



## Recommended

This has been highlighted as a potential high-impact change by our peer review process

# Atrial fibrillation – detection and optimal therapy in primary care

Provided by: NHS Stroke Improvement Programme

## Summary

Opportunistic screening by pulse palpation of patients over 65 has been used in 18 regions to improve detection of atrial fibrillation. Quality is improved by the optimal treatment of patients with atrial fibrillation, thereby reducing the risk of stroke. Productivity is increased by the reduction in costs associated with stroke and its complications.

## Evidence summary

- Yes** The intervention has been successfully implemented
- Yes** The intervention has been successfully replicated
- Yes** The intervention is linked to standards or guidance
- Yes** The intervention is supported by one or more national organisations
- Yes** An evaluation of the effects of the intervention has been carried out
- Yes** There are publications relating to this intervention

## The proposal

**Proposal description** Improve quality outcomes for patients with atrial fibrillation (AF) and reduce health and social care costs by reducing patients' risk of stroke through service improvements to improve detection, diagnosis and optimal therapy and management in primary care.

**Purpose of change** To improve the identification, diagnosis, risk stratification and optimal management of patients with AF to reduce the risk of stroke.

AF is a major predisposing factor to stroke, with 16,000 strokes annually in patients with AF, of which 12,500 are thought to be directly attributable to stroke. Warfarin reduces the risk of stroke by 50–70%.

Currently it is estimated that 46% of AF patients who would benefit from anticoagulation are not receiving it.

# Quality and Productivity

<b>Pathway group</b>	Long-term conditions
<b>Type of change</b>	<p>National roll-out supported by the Stroke Improvement Programme and the cardiac and stroke networks.</p> <p>Primary Care Trusts (PCTs), Practice Based Commissioners (PBCs) and General Practitioners (GPs) to apply evidence-based learning, accessing tools, resources and education programmes developed for use in primary care through the first phase of the pilot projects to improve the identification, diagnosis and optimal therapy for AF patients to reduce the risk of stroke.</p> <p>These resources provide a suite of demonstrable and evidence-based approaches in primary care to improve quality outcomes and quantifiable return on investment and which would underpin a national drive to improve optimal therapy for AF patients to reduce strokes through sustainable change to practice.</p>
<b>Related standards and guidance</b>	<ul style="list-style-type: none"><li>• <i>National Stroke Strategy</i> – Quality Marker 2: Managing Risk (2007)</li><li>• <i>National Service Framework for Coronary Heart Disease (CHD)</i> – Chapter 8: Arrhythmias and Sudden Cardiac Death (2006)</li><li>• <i>Management of atrial fibrillation</i>, National Institute for Health and Clinical Excellence (NICE) Clinical Guideline (2006)</li></ul>
<b>Other information</b>	<ul style="list-style-type: none"><li>• Atrial fibrillation is common and affects over 600,000 patients in England (1.2%) and is a major predisposing factor for stroke.</li><li>• The annual risk of stroke is five to six times greater in AF patients.</li><li>• Evidence of under-detection and sub-optimal treatment is compelling.</li><li>• The treatment of AF with warfarin reduces the risk of stroke by 50–70%.</li><li>• The number needed to treat (NNT) to prevent one stroke is 37.</li><li>• It is estimated that up to 4,500 strokes per year and 3,000 deaths may be preventable through improved services and optimal therapy.</li><li>• The estimated total cost of maintaining one patient on warfarin for one year, including monitoring, is £383.</li><li>• Based on NNT ranging from 25 to 37 (Kerr) the costs of each stroke prevented with warfarin are in the range £9500 to £14000.</li><li>• Efficiency and productivity are increased through the reduction in inappropriate referrals to secondary care and bed days saved.</li></ul>

## Evidence of implementation

---

### Organisations where the proposal has been implemented

Eighteen priority projects were piloted and developed resources, managed within the following heart and stroke networks:

