INNOVATION AGENCY
Academic Health Science Network
for the North West Coast

Atrial Fibrillation Quality Improvement Toolkit for Primary Care

Together we can achieve the CVD ambitions for England

NHS

Why atrial fibrillation?

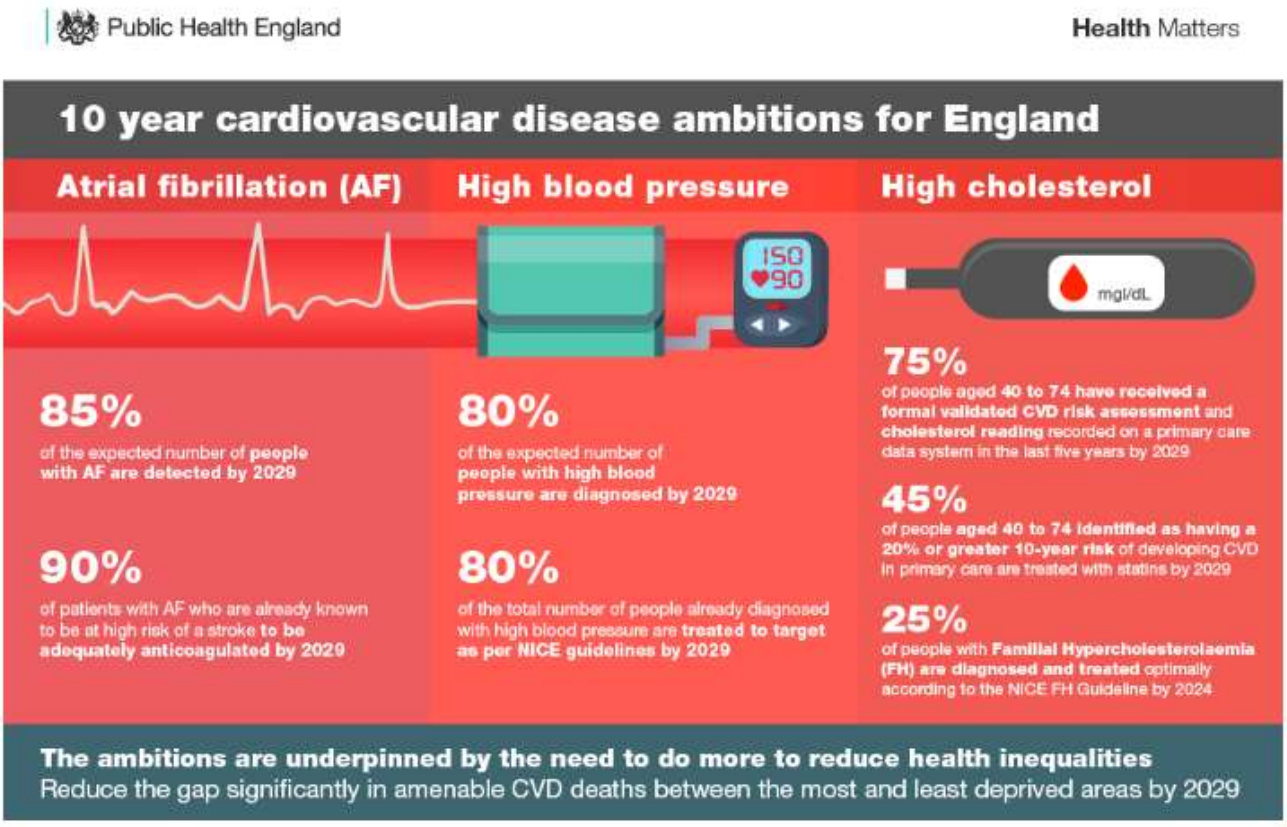
On average, 40 atrial fibrillation (AF)-related strokes occur every day in England.

Of those people who had an AF-related stroke between 2017 and 2018, and who had not been anticoagulated, 26% died.

The **NHS Long Term Plan** outlines its ambitions to reduce cardiovascular disease (CVD) in England including a major goal to prevent 150,000 strokes, heart attacks and vascular dementia cases over the next 10 years.

Improving the detection and treatment of the high-risk conditions which can contribute to CVD, such as atrial fibrillation, high blood pressure and high cholesterol, has the potential to unlock considerable health benefits.

Achieving the ambitions will require a whole system effort. In the past, primary care has been thought of as being responsible for identifying risk factors for CVD. Although it does have a vital role to play, primary care is overstretched and we have to consider other ways of finding the people most at risk so they can get the help they need.



How this AF Quality Improvement Toolkit can help

Making improvements in primary care is a challenge. Many practices are under-resourced plus patient loads and demands are high.

This makes it feel almost impossible to carve out an hour a week to challenge current practice and test a change that could lead to an improvement. However, with the right understanding of your environment, along with a framework of support, it is possible to make change and improvement.

