Heart Improvement

Atrial Fibrillation in Primary Care

National Priority Project
Atrial Fibrillation in Primary Care is a national priority project of the Heart Improvement Programme focusing on improving the identification and management of patients with atrial fibrillation (AF) in primary care.

The time scale for the projects varies, with many projects still in the initial stages of collecting data and working more closely with primary care in March 08.

Key learning from the project is available in the following formats:

1. **Project summary**
   This document includes a description of the national project, supporting information gained so far and key learning up until March 2008.

   Project summaries include issues to be addressed, baseline position, actions taken and planned, key learning and results to date from the 18 projects participating in this work. Contact details are included to provide additional information with regular updates available on the website.

2. **Presentations at National Conference 8 May 2008**
   Copies of presentations from the speakers at the conference are available on the website: [www.improvement.nhs.uk/heart](http://www.improvement.nhs.uk/heart)

3. **Web based resources**
   Project team members found this a very useful opportunity to share learning across the different project areas. These are now available to share on the improvement website at: [www.heart.nhs.uk/priority_projects](http://www.heart.nhs.uk/priority_projects)

   These are categorised into three chapters:
   1. Identifying, reviewing and managing AF patients
   2. Education and training
   3. Developing AF pathways and clinics

   Content includes:
   - Guidelines
   - Presentations
   - Proformas
   - Algorithms
   - Job descriptions
   - Educational information.

   Additional information will be included as it becomes available and existing materials regularly updated.

   Further information and updates email: info@improvement.nhs.uk
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Introduction
Chapter Eight of the National Framework for Coronary Heart Disease; Arrhythmias and Sudden Cardiac Death, published in March 2005, set out the quality requirements for the prevention and treatment of patients with cardiac arrhythmias. This priority project was established to progress the improved identification and management of patients with atrial fibrillation (AF) within primary care.

**Background**

Atrial fibrillation (AF) is both under recognised and under treated and evidence demonstrates that systematic screening increases the detection of new cases by approximately 60%. It is known that:

- AF is an important risk factor for stroke and is associated with about 15% of all strokes
- It has been estimated that optimal treatment of AF in the population would reduce overall stroke risk by 10%
- Anticoagulation is highly effective in reducing stroke risk in patients with AF by approximately 70%
- In a primary care population of about half a million, there will be about 1000 new cases of stroke per annum.

Since March 2006, data on AF has been collected by individual practices as part of the Quality Outcomes Framework (QOF). In June 2006 NICE published guidelines on the management of atrial fibrillation.

**Process**

Sixteen cardiac networks are currently working with primary care trusts (PCTs) and target cohorts of practices to address the identification and management of AF in primary care in terms of:

- Identification of new cases of AF
- Ensuring appropriate treatment of AF patients
- Provision of arrhythmia clinics, pathways and service.

There are a variety of approaches, with local projects being encouraged to:

- Use age corrected prevalence data and/or individual practice data to highlight practices with potentially low rates of AF
- Support practices in screening of appropriate patients using targeted opportunistic screening
- Support practices in reviewing their protocols for dealing with AF patients to ensure that approaches are evidence-based and consistent with current best practice
- Support practices’ efforts to develop appropriate treatment services such as practice-based anticoagulation
- Examine local links for services for AF patients to ensure that these patients start promptly on an effective treatment pathway, including adequate systems for onward referral and specialist treatment.

**Outcomes**

Each project was asked to establish a baseline against which progress and improvement in the identification and management of patients with AF could be measured. This will demonstrate the positive impact of changes that are made in respect of:

- Numbers of new patients with AF identified and their subsequent treatment
- Numbers of existing AF patients reviewed and, where necessary, subject to optimal therapy
- Establishment of a clear and agreed patient pathway for AF patients (Chapter 8: Quality Requirements and Markers of good practice).
**Key Learning**
There has been a longer lead in time for these projects due to the multifaceted approaches that have been needed to agree active engagement in primary care.

Projects have needed to retain flexibility in their approaches to account for wide variation and differences in levels of expertise and access to resources in primary care.

Key areas for the focus of improvement work are around additional education, resources or new service models in the following areas:

- Interpretation of ECGs in primary care
- Warfarin prescribing in those over 75 years of age
- Access to anticoagulation services
- QOF points
- Using practice data from primary care information systems
- Opportunistic screening through pulse palpation.

**Progress and Next Steps**
Following the long lead in time, these projects have now established themselves over the last six months and are now gaining momentum, actively working with 22 primary care trusts and more than 139 general practices across England.

Early progress in some projects has resulted in:
- 1540 patients in a target population subject to opportunistic screening
- 25 new cases of AF identified and subsequently treated.

New service models are being established, for example:
- INR near patient testing
- Consortia based anticoagulation services
- Community diagnostic services.

During the next 18 months NHS Improvement will continue to provide a national lead to drive this improvement forward in primary care. The prognosis of patients who suffer a stroke as a result of AF is particularly poor, with only one third surviving one year\(^1\). The work to improve the identification, management and optimal treatment of patients with AF will also benefit from future alignment with the Department of Health’s ‘National Stroke Strategy’, published December 07, Quality Marker 2: Managing Risk\(^2\).

In addition, the emerging work following the publication of the Department of Health ‘Putting prevention first. Vascular Checks: risk assessment and management’ in March 2008, will provide further focus and support to those cardiac and stroke networks who are hosting these projects in partnership with primary care.

**Summaries**
The following summaries give an overview of the work of some of the 18 individual priority projects. More detailed information and supporting documents are available from the web-based resource at: [www.heart.nhs.uk/priority_projects/atrial_fibrillation_in_primary_care_/fibrillation.html](http://www.heart.nhs.uk/priority_projects/atrial_fibrillation_in_primary_care_/fibrillation.html)

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\(^2\)Risk factors include hypertension, obesity, high cholesterol, atrial fibrillation (irregular heart beats) and diabetes are managed according to clinical guidelines, and appropriate action is taken to reduce overall vascular risk.
Project Summaries
Atrial Fibrillation in Primary Care
Ipswich Hospital NHS Trust, Suffolk PCT, 17 GP Practices and Primary Care, Suffolk Cardiac Network
Anglia Cardiac Network

Issues to be addressed
- Potential for screening programme
- Engaging GP practices
- Management pathway for AF across primary and secondary care
- Educational programme for ECG interpretation and risk stratification.