- Anglia – Suffolk
- Avon, Gloucestershire, Wiltshire and Somerset – North Somerset PCT
- Bedfordshire and Hertfordshire – Bedford PCT
- Black Country – Dudley PCT, Walsall
- Coventry and Warwickshire – PCT
- Essex – a cohort of GP practices
- Greater Manchester and Cheshire – Oldham PCT, Bolton PCT
- Kent – Medway PCT
- Lancashire and Cumbria – six general practices, Lancaster and Morecambe PBC
- East Midlands – Northamptonshire PCT
- North Trent – Rotherham PCT
- North and East Yorkshire and North Lincolnshire – Whitby group practices
- Surrey – Woking and West Byfleet
- West Yorkshire – Leeds PCT, York Health Group
- South-West London – five PCTs

The second phase of nine spread sites commenced in October 2009.

---

### Effect on quality of care

#### *Safety*

- Improved detection of AF through opportunistic and systematic pulse palpation.
- Improved quality outcomes for patients with AF through optimal therapy to reduce the risk of stroke.

#### *Effectiveness*

- Cost-effective treatment for AF, reduced risk of stroke, and avoidance of significant health and social care costs per stroke due to AF.
- Improved productivity through a reduction in referrals and bed days saved.

#### *Patient experience*

- Prevention of avoidable mortality and morbidity; the prognosis of patients who suffer a stroke as a result of AF is particularly poor.
- 

### Effect on productivity

Each year appropriate anti-coagulation could prevent 4,500 strokes in patients with AF at an additional cost of £63.5 million.

---

# Quality and Productivity

The 2010 National Audit Office Progress in improving stroke care report estimates that, in 2008-09, the direct care cost of stroke was at least £3 billion annually, within a wider economic cost of about £8 billion.

---

## Timescales for realisation of benefits

Pilot projects delivered within a range of 6 to 18 months.

---

## Additional costs

- Tools, resources and publications are freely available through the Stroke Improvement Programme website and the NHS Improvement System.
- The cost of warfarin is £383 per year per patient, including the anticoagulation service.
- There is some potential increase in demand for diagnostic electrocardiogram (ECG), dependent on local provision of service.
- Some areas have chosen to use LES to incentivise opportunistic pulse taking or for reviewing known AF patients.

---

## Evidence for the effect on quality and productivity

Full details of outcomes are documented in the following publications:

- *Heart Improvement: Atrial fibrillation in primary care* (May 2008)
- *Atrial fibrillation in primary care: making an impact on stroke prevention* (October 2009)

---

## Evidence of replication

---

### The proposal has been replicated

**Yes** In the NHS  
**No** Other UK  
**No** International

---

### Details of replication

- The opportunistic screening of patients over 65 for AF through pulse palpation piloted in Bedfordshire and Hertfordshire has been replicated across other health communities, including a PBC approach in North-East Essex.
- The AF national priority project in the West Yorkshire Cardiovascular Network developed the GRASP-AF (Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation) tool with Primary Care Information Services+ (PRIMIS+) and piloted it in Leeds and with the York Health Group. GRASP-AF can be used on all GP clinical systems to review known AF patients, risk stratify for stroke, and highlight those patients with a CHADS2 score of 2 or more who are not anticoagulated and who would benefit from a review to encourage optimal therapy. This has now been released nationally and has been available by registering on the Stroke Improvement Programme website since July 2009. To date, it has been downloaded by around

# Quality and Productivity

---

100 practices.

- The second phase of nine projects has been launched through the Stroke Improvement Programme to spread and embed sustainable improvement by applying a suite of tools and resources that are supported by evidence-based learning.

---

**Results of replication** **Yes** A consistent cash-releasing saving or productivity gain was achieved.  
**Yes** A consistent gain in the quality of services was achieved.