This AF Quality Improvement Toolkit has been created with the purpose of spreading improvements in the diagnosis and management of AF in primary care and is aimed at GPs, practice nurses, practice managers and administrative staff.

Evidence-based, this toolkit has been developed from the findings of a project working with over 100 practices in the North West Coast region, to improve the diagnosis and management of people with AF.

Working together, we can help to achieve the ambitions of the NHS Long Term Plan.

Dr Alena Machell tests a patient's pulse using the Kardia mobile ECG device.

Is this toolkit for me?

If you answer NO or DON'T KNOW to any of the following questions, this toolkit could be helpful to you and your practice:

- Do you currently anticoagulate more than 85% of your high risk (CHA2DS2-VASc >1) AF patients? When did you last review your high-risk not anticoagulated AF patients?
- Do you know what the expected prevalence for AF for your practice should be, based on your population?
- Do you currently opportunistically test for AF? Do you have a standardised protocol for this embedded across the practice?
- Do you think that you could improve how you currently manage your diagnosed AF patients? For example, do you review your low-risk AF patients – would you know if they had become high-risk? Do you review your DOAC patients every year and test their renal function? Do you know what a TTR (Time in Therapeutic Range) is and do you check this for your warfarin patients?

What are the advantages of making improvements in how you diagnose and manage people with AF?

1. You will find more AF patients in your community.
2. You will improve the care of people with AF and prevent possible strokes.
3. You will improve your own clinical knowledge of AF.
4. You will improve your practice's operating processes around the diagnosis and management of people with AF.
5. You will increase your income through QOF payments.
6. You will make changes that will be easily transferable to other disease areas.

What are the added advantages of running a Quality Improvement (QI) project in primary care?

1. QI in primary care is valuable evidence for clinical revalidation and appraisal purposes.
2. Engagement with QI activities is a mandatory part of the curriculum for GP trainees.
3. Documentation of QI work in your practice is highly valuable for your CQC inspection.

If you believe that you have improvements to make in how you diagnose and manage AF, then this toolkit is for you.

Section 1: Quality Improvement tools

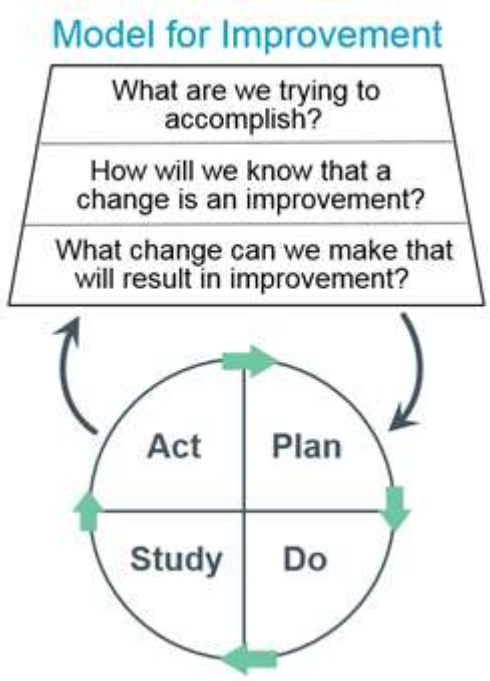
There are many QI tools available and it can be confusing to know which tool to use in which circumstance. A useful guide can be found here *https://www.rcgp.org.uk/clinical-and-research/our-programmes/quality-improvement/quality-improvement-guide-for-general-practice.aspx*

The evidence in this toolkit has been developed using collaborative methodology http://www.ihi.org/resources/Pages/IHIWhitePapers/TheBreakthroughSeriesIHIsCollaborativeModelforAchievingBreakthroughImprovement.aspx which requires groups to come together to share their knowledge and ideas on a particular area for improvement.

The collaborative methodology uses the Model for Improvement as the framework to guide the improvement work. The model will be used as the basis for your AF QI work.

The Model for Improvement

The Model for Improvement is a simple but powerful tool for accelerating improvement. It has been used in healthcare settings for many years to test changes to processes to improve patient care.



Setting aims The aim should be time-specific and measurable; it should also define the specific population of patients or other system that will be affected.

Establishing measures Teams use quantitative measures to determine if a specific change actually leads to an improvement.

Selecting changes Ideas for change may come from those who work in the system or from the experience of others who have successfully improved.

Testing changes The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change in the real work setting - by planning it, trying it, observing the results, and acting on what is learned.

Implementing changes
After testing a change on a small scale, learning from each test, and refining the change through several PDSA cycles, the team may implement the change on a broader scale ie. across the whole practice.

How is the Model for Improvement used to improve care for people with AF?

What are we trying to accomplish? Setting the aim

Your AF QI aim must be achievable and realistic for you. The aim that we have used in primary care with over 100 practices has two parts; it focuses on the diagnosis and management of AF.