Project commenced: December 2007

Baseline position
- No screening programme available at present
- Variable level of GP interest and engagement
- NICE guidelines in place but level of adoption unclear
- Variable level of knowledge, skills and confidence in primary care.

Actions taken and planned
- Review of unplanned admissions for AF using the PCT's information system
- Audit of primary care for emergency admissions and ECG usage
- Audit of outpatient referrals in secondary care
- Assessment of education and training needs of GPs
- Review of literature in preparation for pathway development
- Scoping the potential of a screening programme.

Key learning from the work
- Variable level of interest and understanding in primary care
- Issues around confidence levels regarding ECG interpretation and usage and risk stratification for thromboprophylaxis.

Results to date
- Still at very early stages of development
- Have reviewed the amount of unplanned admissions to secondary care for AF between Nov 06 – Dec 07 in order to select the patients for audit within primary care
- In process of carrying out audit in primary and secondary care.

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North Somerset PCT Atrial Fibrillation in Primary Care Project
North Somerset PCT and a cohort of ten GP practices
Avon, Gloucestershire, Wiltshire and Somerset Cardiac and Stroke Network

Issues to be addressed
The AF project in North Somerset is focusing on areas of the national project: a) diagnosis and; b) appropriate treatment, to reduce the risks associated with AF:

- By increasing the rate of diagnosis of AF by opportunistically screening to identify new cases of AF
- By ensuring the appropriate management of new and existing patients with AF by:
  - Promoting the recent Avon, Gloucestershire Wiltshire and Somerset (AGWS) Cardiac and Stroke Network Arrhythmia Guidelines and undertaking a post project audit of referrals to secondary care
  - Reviewing the management of patients using the CHADS2 risk tool (Congestive heart failure, history of hypertension, age > 75, diabetes, stroke/TIA).

The AGWS Cardiac and Stroke Network is keen for this project to be a supportive bridge between effective cardiac care and prevention of stroke. Reduction of strokes will be the key long term outcome - better identification and management of atrial fibrillation is the key near term goal. The network is offering an incentive of £2000 per practice for participation in this project linked to the identification of new AF patients and review of existing patients.

Project commenced: January 2008

Baseline position
Baseline data was collected before screening commenced. This included the number of patients on AF registers and the percentage of patients >65 years old with known AF. A total of 1516 patients were recorded with AF across the ten practices. The range was 7.2 to 14.4 % with an average of 9.0%.

Data on the number of existing AF/AF flutter patients who were prescribed or recorded as contraindicated for Warfarin, aspirin, clopidogrel and dipyridamole was also collected. Over the ten practices the following patient prescribing patterns were found:

<table>
<thead>
<tr>
<th></th>
<th>On</th>
<th>Contraindicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin</td>
<td>23.4%</td>
<td>10.9%</td>
</tr>
<tr>
<td>Warfarin</td>
<td>30.7%</td>
<td>14.4%</td>
</tr>
<tr>
<td>Clopidogrel</td>
<td>2.7%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Dipyridamole</td>
<td>1.9%</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

Actions taken and planned
Patients in the >65 age group are being opportunistically screened between 1 January and 31 December 2008 using the agreed pathway. Progress will be reviewed at three months. Practices will complete a ‘new patient proforma’ for each new patient identified. Doctors and nurses were asked to take pulses opportunistically and code in the records. A macro was created for speed and ease of entering pulse. One practice has put a poster up in the waiting room explaining the project to patients, encouraging them to ask to have their pulse taken.

All existing patients with diagnosis of AF/AF flutter will be reviewed by 31 December 2008 using CHADS2 tool with 25% reviewed by 31 March 2008. Practices will complete a ‘Proforma for Audit of Known AF Patients’.

Progress will be reported three monthly and following each project meeting and as further required.

The project manager and co-ordinator, Maggie Robins, will ensure the systematic recording of data in a central spreadsheet and provide an analysis ahead of project meetings. Improvements will be measured against baseline data including:

- Number and percentage of patients > 65 years of age newly identified with AF
- Number of patients on or contraindicated to aspirin, Warfarin, clopidogrel, dipyridamole
- Number and percentage of patients referred to secondary care
- Audit of management in accordance with the AGWS Cardiac and Stroke Network Arrhythmia Guidelines.
Key learning from the work
Collection of data from practices is challenging and difficult for practices. A high level of detail is needed on how exactly practices need to send in information as different practices have different clinical systems, different ways of entering data; many practices did need clinical support especially for the medication searches.

With any project in primary care the difficulty is remembering to continue to engage because there are so many other things going on. Timely reminders do help. Reviewing patients who already have a diagnosis is quite time consuming and it may be more appropriate for more money to be allocated for this part of the project and will therefore be subject to review.

Funding each individual completed form for new AF cases does ensure they are completed and returned.

Even with relatively high levels of known AF patients it is possible to identify cases of previously unknown AF using opportunistic screening.

Results to date
• Total new AF cases found: 13
• Total pulses taken by five of the practices = 897
• Number of practices who have reviewed some of their known AF patients = 5
• Number of known AF patients reviewed using CHADS2 = 279
• From four practices with analysed data, ten patients in total have been identified that were not on medication, however four of these declined Warfarin when recommended.

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Management of Atrial Fibrillation in Primary Care

**Inner City and East (Bristol) Practice Based Commissioning Consortia (PBC) currently supported by Bristol PCT**

Ten further practices to be identified to work with across Bristol
Avon, Gloucestershire, Wiltshire and Somerset Cardiac and Stroke Network

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**Issues to be addressed**
- Audit to assess if appropriate patients receiving Warfarin
- Consortium review audit and consider implication of findings
- Practices implement care pathway.

**Results to date**
- AF work included in PBC plan.

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**Project commenced: April 2008**

**Baseline position**
- PBC plan approved by consortia and Professional Executive Committee (PEC) on the 20 March 2008
- Bristol wide analysis being compiled to highlight practices to work with (see below).

**Actions taken**
- Compiling analysis across Bristol:
  - increased screening levels
  - improved management of AF patients
- Then target ten practices to work with to achieve the above aims
- Agree a monitoring and reporting system for the PBC audit work.