---

**Supporting evidence** Three examples have been selected from a range of evidenced outcomes:

*Opportunistic screening: North-East Essex*

- 37 out of 43 practices signed up to Local Enhanced Services (LES) incentivised.
- 34,201 patients screened in six weeks at flu clinics.
- 3,154 patients with irregular pulse; 189 patients AF; 342 patients other arrhythmias; 77 patients CHADS2 stratified as being at risk for stroke and warfarinised.
- Screening costs: £2 per patient.
- Outlay: £68,402.
- Cost per diagnosis: £362.
- Strokes prevented during the next year: five.

*Opportunistic pulse check prompted by flag to GP clinical system: Durham*

- Practice population: 11,423 AF.
- 1,883 patients over 65.
- 1,569 had their pulse checked; 207 had an irregular pulse.
- 130 patients had an irregular pulse and no known AF.
- 99 patients had an ECG.
- 36 patients were diagnosed with previously unknown AF.
- There was a change in prevalence from 1.32% to 1.82%.
- The prevalence for 65 years and over was 10.9%.

*Review of known AF using the GRASP-AF tool: York*

- 24 practices.
- Total population of 228,651.
- 3,613 patients with identified AF.
- 1,914 (53%) with a CHADS2 score of 2.
- 899 (47%) not on warfarin.
- 41 new warfarin prescriptions (6%).
- iReview incentivised by network.

## Further evidence

---

<b>Evaluations</b>	Learning and outcomes from each of the first phase projects have been documented and published.
<b>Related publications</b>	<i>Atrial fibrillation in primary care: making an impact on stroke prevention</i> (October 2009) <i>Commissioning for stroke prevention in primary care: the role of atrial fibrillation</i> (June 2009) <i>Heart Improvement: Atrial fibrillation in primary care</i> (May 2008) <a href="http://www.improvement.nhs.uk/stroke">www.improvement.nhs.uk/stroke</a> <a href="http://www.improvement.nhs.uk/heart">www.improvement.nhs.uk/heart</a>
<b>Support from national organisations</b>	NHS Stroke Improvement Programme NHS Improvement DH Vascular Programme Professor Roger Boyle, National Director for Heart Disease and Stroke
<b>Other evidence</b>	<ul style="list-style-type: none"><li>• <i>Atrial fibrillation cost benefit analysis</i>, Marion Kerr, Department of Health (2008)</li><li>• <i>The management of atrial fibrillation: Costing report</i>, NICE (2006)</li><li>• A randomised controlled trial and cost-effectiveness study of systematic screening (targeted and total population screening) versus routine practice for the detection of atrial fibrillation in people aged 65 and over. The SAFE study, Hobbs FDR, Fitzmaurice DA, Jowett S et al., <i>Health Technology Assessment</i> 2005; 9:40</li><li>• Cost of stroke in the United Kingdom, Saka O, McGuire A, Wolfe C, <i>Age and Ageing</i> 2009; 38(1):27–32</li></ul>

---

## Implementation advice

---

<b>Implementation guidance</b>	<p>Current implementation has been through local projects facilitated through cardiac and stroke networks led nationally by the Stroke Improvement Programme.</p> <p>Future proposal:</p> <ul style="list-style-type: none"><li>• To agree at a strategic level to encourage a consensus approach in primary care.</li><li>• PCTs, PBCs and general practice to apply evidence-based learning, accessing tools and resources developed to improve the identification, diagnosis and optimal therapy for AF patients to reduce the risk of stroke, supported through the Stroke Improvement Programme and cardiac and stroke networks.</li></ul>
--------------------------------	---

---

# Quality and Productivity

---

---

## Further considerations

### Key challenges:

- The reluctance of many GPs to prescribe warfarin in the elderly despite a BAFTA trial evidencing the efficacy of warfarin over aspirin, with no increased bleeding risk.

---

## Contacts and resources

All contact details for national and local clinical and project leads are available from the publications.

Cardiac and stroke network contact details are available from the Stroke Improvement Programme website at

[www.improvement.nhs.uk/stroke/](http://www.improvement.nhs.uk/stroke/)

---

ID: 1169