The suggested AF aim

To close the prevalence gap between observed AF prevalence for a practice and the expected AF prevalence by x patients ('x' has to be set by each specific practice once the missing numbers are calculated) over a six month time period from the start of the project.

To have 90% (or 85% depending on baseline data) of all high-risk AF patients (CHA2DS2-VASc>1) on anticoagulation therapy by the close of the project.

How you calculate your individual AF aim is described in Section 2 on page 8.

How will we know that a change is an improvement? Establishing measures

Measurement is a critical part of testing and implementing change. Measures allow us to determine if a change is actually an improvement. To understand how you manage AF currently, and to track improvement, there are a number of measures that we suggest you look at on a monthly basis.

AF measures

1. Number of patients on the AF register.
2. Number of new patients added to the AF register since [project start date].
3. The number of high-risk (CHA2DS2-VASc >1) AF patients.
4. The number of high-risk (CHA2DS2-VASc >1) AF patients who are not on anticoagulation therapy (warfarin or a DOAC).
5. The number of high-risk (CHA2DS2-VASc >1) AF patients who are not on anticoagulation therapy who are exemption reported.
6. The number of AF patients who have had an AF review in the last 12 months.
7. The number of AF patients on warfarin.
8. The number of AF patients on warfarin with no INR recorded in the last three months.
9. The number of AF patients on a DOAC.

10. The number of AF patients on a DOAC for >12 months with no renal function test recorded in the last 12 months.

We have developed a set of EMIS searches that will provide data for the following measures. These are available to download *here*.

At the start of the project, run these searches and take a baseline measurement to 'diagnose' how you currently manage AF. We would suggest that you run the searches and extract data from your system every month after that. This will help you to keep your AF improvement work in your field of focus over the course of your improvement project (which can be a minimum of six months, maximum of nine). Set your project start date for the search which looks at new patients added since the project start date.

What changes can we make that will result in an improvement?

The changes outlined in Section 2 of this document (*Evidence-based steps to improving the diagnosis and management of people with AF*) have already been tested in primary care and are known to lead to improvements in the diagnosis and management of AF.

There may be other changes that you wish to test that are not contained in this toolkit. The PDSA approach accepts the fact that not all of our ideas will work and allows us to test them out in a controlled way. We can then adopt or adapt the ideas that work, and abandon those that do not. An example PDSA template can be found *here* http://www.healthcareimprovementscotland.org/our_work/patient_safety/tissue_viability_resources/plan_do_study_act_pdsa.aspx.

This QI methodology and approach can be used to develop a QI project for any improvement area in your practice.

Section 2: How to improve: evidence-based steps to improve the diagnosis and management of AF

To begin your QI work, you need to calculate your aim. To calculate your aim, you need to run your baseline AF data. You will need to know the size of your AF register, your current patient list size, the number of high-risk AF patients and the number of high-risk AF patients who are NOT on anticoagulation therapy (rivaroxaban, apixaban, edoxaban, dabigatran and warfarin).

Calculating your Aim: Part 1

How many AF patients are there predicted to be in your practice population?

A predictive modelling tool is available online, published by Public Health England (PHE), using National Cardiovascular Intelligence Network data, at https://www.gov.uk/government/publications/atrial-fibrillation-prevalence-estimates-for-local-populations.

This tool allows you to calculate your 'missing' AF patients. These are the AF patients who exist in your population who are unknown to the practice. This is a prediction, based on 2015/16 data, and provides the best estimate available to you.

Calculating your expected AF prevalence and your 'missing patients'

1) Note the size of your current AF register and also your list size.
2) Under the GP tab on the model, search for your practice name and column 'I' gives you your expected prevalence.
3) Use this and your list size to calculate your expected AF register size.
4) The difference between the two is your possible 'missing' AF patients.

Now set your goal

Once you have calculated your missing patients, you can decide how many of these you want to try and find over the course of your improvement project.

Finding 15 patients over a six month project period is an achievable target for an average-sized practice, with some register validation work and the implementation of a practice-wide opportunistic testing protocol.

Many practices we have worked with have reached their expected prevalence and many have gone beyond it. The national prevalence of AF is 2.4%, rising to just over 10% in the over 65s. This means that for every 50 patients that you opportunistically test over the age of 65, you can expect to find five AF patients.

Please note that setting up a search to look at new patients added to the AF register since the project start date is important to accurately record new patients found. The AF register will fluctuate naturally, due to deaths, as well as patients joining and leaving the practice.

Be realistic when you set your aim. It must be achievable for you.

Calculating your aim: Part 2

Once you know how many high-risk AF patients you have in your practice and how many of those are not on anticoagulation therapy (including those who have been exception reported), you can calculate how many patients you need to place on anticoagulation therapy to achieve your aim.