**Key learning from the work**
- Need to be persistent
- Work with people you know who are responsive and influential
- Need to
  - identify the incentives
  - present the problem
  - approach the issue as an opportunity.
Atrial Fibrillation in Primary Care

**Atrial Fibrillation Screening Pilot Project**  
**Pemberley Surgery, Bedford**  
**Bedfordshire and Hertfordshire Heart and Stroke Network**

**Issues to be addressed**  
As nurses no longer routinely palpate pulses, asymptomatic AF may go undiagnosed. In order to find the unmet need it is necessary to find a simple way of routinely screening the over 65 population by palpating their pulses.

**Project commenced: October 2007**

**Baseline position**
- 80% of over 65 population attend annual flu clinics
- National prevalence of AF from QOF is 1.30%, but this is thought to be too low
- Pemberley has 9433 patients and 174 known AF patients giving a prevalence of 1.84%, already higher than the national average
- Pemberley felt that they already screened opportunistically and did not believe that we would find many new cases.

**Actions taken and planned**
- Organised for two extra nurses to attend the two days of flu clinics and take the pulse of every attendee over 65 who was not already on the AF register
- Organised and agreed to pay the practice for performing a screening ECG on all patients found to have an irregular pulse
- Designed information leaflets for patients.

**Key learning from the work**
- If practices above the national average for AF prevalence could increase their prevalence by systematic screening to find their unmet need, practices below the national average could find even greater numbers
- Even practices that feel they are good at screening could improve.

**Results to date**
- 345 patients were screened
- 21 irregular pulses were detected
- 14 agreed to attend for follow-up ECG
- 7 new cases of AF were identified
- New AF prevalence 1.9%

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Atrial Fibrillation in Primary Care – Dudley Health Economy
Dudley PCT, Dudley Group of Hospitals
Worcester Street Commissioning Cluster (Pilot Site)
Black Country Cardiac Network

Issues to address
• Improving access to diagnostics – ECG
• Streamlining pathways and guidance for patients with AF
• Improving access to anticoagulation services.

Project commenced: July 2007

Baseline position
• Full review and audit carried out at Worcester Street Commissioning Cluster against NICE guidance July – September 07
• Investigation of QOF data – July 07
• Baseline assessment of hospital admissions at Russells Hall Hospital.

Actions taken and planned
• Baseline investigation at Worcester Street Practice against NICE guidance
• Formation of project group as sub-group of the Coronary Heart Disease Local Implementation Team (CHDLIT)
• Action planning at pilot practice following baseline assessment
• Searches at Worcester Street Practice to identify further potential patients
• Review of patients identified by searches for potential AF
• Development of draft AF guideline
• Development of outreach anticoagulation clinic at Worcester Street Practice
• ECG provision training at Worcester Street Practice for Health Care Assistants (HCA)
• Pulse checking for irregular rhythms added to all templates at pilot practice
• Finalisation of AF guidelines prior to pilot.

Action Plan
AF patient journey
Actively develop and agree a local pathway and guidance for the assessment, management and referral of patients with AF:
• Comprehensive patient journey to cover both primary and secondary care interfaces
• Journey to be piloted at Worcester Street Surgery
• Format both paper and electronic with links to existing Long Term Conditions pathways currently available in this format on Dudley PCT intranet

• Launch of completed and ratified patient journey to include educational sessions and ongoing practice support
• Professional development – offer development opportunities to clinicians and practice support staff with clinicians to improve the early detection of AF by increasing awareness of high risk groups and the importance of regular monitoring
• Work in partnership with Black Country Cardiac Network and Wolverhampton University in developing the CVD Skills Module forming part of the cardiovascular rolling programme
• Development of a rapid assessment arrhythmia service at Russells Hall Hospital.

QOF AF Indicators
To support practices in attaining higher thresholds for AF indicators in respect of management of people with AF:
• Through baseline review of borough wide AF prevalence from QOF registers, identification of individual practice prevalence compared to accepted UK prevalence
• To support practices to develop validated AF registers in primary care, based on accepted QOF prevalence rates.

Access to ECG
To improve the current access to both high quality recoding and reporting within the primary care setting:
• Baseline audit of practices with access to and the usage of ECG equipment within the practice
• Development of ECG provision options paper to include cost provision, training needs, impact and expected outcomes
• To develop ECG competencies as a component of a locally enhanced service.
Reducing Secondary Risk
To improve outcomes for patients with AF by reducing risk of cardiovascular complications with emphasis on the secondary development of stroke and TIA:

- Expansion of hospital based anticoagulation services to provide community outreach clinics and domiciliary provision
- Baseline audit of practice based prescribing of anticoagulation versus antiplatelet therapy to be included in the annual audit programme of PCT Medicines Management Team
- To explore the development of software in conjunction with MSD to risk stratify patients who are not currently receiving anticoagulation
- Development with practices to risk stratify and review patients as a component of a locally enhanced service.

Key learning from the work
Communication processes and joint working between primary and secondary care.

Results to date
There were originally 219 registered cases with AF at Worcester Street for a practice size of 20,820, giving an actual prevalence rate of 1%. We identified a further 184 potential cases through the searches of which the majority were found to have confirmed AF but had been miscoded to ‘History of AF’ giving us an actual prevalence of 1.9%.

Patients now receive their anticoagulation initiation and monitoring within the practice setting and therefore closer to home.

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Black Country Cardiac Network

Issues to be addressed
- Develop Arrhythmia Care Pathway
- Improve access to anticoagulation services in primary care
- Improve access to ECGs.

Project commenced: July 2007

Baseline position
- Identified the proportion of AF patients currently prescribed anticoagulant/antiplatelet therapy during the Impact Campaign
- Baseline assessment of hospital admissions and length of stay at Walsall Manor Hospital.

Actions taken and planned
- Facilitated workshop held
- Formation of project group as sub-group of the CHD Local Implementation Team and Long Term Conditions Executive Sub Group
- Impact Campaign delivered to all GP practices across PCT
- Manual pulse checking added to templates at all GP practices
- Baseline investigation of AF patients currently prescribed anticoagulant/antiplatelet therapy
- Appointment of arrhythmia nurse to post and development of referral pathway from primary care
- Identified issues around the use of and interpretation of ECGs and training and educational opportunities for practices
- Searches at Lichfield Street Practice to identify further potential patients
- Review of patients identified by searches for potential AF
- Baseline audit of practices with access to and the usage of ECG equipment within the practice
- Develop draft AF guidelines
- Continue to develop local pathway to arrhythmia clinic by spreading pilot sites for referral of patients with AF
- Professional development – offer development opportunities to clinicians and practice support staff with clinicians to improve the early detection of AF by increasing awareness of high risk groups and the importance of regular monitoring
- Work in partnership with Black Country Cardiac Network and Wolverhampton University in developing the CVD Skills Module forming part of the cardiovascular rolling programme
- To support practices in attaining higher thresholds for AF indicators in respect of management of people with AF. Through baseline review of borough wide AF prevalence from QOF registers, identification of individual practice prevalence compared to accepted UK prevalence
- To support practices to develop validated AF registers in primary care, based on accepted QOF prevalence rates
- To develop ECG competencies as a component of a locally enhanced service.

