an Oral Anticoagulant.</td>
</tr>
<tr>
<td>All patients must stop anticoagulant agents prior to dental procedures</td>
<td>All patients must stop anticoagulant agents prior to dental procedures.</td>
</tr>
<tr>
<td>I don’t need to monitor my patients bloods when they are on a DOAC</td>
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<tr>
<td>I have decided to put my patient on a DOAC, which one is the best? And at what dose?</td>
<td>I have decided to put my patient on a DOAC, which one is the best? And at what dose?</td>
</tr>
<tr>
<td>DOACS, like warfarin, can interact with food</td>
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For the answers to these and much more information click here
London CCGs AF Infographics | 2016/17
London CCGs AF Infographics | 2015/16
Acknowledgments

The pan-London AF team would like to thank the following individuals and organisations for their input to this toolkit through sharing their resources, best practice, time and knowledge.

**Charities**

- Anticoagulation Europe
- Arrhythmia Alliance
- Atrial Fibrillation Association
- British Heart Foundation
- Stroke Association
- Thrombosis UK

**The members of:**

- The excellence in anticoagulation working group (London region)
- The AF self-monitoring and self-management group (London region)
- The anticoagulation adherence working group (London region)

**Matt Kearney**, National clinical lead for CVD prevention, NHS England

**Tony Rudd**, National clinical lead for stroke, NHS England
Contact Us

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<th>Health Innovation Network South London</th>
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<td>020 7188 9805</td>
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