The ambitions for England for 2029, set by PHE, are for 90% of patients with high-risk AF to be on anticoagulation therapy.

Now set your goal

Many practices we have worked with have achieved 90% anticoagulation of high-risk AF patients. If your anticoagulation rate is below 80% at baseline, set your initial target at 85%. You can always increase this to 90% as a stretch goal if you think this is achievable.

The AF Change Framework

There are three main areas of improvement for primary care to work on in order to achieve the AF QI aim described above. These are the primary drivers – the pillars of change – these areas are transferable to improvement projects in most therapy areas.

1. Leadership & commitment

2. Information & systems

3. Education

Each primary driver gives rise to secondary drivers (your building blocks of change). These provide more specific detail of what needs to be focused on to positively influence that specific primary driver, in order to achieve the project aim.

Working through the secondary drivers will enable you to identify the relevant change areas that you need to focus on. These will form your improvement plan that you will drive forward over the next six to nine months.

Aim

1) Increase the number of patients on the AF practice register in line with local prevalence estimates
2) Increase the percentage of high risk AF patients who are anti-coagulated in accordance with NICE guidelines

Primary drivers	Secondary drivers	Change ideas
Education	Clinical training sessions on AF, including diagnosis and management	
	Use of an AF protocol plus regional or local referral and prescribing protocol/pathways	
	Shared decision making by GP and use of patient education materials	
Information & systems	Opportunistic testing: use of Alive Cor or similar mobile ECG device	
	Review of AF patients: 1) High-risk patients not anticoagulated 2) Low-risk patients with no repeat CHA2DS2-VASc 3) Aspirin monotherapy patients 4) AF annual review	
	Develop systems to drive improvements for warfarin patients eg. identifying and monitoring INRs and TTRs	
	Review patients on DOACs eg. dose checking, compliance and renal function	
Leadership & Commitment	Form an improvement team within the practice to drive the project forward including a GP, practice nurse and patient/carer	
	Assess the culture for QI: are you receptive to improvement?	
	Highlight your work within your PCN and to the relevant CCG leads	
	Establish to forum to share progress, success and introduce change	

Developing and executing your improvement plan

As you work through the following section, you will see the icon. This is a possible or suggested change idea. There are many suggested change ideas in this toolkit and some of them will be relevant to your practice.

Make sure that your improvement plan contains no more than six change ideas and that you prioritise these in order of importance. Look at who you can involve so it's not all down to one person to implement it. Carve up the work and distribute it, planning what, who, when and where. Be clear on when you would like the work to be done and when you would like to study the change.

Leadership & commitment

Without an effective leader of your AF improvement project, you will find it a challenge to engage the relevant people in the practice to work with you to improve the diagnosis and management of people with AF.

Even if you have an effective leader in place, if you are operating in a culture that is not receptive to quality improvement, you will find it equally as hard. You should not work in a silo. This will not lead to sustainable change in the practice.

Forming your AF improvement team

Including the right people in your improvement team is critical to a successful improvement effort. In our experience, the project needs:

- An executive sponsor: this person is usually the lead GP. If you have a GP AF lead this should be the person to lead the project clinically.
- The practice manager: he/she is critical to the success of the project and, in many practices, he/she physically drives the project forward. They are also the linchpin of the project, coordinating the clinical and administrative members of the project team and leading the project day-to-day.
- A lead practice nurse.
- Administrative support: usually this person will be the person who has the most technical expertise in data extraction.

You may also want to pull in support from a clinical pharmacist, if you have one, and/or the medicines management team at the CCG if they can help you also with some patient reviews. Consider discussing opportunistic testing with your community pharmacist too.

Discuss this work with your practice and form your AF QI team

Assess the culture for QI: Is the practice receptive to improvement?

What is it that enables one primary care practice to implement a QI initiative successfully when another one fails? Considering context and culture first will allow QI to flourish.

We have developed a context checklist that allows practice teams to consider what needs to be in place to encourage improvement in clinical practice.

Changing organisational culture is a challenge and is beyond the scope of this toolkit, but needs to be considered.

The context assessment will flag up possible issues for the practice eg. does the practice team currently communicate well together around AF care?

Importantly, you must scope your improvement work accordingly – it is important to be realistic in what you can achieve month by month. Some models exist where a GP is given dedicated session time each week for improvement work. This is rare and difficult to achieve but is a very effective model if you have a lot of improvements to make within the practice.

A link to the context checklist can be found here.

Address any relevant findings from your context assessment to your improvement plan eg. do you need an AF clinical lead who will drive this project forward? Are you short of data analysis support? Do you think that you need to work better with practice nurses around the management of AF?

- Identify a forum to share progress, success and introduce change

You will hopefully already have established clinical meetings in the practice. Use these to discuss your improvement work and to communicate change across the practice and make sure every clinician is on board with changes to clinical practice.