Key learning from the work
Well received within primary care following on from Impact Campaign.

Results to date
A total of 3233 patients were identified as having a diagnosis of AF (prevalence of 1.3%) Warfarin was prescribed in approximately 50% of all AF patients, aspirin alone in 32% of patients and clopidogrel in 4% of patients. However, 9% of patients did not appear to be receiving any form of anticoagulant or antiplatelet therapy. These patients were reviewed to determine possible explanations, e.g. diagnosis, poor treatment, compliance. If appropriate, AF patients will be considered for Warfarin or aspirin in order to reduce their risk of ischaemic stroke.

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Issues to be addressed

- High referral rate to secondary care for AF
- No direct referral for echo available
- Opportunistic pulse check to pick up undiagnosed cases
- Quality of ECG interpretation
- Recording of heart rate
- Initiating Warfarin in primary care
- INR monitoring – who to do and where is best for everyone
- Warfarin to be considered as first line treatment regardless of age and contraindications clearly recorded if not suitable and alternative treatments considered and discussed with patients
- Cardioversion – more patients need to be considered for cardioversion and referred as soon as possible
- After referral all patients to have INR checks done by lab to ensure consistent results, reducing risks of last minute cancellation for cardioversion as a result of INR not within required levels
- Patient and clinician education.

Actions taken and planned

- Community based echocardiography service in South Warwickshire to include referral of AF. This is to be audited at the end of May to review impact on referrals and possible roll out of service
- Met with consultants, GPs and nurses to discuss proposed pathway
- Education day later this year to ensure improved understanding of using CHADS2 scoring system and importance of patient education and support.

Key learning from the work

- Difficult to engage primary care
- CHADS2 score not used by primary care and many may not even be aware of this
- General reluctance to risk prescribing Warfarin to the elderly due to concerns about potential bleeds
- Poor and no education of patients with diagnosis of AF and no community support
- Patients following cardioversion who are at risk of recurrence should be managed on long term (life long) anticoagulation
- Difficulty getting financial support from PCT for increased provision of rehabilitation services.

Results to date

- Practices where detailed audit was carried out, started to:
  - use template to record heart rate
  - review patients with diagnosis of AF to ensure correct diagnosis
  - considered alternative, i.e. amiodarone, if patients refused Warfarin
  - clearly note both clinical and social contraindication to Warfarin
- Community based echocardiogram service started in February with good uptake to date
- Secondary care agreeing that most patients with AF can be managed in the community.

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Screening for Unidentified Patients
Essex Cardiac and Stroke Network and a cohort of GP Practices

**Issues to be addressed**
- Data analysis
- Practice engagement and commitment to find additional workload.

**Project commenced: Summer 2007**

**Baseline position**
All practices in Essex have had prevalence data analysed by calculating estimated numbers of AF patients by age band and comparing this to the number of AF patients on QMAS.

Twenty practices have been identified with possible patients missing from their AF register.

**Actions taken and planned**
One pilot practice was contacted who agreed to pulse palpate everyone over the age of 65 years during normal routine consultation.

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients seen during the month who fit criteria</td>
<td>298</td>
</tr>
<tr>
<td>Number of patients with irregular pulse and sent for ECG</td>
<td>20</td>
</tr>
<tr>
<td>Number of new AF diagnoses from the ECGs</td>
<td>2</td>
</tr>
<tr>
<td>Total new AF diagnoses, including two by practice nurses and possible one hospital discharge</td>
<td>5</td>
</tr>
<tr>
<td>Number of new AF diagnoses in the same period last year</td>
<td>5</td>
</tr>
</tbody>
</table>

Although pulse palpating everyone did not increase the number of patients identified, it is still thought to be a worthwhile exercise.

Additional practices are being contacted as part of the roll out. Practice data will be analysed in closer detail to see if there is a specific age group of patients missing who could be targeted.

**Key learning from the work**
One consideration for the difference between the estimated and actual numbers of AF patients is that many patients may have paroxysmal AF and have not reported palpitations to their GP or practice nurse. Pulse palpation and ECG are only diagnostic if patient is in AF when investigated.

We will now design and supply the practices with a poster for the waiting room, encouraging patients to report any palpitations.

**Results to date**
Too early for proper significant analysis.

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Oldham PCT, Pennine NHS Trust, Bolton PCT, Bolton NHS Trust
Greater Manchester and Cheshire Cardiac and Stroke Network

Issues to be addressed
- Target practices with low known prevalence of AF
- Promote the concept of manual pulse palpation for opportunistic screening of patients at high risk of AF
- Addition of pulse rhythm prompt (READ code 2431) to chronic disease templates
- Review anticoagulation rates of patients with known AF
- Review rate/rhythm management of patients with known AF
- Develop primary care based rapid access clinics for patients with AF
- Support the identification and management of patients with arrhythmias across primary, secondary and tertiary care.

Project commenced: October 2007

Baseline position
- 0.9% prevalence of AF in both Oldham and Bolton PCTs, ranging from 0.1% to 1.7% and 0.08% to 1.8% respectively
- Acute trust provides access to diagnostics and management of patients with AF through secondary care cardiology clinics
- Very little primary care provision for patients with actual or suspected AF.

Actions taken and planned
- Development of guidelines for the management of patients with AF
- Identification of practices with low known prevalence of AF
- Use of statistical process control (SPC) to prioritise practices for education and training with opportunistic screening, anticoagulation management and rate/rhythm control of patients with AF
- Establishing contact with GP practices and delivering update sessions for management of AF
- Updating chronic disease management templates to prompt for manual pulse palpation
- Reviewing practice registers for implementation of NICE guidelines for the management of AF
- Working with PCTs to determine most suitable model of rapid access clinic for patients with undiagnosed arrhythmia/AF.

Key learning from the work
- Need for ongoing awareness sessions for all clinic staff including medical and nursing personnel to promote the implementation of NICE guidelines for AF and recommendations from Chapter 8 of NSF for CHD
- Need for IT support to assist with the updating of chronic disease templates on some primary care clinical management systems
- Pathways for access to diagnostics will need to be developed between PCTs and acute trusts to support the development of primary care based clinical services
- Many GPs are content with secondary care input for ongoing management of patients with AF
- Support with ECG interpretation and arrhythmia diagnosis required across the PCTs.

Results to date
- Initial work completed in eight practices across Oldham and Bolton including update session(s) for practice staff, development of chronic disease templates and register reviews. Prioritised roll out of programme to other practices in both PCTs to continue
- Recommendations for clinical management made to GP practice where appropriate
- Supported ECG acquisition in one practice
- Further ECG and arrhythmia training sessions booked to take place in April-May 2008.

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Primary Care Arrhythmia Service – Medway PCT
Medway PCT, The Medway NHS Trust (Medway Maritime Hospital)
Kent Cardiac Network

Issues to be addressed
• Under identification of AF patients
• Low percentage of eligible patients with AF being anticoagulated
• The high number of marginal arrhythmia referrals to secondary care outpatients
• Reduce the incidence of strokes
• Increase the knowledge base of primary care through an Arrhythmia Education Plan
• Equitable standard of care and access in Medway.

Project commenced: September 2007

Baseline position
QOF data for Medway PCT suggests an under identification of approximately 1300 AF patients.

Actions taken and planned
Developing a service model which will:
• Provide nurse led primary care arrhythmia clinics
• Undertake and co-ordinate the patient’s diagnostic investigations
• Where necessary refer patients to secondary care clinic for further management
• Manage appropriate patients within the arrhythmia service, or
• Refer patients back to the GP for management within primary care
• Help GP practices identify and search for AF and other arrhythmia patients.

Business case prepared and submitted.

Key learning from the work
ECGs are fundamental to ensuring an accurate diagnosis. Studies have shown that many primary care professionals cannot accurately detect AF on an ECG. Diagnosis of AF in the community needs to have ECGs read by appropriately trained people. A community diagnostic service will be part of the primary care arrhythmia service and has been built into the business case.

Results to date
Currently awaiting the outcome of a business case submission.

Contact information
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Managing Atrial Fibrillation in Primary Care

Six GP practices in Lancaster and Morecambe, Royal Lancaster Infirmary (RLI), North Lancs Primary Care Trust, Lancaster/Morecambe Practice Based Commissioning Consortia
Lancashire and South Cumbria Cardiac Network

Issues to be addressed

- Ensure that AF prevalence in the practices matches what is expected nationally
- Ensure that all diagnosis has been confirmed as per NICE guidelines
- Ensure that all patients are receiving antiplatelet/anticoagulation therapy as appropriate
- Review prescribing trends for AF patients against NICE/local guidelines
- Audit acute admissions and cardiology referrals for AF patients
- Address training needs in particular around ECG recording and interpretation
- Review local anticoagulant service and address service improvements.

Project commenced: December 2007

Baseline position

- According to QMAS data AF prevalence in all but one of the six pilot practices is above nationally expected levels (King Street is a university practice). However, in some practices registers require validating in view of high elderly population
- Baseline data suggests that confirmation of diagnosis is good
- Prescribing data is still being collated, but early indications are that Warfarin prescribing particularly in the >75s is lower than recommended
- Training needs assessed in relation to ECG recording and interpretation
- Admission data for AF into RLI has been collated and practices have submitted cardiology referral data from April 2007 to date.

Actions taken and planned

- Developed a project guide to inform stakeholders of background detail
- Visited each practice team individually to outline project aims, request baseline data and disseminate and discuss ‘Management of AF in Primary care’ guidelines
- Collating and analysing baseline data (working with network data analyst)
- Organising the delivery of ECG training with network cardiac physiologist trainer
- Developed a communication plan to ensure that stakeholders are kept informed of developments
- Set up a project steering group, with representation from all stakeholders, in order to agree aims and objectives and provide guidance and support to the project
- Liaising with colleagues in secondary care in relation to the local anticoagulation service.

Key learning from the work

Identified recurring themes in relation to the identification and management of patients with AF e.g.

- Prevalence in all age groups is generally higher than expected nationally
- Practices need to ensure that pulse checks are inserted into all appropriate chronic disease templates
- Alternative methods of opportunistic screening have been discussed and shared by all participating practices, focusing in particular those at higher risk
- All practitioners have concerns about Warfarin prescribing in >75s
- Many GPs are accessing the local anticoagulant service differently and are not confident that this aspect of their AF management is being delivered effectively
- Offer of ECG training and updates received positively from all practices.

Results to date

- Practices have reported that as a result of validation work, they have increased numbers on their AF register
- As a result of discussions it was revealed that fewer pulse checks are being performed since the arrival of digital BP machines and that this needed to be raised as an important issue with regards to opportunistic screening for AF
- Discussions have begun with colleagues in secondary care in relation to some redesign around the anticoagulation service
- More guidance is being sought to support Warfarin prescribing, particularly in >75s
- A number of developments have been identified for discussion by the PBC Consortia.

Contact information

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www.improvement.nhs.uk/heart
Managing Atrial Fibrillation in Primary Care
Northants PCT, Bugbrooke Medical Practice
Leicestershire, Northamptonshire and Rutland Cardiac Network

Issues to be addressed
• Spread of project
• Warfarin/anticoagulation - service and management
• ECG skills - taking and reading.

Project commenced: July 2007

Baseline position
• No standard referral or pathway information available
• ECG reading and taking skills differ across the PCT
• Validation of registers not routinely carried out
• Referral for Warfarin management not standardised across PCT.

Actions taken and planned
• Developed an information folder for GPs that includes pathways, referral process, treatment, QOF points, READ codes, validation of AF registers and information regarding the NICE and clinical indicators for patients presenting with AF
• Survey of practices across PCT assessing ECG skills and training needs. From this a basic ‘taking an ECG’ training programme has been delivered with reading ECGs skills training programme being developed
• Review of anticoagulation and Warfarin management is being undertaken as part of the cardioversion service redesign
• Working with PCT data quality facilitators to support validation of AF registers.