Sharing success and improvements to patient care is very important in motivating the team. Try to involve your patient and public involvement group to discuss what quality and good patient care mean for them. Make sure that those who have worked hard to make improvements and adopt change are acknowledged.

Education – does the practice have up to date knowledge of managing people with AF?

Without up to date clinical knowledge, there cannot be improvement in patient care. It may be that your GPs are not confident with prescribing or managing patients on DOACs and that an online course, or a prescribing aid, would be useful.

Or it may be that the practice is exemption reporting high-risk patients that should be treated with anticoagulation therapy. There are guidelines and resources available to support your knowledge on diagnosing and managing AF.

- Clinical training sessions on AF including diagnosis and management

Relevant online educational resources

There are several, credible online educational resources available, aimed at GPs and practice nurses, on the diagnosis and management of AF. The NICE clinical guideline for

AF: management can be found here: https://www.nice.org.uk/guidance/cg180/chapter/recommendations.

The NICE quality standards for AF 1-6 can be found here**:** https://www.nice.org.uk/guidance/qs93/chapter/List-of-quality-statements

BMJ Learninghttps://learning.bmj.com/learning/search.html?locale=en_GB&collection=The+BMJ&collection=BMJ+Learning&searchTerms=atrial+fibrillation

Diagnosing and managing atrial fibrillation in primary care (1 hour). This BMJ module provides essential information for healthcare professionals in primary care on diagnosing, treating and monitoring patients with atrial fibrillation. It is based on the best available evidence.

ECG skills: atrial fibrillation and flutter, P wave and PR interval abnormalities, and T wave abnormalities (1 hour). Learn to identify atrial fibrillation and understand treatment options and understand the significance of the PR interval and pre-excitation pathways. Be able to identify possible structural disease of the atria from the P wave morphology and understand the significance of T wave inversion.

Starting patients on oral anticoagulants in primary care: how to do it (1 hour). This module provides essential information for healthcare professionals in primary care on starting oral anticoagulants safely and effectively.

MIMS Learning. Atrial fibrillation: clinical review http://www.mimslearning.co.uk/atrial-fibrillation-clinical-review/activity/4886/

This course is available for purchase as part of a subscription. This review by Dr Andrew Money-Kyrle, updated in 2017, examines the diagnosis and management of atrial fibrillation. Key learning points for healthcare professionals include making the diagnosis, managing rate control, rhythm control and reduction in stroke risk in patients with AF, prognosis and follow-up. CPD credits are available with this course.

Blue Stream Learning Academy. Training module for GP Practices on Atrial Fibrillation https://www.bluestreamacademy.com/ . This is an online training and continuing personal development service. This course is available through a subscription.

- Shared decision-making and use of patient information materials

Shared decision-making tools

Keele decision aid *https://www.anticoagulation-dst.co.uk/*

This decision support tool is designed to assist UK healthcare professionals in the appropriate prescribing of anticoagulation therapy for the prevention of stroke in patients with atrial fibrillation. Developed by Prescribing Decision Support at Keele University's

Centre for Medicines Optimisation, the tool provides individualised prescribing recommendations based on NICE clinical guidelines and also incorporates a NICE patient decision aid to help patients weigh up the possible benefits, harms, advantages and disadvantages of different treatment options. Each recommendation is supported by a reason, important management considerations, common treatment side-effects and appropriate references. To support joint decision-making, the tool allows patients to rate what is and isn't important to them in stroke prevention and to also view visual representations of the risks and benefits of treatments.

The Sparc tool *www.sparctool.com Stroke Prevention in Atrial Fibrillation Risk Tool*

This tool can be used for estimating the risk of stroke and the benefits and risks of anticoagulation therapy for patients with chronic atrial fibrillation. It contains good visuals for use with patients in a shared decision-making setting.

Practical tip: A video is available, 'Starting anticoagulation therapy with Jackhttps://wessexahsn.org.uk/projects/145/starting-anticoagulation-with-jack which can be used to support practitioners in their discussion with patients when considering and prescribing anticoagulation therapy.

Patient information materials

NICE guidance states that you should provide patients with up-to-date and comprehensive education and information on the cause, effects and possible complications of atrial fibrillation, management of rate and rhythm control and anticoagulation.

Several patient information materials are available for you to share with your newly diagnosed patients, or those wanting to initiate or change treatment.