Results to date
• Folder for GP practices containing:
  • How to create and validate an AF register in general practice
  • QOF triggers along the AF pathway with BMA guidance
  • A postcard for practices showing CHADS2 score chart/example ECGs
  • ‘Guidance on treatment of patients presenting with AF symptoms showing referral process’ (two sided with NICE references)
  • Protocol for managing AF in General Practice, Dr Shribman – Bugbrooke Medical Practice
  • Patient pathway showing diagnostics, information and referral process
• Delivered three sessions on ‘How to take an ECG for practice staff’.

Contact information
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Key learning from the work
• Anticoagulation guidelines and service to be reviewed as part of the local redesign of the cardioversion service and the 18 week pathway
• Compare QOF indicators one year on to see if the number of AF patients with an ECG has risen
• Further work on developing the ECG training in conjunction with the PCT.
Whitby Group Practice Near Patient INR Testing Project

Whitby Group Practice
North and East Yorkshire and Northern Lincolnshire (NEYNL) Cardiac Network

A practice of 15,133 patients in a rural/coastal area, with a satellite clinic at Robin Hoods Bay

Issues to be addressed

• 267 patients are on the AF register – 229 of whom are on anticoagulants. The existing INR testing system for stable AF patients required blood specimens to be sent to Scarborough Hospital approximately 20 miles away
• The narrow parameters of the software used resulted in patients being recalled and retested more regularly than was thought necessary
• Phoning for results and informing patients of dosages required approximately 21 hours of nursing time per week, with particular time delays over bank holidays
• Non face-to-face changes of doses could result in dosing errors
• Because of the restrictions of the transport service, patients could only be offered morning appointments which could be problematic because of the rurality of the area and average age of the patients
• Funding was not available via the PCT to pilot the benefits of a near patient testing system so the NEYNL Cardiac Network agreed to pump prime this work.

The project aims to:

• Reduce the number of INR tests required to maintain good control
• Improve patient convenience
• Improve efficiency in the use of GP/nurse time
• Reduce the potential for dosing errors.

Project commenced: August 2007

Baseline position

• Nursing time measured for phone calls for the current service was a minimum 21 hours per week
• AF registers showed 229 patients on Warfarin from a possible 267. A case note review was performed to ensure patients were not inappropriately untreated
• A satisfaction survey was performed on staff and patients. Whilst staff were dissatisfied with the service, patients found the current service efficient and were generally satisfied
• Overall costs of current service were difficult to calculate. Costs of the new service are being monitored although comparison may prove unreliable.

Actions taken and planned

• Equipment purchased by practice manager including three Coaguchek XS plus monitoring machines, testing strips and INR star software
• Staff were trained in the use of equipment and the use of the software – initially practice nurses, but there are plans to roll this out to district nurses who will undertake home testing
• Appointment slots being redesigned
• Mechanism of calibrating equipment and validating tests set up with lab
• System set up within the practice with GP who will check and advise on results if required
• Training delays have meant that there have been delays transferring to the new system which finally went live week commencing 10 March 2008.

Key learning from the work

• This project is still ongoing, so learning continues. Initial experience shows that setting up new services often takes longer than expected and does not always run as smoothly as hoped
• Cardiac network pump priming can act as a catalyst to service improvement – particularly to projects which enthusiastic individuals would like to progress but cannot move forward without a small amount of investment
• Beware of patient satisfaction surveys – they do not always provide the results staff expect
• Measuring current activity can really demonstrate waste in the system e.g. 21 hours of nursing time spent on the phone.

Results to date

• It is too early to have robust results yet but some should be available by early May
• The practice based commissioning group are now discussing rolling out near patient testing to other practices.

Contact information

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www.improvement.nhs.uk/heart
Atrial Fibrillation in Primary Care
Rotherham PCT, Rotherham Hospital NHS Foundation Trust
North Trent Network of Cardiac Care

Issues to be addressed
• Assess current care of patients with AF or at risk of developing it
• Develop an AF pathway
• Review of ECGs within general practice
• Training and development for primary care staff. Identify those practices not participating
• Anticoagulation services
• Stroke services

Project commenced: July 2007

Baseline position
To review what services are currently available within primary and secondary care in Rotherham for patients with atrial fibrillation or for those at risk of developing atrial fibrillation.

Actions taken and planned
• Undertook a scoping exercise to identify what is happening in other areas in relation to ECG monitoring and reporting/telemetry/24 hour monitoring and reported the findings back to the Practice Based Commissioning group. A GP has put in a bid to deliver these services on a local level
• Undertook a scoping exercise to identify what training and competencies are available to support near patient testing for INR. This was then fed back to the Anticoagulation Group
• A programme of training and development for primary care staff including:
  • Hypertension update
  • ECG basic interpretation and recording
  • Coronary heart disease (CHD) update
  • Diploma in CHD
• A review of all admissions with a primary diagnosis of atrial fibrillation during 2007
• ECG provision and interpretation within primary care has been assessed. This reviewed whether patients were being seen in the GP practice or referred to the open access ECG department, training needs, who was interpreting the reports and whether or not reports were being sent to the cardiologist and if so why. This report is being fed back to the care pathway group
• A review of heart failure patients with three or more admissions identified that a number also had atrial fibrillation
• There is an established anticoagulation group and they have been reviewing the possible use of near patient testing for INR in primary care. The funding has been identified and this service is to be developed – training and guidelines are to be developed
• The CHD Local Implementation Team (LIT) has now encompassed stroke and is now the cardiovascular disease (CVD) LIT and the lead physician from secondary care has joined the group
• A meeting about stroke was held for stakeholders within the network to identify current care and how services can be developed further. Key people from both primary and secondary care attended
• A stroke project group has been developed and this will feed into the CVD LIT. It encompasses members from both secondary and primary care
• Work is being undertaken to target patients from within the South Asian population who have or are at risk of developing cardiovascular disease. A meeting is being held with members of the South Asian Health Foundation to assess how this group of people can be engaged. This also links in with work around BME and equity
• The pharmacy advisors are to review prescribing for atrial fibrillation patients within primary care to identify if there are any issues and whether there is a training need
• Hypertension guidelines have been developed for use in primary care.

www.improvement.nhs.uk/heart
Key learning from the work
• May need a time limited project group to drive the work forward
• Training needs to be ongoing
• There is very little training or competencies available to support near patient testing in primary care and this needs to be assessed
• The work around AF may need to be linked to the work for stroke
• Need to map current AF services within the health community
• To continue the project
• To link in with the AF pathway which has been developed by the North Trent Network of Cardiac Care
• That patients who are diagnosed with atrial fibrillation need to get on the appropriate pathway of care, with the appropriate treatment
• Although the majority of practices have sent staff to training updates, some have not and these are to be identified and targeted.

Results to date
• Funding has been identified and a near patient testing service for INR is to be developed within primary care
• A GP has put in a bid for a PBC service to undertake and review ECGs/24hour monitoring etc
• The CHD LIT has now become the CVD LIT, and the stroke lead physician from the acute trust has joined the group as has the PCT lead person for stroke
• A stroke project group has been established covering secondary and primary care
• To identify work and services relating to atrial fibrillation and put this into a report format which will then be presented and an action plan developed at the next care pathway meeting in May 2008.

Contact information
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Identification and Management of Atrial Fibrillation in Primary Care

Sheffield Primary Care Trust, Sheffield Teaching Hospital NHS Foundation Trust
North Trent Network of Cardiac Care

Issues to be addressed
- Engaging practices
- Agreeing data set
- Monitoring anticoagulation for the housebound and care homes
- Agreeing referral criteria/process for rapid access AF clinic
- Managing the interface between primary and secondary care.

Project commenced: September 2007

Baseline position
Identification and management of atrial fibrillation (AF) is variable across the city. National reported prevalence is 1.29% compared with 1.5% PCT prevalence. In addition there is considerable under diagnosis, demonstrated by the wide variation 0.20% - 3.29% in QMAS (QOF) reporting for 2006/7. The percentage of patients with AF who are currently treated with anticoagulation or an antiplatelet therapy is also variable across the city, suggesting that patients may be missing out on treatments to reduce their risk of stroke. There appears to be some inequity in access to anticoagulation services for the housebound and the elderly.

Actions taken and planned
- Key stakeholders identified and a project group established
- Ten practices linked to the enhanced public health programme were identified and invited to participate in the project
- Query set under discussion
- Meetings with the first wave (five) practices arranged to discuss the project and issues specific to practices
- Working with the acute trust on the development of rapid access AF clinic
- Discussing anticoagulation service provision for the housebound and care home patients.

Key learning from the work
- Test out data query set prior to commencing searches in practices
- Perceived issues by project group not always issues for practices
- Initially engage with those practices who express an interest in participating
- Gaining support from the PEC has been key to engaging with practices
- Establish what practices require before developing guidelines, protocols etc.

Results to date
- Data query set tested and is now under revision
- First wave (five) of practices invited to participate
- Appointments made with four of the five practices
- First practice agreed to participate
- Secondary care pilot of rapid access AF clinic due to commence in April.

Contact information
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A Sector Wide Approach to Optimising Therapy for Atrial Fibrillation Patients in Primary Care

Five PCTs and four acute trusts in South West London

South West London Cardiac and Stroke Network

Issues to be addressed
To improve the ongoing management of patients with AF in primary care.

Project commenced: November 2007

Baseline position
A preliminary audit from one practice suggested at least 30% of patients on the AF register could benefit from having their therapy optimised.

Actions taken and planned
An audit was carried out of AF treatment against NICE guidelines in two practices, in two separate PCTs. Key findings were:

- Although 90% of AF patients were prescribed antithrombotic therapy, 65-70% of those on aspirin or clopidogrel should have been on Warfarin
- A substantial number of patients were prescribed either digoxin only for rate control or no rate control at all
- That AF patients were not regularly reviewed and their stroke risk was not re-evaluated.

These results were fed back to the practices concerned, highlighting specific patients for review. It is planned to re-audit these patients in three to six months to assess the full impact of the audit.

Following these initial audits, we are in the process of rolling the audit out sector wide. Because of different levels of expertise and resource in primary care, this is being addressed in a number of ways:

- Development of an audit template for use across the sector
- Targeting of practices that have lower than average QOF returns for AF to offer support to carry out the audit
- Offering audit template to PCTs and PBC groups for local implementation
- Development of simple care pathway for AF patients in primary care
- Inclusion of review and maintenance recommendations in discharge letters from outpatients clinics in secondary and tertiary care
- Education event.

Key learning from the work
In primary care, AF patients are not reviewed regularly, and their treatment is sometimes suboptimal. These patients can be identified by audit to allow optimisation of their treatment.

Results to date
- Initial audit carried out and fed back to sector wide steering group
- Plan for sector wide approach agreed
- Dissemination agreed.

Contact information
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www.improvement.nhs.uk/heart
Issues to be addressed

- Awareness and knowledge of atrial fibrillation amongst clinicians in primary care
- Appropriate treatment of atrial fibrillation and when to refer for a specialist opinion
- Improving the detection of atrial fibrillation amongst older people
- Highlighting patients who require a review of anticoagulation medication.

Project commenced: January 2008

Baseline position

Thirteen practices are taking part in the pilot, with a combined population of 107,304. Of these patients, 1,346 were already registered by March 2007 as having AF giving a prevalence of 1.25%.

Actions taken and planned

Currently, all 13 practices have started the opportunistic screening phase of the project. They have been encouraged to carry out pulse palpation of all patients over the age of 75 years that attend the practice. This may be expanded to all patients over the age of 65 years depending upon the initial outcomes.

Three GP education updates have been held that attracted 35 GPs and several practice nurses. These were led by the consultant cardiologist who is involved with the project and were a useful launch pad for the project itself.

Practices will be also trialling the usefulness of a hand-held ECG device in detecting AF amongst the subset of patients who are not symptomatic when they attend surgery but report symptoms of AF at other times.

After this, it is intended to run a MIQUEST query on current AF patients to highlight those in need of a review. This query is currently being developed by another network that is working on making it compatible across all GP systems.

Key learning from the work

- GPs have welcomed the local educational updates and reported that they would change certain aspects of their practice as a result of attending e.g. earlier warfarinisation
- The hand-held device (OMRON HeartScan) is seen as a useful adjunct to usual practice but there have been problems with the software and compatibility with GP systems that have delayed its use in several practices.

Results to date

No results so far, aside from good participation amongst practices without the need to provide financial incentives so far. They have all welcomed the educational aspect of the project and have been keen to try out the new devices.