- AF Association: A range of patient-focused materials such as posters, booklets and leaflets http://www.heartrhythmalliance.org/afa/uk/patient-resources
    - AFA Patient leaflet available at: http://www.atrialfibrillation.org.uk/app/webroot/files/file/Publications/AFA%20Patient%20Info%20Booklet%20June%202011%20FINAL(1).pdf
- NHS Patient information: https://www.nhs.uk/Conditions/Atrial-fibrillation/
- Stroke Association: Atrial Fibrillation and stroke https://www.stroke.org.uk/resources/atrial-fibrillation-af-and-stroke
    - Stroke Association Atrial Fibrillation and Stroke guide: https://www.stroke.org.uk/sites/default/files/user_profile/atrial_fibrillation_and_stroke_0.pdf

Assess the need for AF clinical education and add any educational need to your AF Improvement Plan.

Review the decision aids above then test one with a patient – if it's useful, discuss this at your next update meeting with the clinical team.

Review the patient information materials above and decide which ones you may use with patients. Can you develop a service where patient information materials can be sent to patients by SMS after their diagnosis?

Information & systems

Described below are the clinical changes you can make to improve how you diagnose and manage your AF patients. These all fall under Information and Systems in the driver diagram. If you identify an area for improvement, note this down as a change idea for your improvement plan.

All of the information below follows the NICE clinical guideline for AF: management which can be found at: https://www.nice.org.uk/guidance/cg180/chapter/recommendations.

Establishing an opportunistic testing protocol for AF

Your practice nurses or health care assistants (HCAs) may already perform a manual pulse check on most patients they review. If they don't, you can encourage them to do this to pick up more AF patients.

This is particularly useful if targeted at the over 65s or those with other cardiovascular comorbidities. Those with COPD and heart failure are at particular risk of developing AF.

It is down to GP choice as to whether they feel that they have time to perform pulse checks during a patient consultation.

Practical tip Some practices successfully tested for AF at their elderly (>65) flu clinics. One practice allowed three minutes per patient, the patient's manual pulse was taken first for 30 seconds before the flu jab. Any patients with irregularities are sent into another room where a GP was present or a non-clinical member of the team with a Kardia device, ready to retest. Patients with suspected irregularities, who were not already known to the practice as having AF, were immediately booked in for a 12-lead ECG.

Using a handheld ECG device to support opportunistic testing

Several handheld ECG devices now exist to support you with detecting AF. We have extensively used the Kardia Mobile ECG device with practices in the North West Coast area, which is popular with GPs, practice nurses and HCAs.

NICE guidance on the use of Lead-I ECG devices for detecting symptomatic atrial fibrillation using single time point testing in primary care

(Diagnostic guidance [DG35] Publication date: May 2019 https://www.nice.org.uk/guidance/dg35)

NICE concluded that there was not enough evidence to recommend the routine adoption of lead-I electrocardiogram (ECG) devices (imPulse, Kardia Mobile, MyDiagnostic and Zenicor-ECG) to detect AF when used for single time point testing in primary care for people with signs or symptoms of the condition and an irregular pulse. NICE states that further research is recommended to show how using lead-I ECG devices in this way affects (1) the number of people with AF detected, compared with current practice and (2) primary and secondary care services, particularly how ECGs generated by the devices would be interpreted in practice, including staff time needed to interpret the ECG traces and associated costs.

Kardia Mobile works with an app on your smartphone to record a medical-grade one lead ECG in just 30 seconds. Traces can be emailed as pdfs to an NHS.net account to be stored in the patient's notes. The following link provides you with more information on the Kardia Mobile device https://www.alivecor.com/ .

Benefits of using the Kardia device that have been reported to us by GPs and practice nurses include:

- If no in-house 12-lead ECG is available, an ECG can be performed much more quickly. Practices must still send for a 12-lead ECG to confirm AF.
- The instant ECG trace can allay patient fears of a cardiovascular problem if they present with anxiety.
- The device can be given to patients to identify paroxysmal AF – there is evidence to show that the device can increase the detection of arrhythmias fivefold where the device was given to patients who presented at A&E with an arrhythmia, yet their 12-lead ECG appeared normal.
- It is beneficial to use in the community e.g. in care homes or with house-bound patients.
- Using a mobile ECG device to work together with community pharmacists to detect people with AF.

Practical tip: EMIS codes exist so you can log each time you use a handheld ECG device:

- EMISNQAF4 – AF screen using handheld ECG monitor with AF detector

- EMISNQAF5 – normal reading
- EMISNQAF6 – abnormal reading.

 **Think about your approach to opportunistic testing and discuss standardising this as a practice; also think about whether you want to test using a handheld mobile ECG device. The Kardia device is economically viable.**

 **Test your opportunistic testing protocol and refine based on the feedback of the team and the AF pick up rate. Use the 'New diagnosis since project start date' search to check your detection of new AF patients on a monthly basis.**

 **Discuss opportunistically testing >65s during flu clinics**

Review high risk (CHA2DS2-VASc >1) AF patients who are NOT on anticoagulation therapy (NICE Quality Statement 1).