However, no firm results as of yet with respect to detection rates or improvements in management of current AF patients.

Contact information

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www.improvement.nhs.uk/heart
Issues to be addressed

Early stages of project:

- Commitment from organisations
- Difficulties following commissioning a patient led NHS (CPLNHS) to identify portfolio lead for cardiac and stroke for this project.

Possible future issue to ensure work is spread and continues across rest of city by fitting in with PCT structures.

Project commenced: July 2007

Baseline position

The only baseline data available at the beginning of the project was QOF data related to the number of patients on AF registers. This would not get us a true and accurate figure of actual numbers of patients whose condition was managed in line with NICE guidance. A more accurate figure would follow once the project began exploring further with individual practices.

Actions taken and planned

- Pulled together a project group to begin to agree project aims and outcomes
- Identified time for arrhythmia specialist nurses to commit to project
- Identified practices to support project based on geographical location and social status to ensure as fair representation as possible across the city
- Developed a CD tool to interrogate GP systems in order to risk stratify AF patients on the register using CHADS2. This tool has been developed to interrogate systems other than System1 and have been trialled during the project.

Ongoing:

- Continuing work on the tool to ensure it is user friendly and also working on making it compatible with System1
- Contacting practices involved in project to ensure results of the project are collected and produced for national team

Key learning from the work

Although not a surprise, the actual time taken to get the project off the ground and all involved signed up was longer than anticipated due to time constraints of project members; again as always a key learning point. Also, actual visiting of practices to enrol in project was challenging both in gaining access and time related to fitting into practice time.

Results to date

- CD tool developed and results from it positive in terms of time taken to perform and visually, how information is presented
- Discussions commenced with expert help to make it user friendly and compatible with System1
- Results from project will be collated and shared.

Contact information

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Email: keith.tyndall@nhs.net
Project Team Leads and Participating Sites
# Project Team Leads and Participating Sites

<table>
<thead>
<tr>
<th>Network</th>
<th>Lead</th>
<th>Participating Sites</th>
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<tbody>
<tr>
<td><strong>Anglia Cardiac Network</strong></td>
<td>Melissa Reeve, Julie Collier, Hannah Drinkwater, Genevieve Dalton</td>
<td>Ipswich Hospital NHS Trust, Suffolk PCT, GPs and Primary Care, Suffolk Cardiac Network.</td>
</tr>
<tr>
<td><strong>Avon, Gloucestershire, Wiltshire and Somerset Cardiac and Stroke Network</strong></td>
<td>Elsa Brown, Rachel Holmes</td>
<td>North Somerset PCT and the following GP practices: Clevedon Riverside, Nailsea Family Practice, The Green Practice, Sunnyside, Long Ashton, Nailsea and Backwell, Riverbank, Winscombe, Wrington and Churchill, Yatton and Congresbury, Inner City and East (Bristol) Practice Based Commissioning Consortia (PBC) currently supported by Bristol PCT. Ten further practices to be identified to work with across Bristol.</td>
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<tr>
<td><strong>Bedfordshire and Hertfordshire Heart and Stroke Network</strong></td>
<td>Candy Jeffries, Delyth Williams</td>
<td>Pemberley Surgery, Bedford</td>
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<tr>
<td><strong>Black Country Cardiac Network</strong></td>
<td>Joanne Gutteridge, Angela Nelson</td>
<td>Dudley PCT, Dudley Group of Hospitals, Worcester Street Commissioning Cluster, Walsall tPCT, Walsall Hospitals NHS Trust</td>
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<tr>
<td><strong>Coventry and Warwickshire Cardiovascular Network</strong></td>
<td>Juelene White</td>
<td>Warwickshire PCT, Coventry PCT, George Eliot Hospital, South Warwickshire Hospital and University Hospital Coventry and Warwickshire</td>
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<td><strong>Essex Cardiac and Stroke Network</strong></td>
<td>Alison Springett</td>
<td>Essex Cardiac and Stroke Network and a cohort of GP practices</td>
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<tr>
<td><strong>Greater Manchester and Cheshire Cardiac and Stroke Network</strong></td>
<td>John Campbell</td>
<td>Oldham PCT, Pennine Acute NHS Trust, Bolton PCT, Bolton Acute NHS Trust</td>
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<tr>
<td><strong>Kent Cardiac Network</strong></td>
<td>Tim Waite</td>
<td>Medway PCT, The Medway NHS Trust (Medway Maritime Hospital)</td>
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<td><strong>Lancashire and South Cumbria Cardiac Network</strong></td>
<td>Lauren Butler, Jeannie Hayhurst</td>
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<td><strong>North and East Yorkshire and Northern Lincolnshire Cardiac Network</strong></td>
<td>Carol Hargreaves, Melanie Dunwell</td>
<td>Whitby group practice</td>
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<td><strong>South West London Cardiac Network</strong></td>
<td>Laura Gillam, Michelle Bull</td>
<td>Five PCTs and four acute trusts in South West London</td>
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<tr>
<td><strong>Surrey Heart and Stroke Network</strong></td>
<td>Liz Patroe, Vanessa Lodge</td>
<td>General practices in Woking and West Byfleet, Surrey PCT and St. Peter's Hospital, Chertsey</td>
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<td>Adele Graham, Keith Tyndall</td>
<td>Leeds PCT, Leeds Teaching Hospitals NHS Trust</td>
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### National Team Members

- **Dr Campbell Cowan**
  - National Clinical Lead, Consultant Cardiologist
- **Dr Strat Liddiard**
  - National Clinical Lead, General Practitioner
- **Ian Golton**
  - Director, NHS Improvement
- **Sue Hall**
  - National Improvement Lead, NHS Improvement
- **Anne Coleman**
  - Personal Assistant, NHS Improvement
NHS Improvement

NHS Improvement is a newly formed national improvement programme working with clinical networks and NHS organisations to transform, deliver and sustain improvements across the entire pathway of care in cancer, cardiac, diagnostics and stroke services.

Formed in April 2008, NHS Improvement brings together the Cancer Services Collaborative ‘Improvement Partnership’, Diagnostics Service Improvement, NHS Heart Improvement Programme and Stroke Improvement into one improvement programme. With over eight years practical service improvement experience in cancer, diagnostics and heart, NHS Improvement aims to achieve sustainable effective pathways and systems, share improvement resources and learning, increase impact and ensure value for money to improve the efficiency and quality of NHS services.

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