NICE guidance states that the CHA_2DS_2-VASc stroke risk score should be used to assess stroke risk in people with AF and that people with AF should be offered anticoagulation to people with a CHA_2DS_2-VASc score of 2 or above, taking bleeding risk into account.

Use your baseline search data or interrogate your QOF register to get a list of all high-risk AF patients who are not on anticoagulation therapy. It is important to also look at all patients who have been exemption reported previously. You may review these already every 12 months but check through these patients again.

Practical tip: Changes that other practices have tested to create capacity for AF patient review include:

1) Involve your practice pharmacist if you have one available to you who is upskilled in anticoagulation prescribing. They can help you to review your high-risk not anticoagulated patients and to see patients to discuss medication options.

2) Try adding one AF patient to review at the end of each surgery instead of routine coughs and colds. This gives you more time to discuss medication options with that patient.

NICE states for most people the benefit of anticoagulation outweighs the bleeding risk. The guidance also recommends not to withhold anticoagulation therapy solely because a person is at risk of falls because the risk of a serious bleed caused by falling is very small.

A risk of falls is not a contraindication to initiating oral anticoagulation. A patient with an annual stroke risk of 5% (CHADS2 score 2-3) would need to fall 295 times for fall risk to outweigh the stroke reduction benefit of warfarin.

Practical tip: Look at how you could use auto-consult or adapt your AF template so that all of the information possible is at the clinical team's fingertips.

An example auto-consultation for AF:

- Explained five-fold increased risk of stroke with AF and that anticoagulation reduces this stroke risk by more than two-thirds.
- Make patient aware of increased risk of bleed with anticoagulation. Explain that some people might still have stroke despite being on anticoagulation.
- Compliance with treatment is important.
- Inform that although DOACs reversible with blood products, there is no direct antidote as with warfarin, except for dabigatran. Less bleeding risk compared to warfarin.
- Patient decision aid used eg. Sparc tool. Leaflet for anticoagulation medication given
- Patient fully understands and is happy for anticoagulation to proceed.
- Repeat bloods in one month and at least annually – add diary date entry to patient record.

Practical tip: Confusion over which DOAC to use in which patient? Share a prescribing advice sheet with all GPs in the surgery to help decision-making when choosing an anticoagulant to prescribe. Does anything exist that is provided by your Medicines Management team at the CCG? Place this in the clinical rooms to help doctors make decisions about the most appropriate therapy to use depending on the patient circumstances.

Review your list of high risk not anticoagulated patients and plan what action is needed to review these patients.

- Check to see that all AF patients have a recent CHA2DS2-VASc recorded on their records – those with low-risk AF should have this calculated every 12 months as part of QOF.

The low risk, non-medicated AF group can often get lost in the practice system. It is important that these are reviewed every 12 months to check that they have not developed other co-morbidities, or that they have not reached the age threshold to gain another point on the CHA2DS2-VASc scoring system. These patients should be invited in to be counselled about anticoagulation if they have progressed to high-risk.

Practical tip: Set up a recall on all patient records for patients with a low CHA2DS2-VASc score, so when they turn 65/75 and become high risk, they can be invited in to discuss anticoagulation therapy (assuming that they don't develop any other risk factors before this age eg diabetes, coronary heart disease, heart failure or stroke).

Check your search output for this measure and review the patients identified in the search. If you keep on top of this, there will be less to do before your next QOF submission.

- Ensure that no AF patients remain on aspirin who don't require it once they are anticoagulated (NICE Quality Statement 2).

NICE guidance states: Do not offer aspirin monotherapy solely for stroke prevention to people with atrial fibrillation. Review those on your AF register who are on aspirin monotherapy and discontinue use (Aspirin, Clopidogrel) solely for stroke prevention.

- Annual review of AF patients (NICE Quality Statement 3).

An annual review for AF patients is not part of QOF but it ensures quality care for your AF patients. Many of your AF patients will be reviewed annually as most will have co-morbidities that require a yearly review.

NICE guidance (CG180) states that for people who are not taking an anticoagulant, review stroke risk when they reach age 65 **or** if they develop diabetes, heart failure, peripheral arterial disease or coronary heart disease at any age, or if they have a stroke, transient ischaemic attack or systemic thromboembolism.

For people who are not taking an anticoagulant because of bleeding risk or other factors, review stroke and bleeding risks annually, and ensure that all reviews and decisions are documented.

For people who are taking an anticoagulant, review the need for anticoagulation and the quality of anticoagulation at least annually, or more frequently if clinically relevant events occur affecting anticoagulation or bleeding risk.

Running an AF only search with practices has revealed that AF only patients can be between 8-12% of your AF register. These patients may not be receiving adequate patient care, although those on anticoagulation therapy should receive a medication review. NICE Quality Statement 3 states that patients should be given the opportunity to discuss their anticoagulation therapy with a clinician once a year.

Using the *Review* searches, look at how many of your AF patients have not had a BP reading in the last 12 months. These patients are likely to have not been to the practice for a review. Can you task a practice nurse with looking into this?

Practical tip: Could you set up an annual recall for your AF only patients and make sure that these patients are invited in for a yearly review? Many practices have added AF to their annual review recall list.

If you do not routinely review AF patients on an annual basis, note this as a change idea and think about how you can put a process in place so that these patients will routinely get reviewed every year.

Review AF patients on warfarin to see if they are effectively managed (NICE Quality Statement 4)

NICE Quality Statement 4 states that adults with atrial fibrillation taking a vitamin K antagonist who have poor anticoagulation control should have their anticoagulation reassessed.

In our experience, most GPs are not aware of the TTRs of their warfarin patients. If warfarin management is outsourced, most GPs will rely on the anticoagulation clinic to keep a check on how well their patients are controlled on warfarin. According to NICE and the GMC, it is a GP's responsibility to check that their patients are well managed on warfarin. You will already check that each patient on warfarin has a recent INR reading recorded in their notes, as a safety check, prior to writing any prescription for warfarin. It is preferable to READ code the patient's INR into their notes so that the information is searchable at practice level. It is more efficient if a clinician isn't responsible for downloading any blood results from an online system.

According to NICE, poor anticoagulation control is indicated by any of the following:
TTR less than 65%
Two INR values higher than 5 or one INR value higher than 8 within the past 6 months.
Two INR values less than 1.5 within the past 6 months

Practical tip: If all INR results are properly coded in all patients records, any alerts on their records about there not being an up to date INR will go immediately. A practice can then rely on that alert to prompt for a patient whose INR is not up to date when they request a prescription of warfarin.

Practical tip: Adapt your existing AF template to accommodate the TTR reading. There is a READ code available for the INR Time in Therapeutic range (4QE2). If you agree a process for updating this every six or 12 months, you can keep a better check on the management of your warfarin patients.

Use your EMIS search to identify any patients on warfarin who do not have an INR added to their notes in the last three months.

Can you work with your clinical pharmacist or medicines management team to check that your warfarin patients are well controlled? Can you READ code their TTRs?

Do you get a report from the anticoagulation service that tells you what your patients' TTRs are on a yearly basis? What happens to this report and is the processing of this report standardised across the practice?

Invite any patients in who are not well controlled and discuss alternative medication options with them, such as a DOAC. Your clinical pharmacist could also assist with this if you have one.

Review all patients on a DOAC to check dosage and yearly review

As with warfarin, it is important to monitor patients on a DOAC.

As a minimum, people on a DOAC should have full bloods checked, including renal function tests, at least yearly but:

- Every six months if the person has a creatinine clearance (CrCl) between 30–60 mL/min.
- Every three months if the person has a CrCl between 15–30 mL/min.

If you wanted to do a specific audit on DOAC patients to check the quality of monitoring, you could look at the following:

1. Has the patient been weighed in a recent timeframe?
2. Has the renal function been checked as recommended?
3. Is there evidence that the CrCl has been calculated?
4. Is a dose reduction required based on age?

Use your EMIS search to look at how many of your DOAC patients have not had a yearly review of their renal function and FBC and follow up with these patients

Check your DOAC patients to see if they have had a recent creatinine clearance calculated – how does this affect their review schedule?

Can you adapt your AF template to provide some prompts to assist with the timings of patient review based on CrCl?

Section 3: Sustainability of your AF Improvement work

Diagnosis and Management of AF checklist

- ☐ GP lead for AF established in the practice
- ☐ Opportunistic testing protocol for AF embedded across the practice.
- ☐ Practice staff comfortable with using the mobile ECG detection device(s) (if applicable).
- ☐ Admin team briefed to run AF searches every six months to check the management of AF patients.
- ☐ All high-risk AF patients NOT receiving anticoagulation have been reviewed and appropriate patients exception reported.
- ☐ AF template adapted:
  - ☐ EMIS codes for handheld ECG device
  - ☐ Warfarin management: TTRs
  - ☐ DOAC management: review time based on CrCl
- ☐ All AF patients have a diary date entry for review; AF only patients have been checked.
- ☐ AF is now on annual recall.
- ☐ Process for reviewing and downloading INRs has been reviewed and adapted if required.
- ☐ All GPs trained on initiating and managing patients on a DOAC.
- ☐ All GPs trained on the importance of monitoring TTRs and all clinicians briefed on how to process information from the anticoagulation clinic and READ code TTRs.

If you have embedded the relevant changes across your practice, engaging the whole practice team, and you review your AF data every six-12 months, you will ensure that the changes you have made to improve patient care are sustainable.

Make sure you get feedback from your AF patients about the quality of care they receive from you. This will also enable you to continuously improve the quality of your service to your patients.