

**NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE**

**Proposed Health Technology Appraisal**

**Rivaroxaban for the prevention of stroke and systemic embolism in people with atrial fibrillation**

**Draft scope (Pre-referral)**

**Draft remit/appraisal objective**

To appraise the clinical and cost effectiveness of rivaroxaban within its licensed indication for the prevention of stroke and systemic embolism in people with atrial fibrillation.

**Background**

Atrial fibrillation is the most common heart rhythm disturbance and its main characteristic is an erratic and rapid heartbeat. It leads to deterioration in the mechanical function of the atria and prevents complete expulsion of blood. The blood in the atria becomes stagnant which can lead to blood clot formation. These clots can travel throughout the body and if they travel to the brain, they can cause a stroke.

Annually in England and Wales, 130,000 people experience a stroke episode and there are 60,000 deaths due to stroke. More than 20% of these strokes are attributed to atrial fibrillation. Approximately a third of people who have a stroke are likely to die within the first ten days, about a third are likely to make a recovery within one month and about a third are likely to be left with disabilities needing rehabilitation. Stroke is the leading cause of adult disability. Depending on the area of the brain that has been damaged, a patient can experience speech and language problems and/or orientation, movement and memory problems.

Stroke is more common in women, older people and people with atrial fibrillation, diabetes mellitus, hypertension and prior cardiovascular events (myocardial infarction, stroke, transient ischaemic attacks). There is a 30-43% risk of a recurrent stroke within five years after the first stroke.

The risk of stroke in people with atrial fibrillation can be reduced with antithrombotic treatment. The choice of antithrombotic treatment should be based on a balance of the benefits of treatment in terms of a reduction in the risk of stroke and other thromboembolic events versus the increased risk of bleeding associated with anticoagulation or antiplatelet therapy. NICE clinical guideline 36 for the management of atrial fibrillation recommends that people with atrial fibrillation at high risk of stroke should receive anticoagulation with warfarin. In people with atrial fibrillation at low risk of stroke, such as those under the age of 65 years with no other risk factors, treatment with aspirin may be preferred. Anticoagulation may be inadvisable in people with atrial fibrillation at high risk of bleeding.

### The technology

Rivaroxaban (Xarelto, Bayer HealthCare) is an anticoagulant which acts by direct inhibition of activated factor X (factor Xa). Factor Xa is a key component in the formation of blood clots. It is administered orally.

Rivaroxaban does not currently have a UK marketing authorisation for the prevention of stroke and systemic embolism in atrial fibrillation. It is being studied in clinical trials compared with warfarin in adults with atrial fibrillation.

<b>Intervention(s)</b>	Rivaroxaban
<b>Population(s)</b>	Adults with atrial fibrillation
<b>Comparators</b>	<ul style="list-style-type: none"> <li>• Warfarin</li> </ul> In people for whom warfarin is unsuitable <ul style="list-style-type: none"> <li>• Antiplatelet agents</li> </ul>
<b>Outcomes</b>	The outcome measures to be considered include: <ul style="list-style-type: none"> <li>• stroke</li> <li>• non-central nervous system embolism</li> <li>• myocardial infarction</li> <li>• mortality</li> <li>• adverse effects of treatment including haemorrhage</li> <li>• health-related quality of life</li> </ul>
<b>Economic analysis</b>	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared. Costs will be considered from an NHS and Personal Social Services perspective.
<b>Other considerations</b>	Guidance will only be issued in accordance with the marketing authorisation.
<b>Related NICE recommendations</b>	Related Technology Appraisals: Technology Appraisal in preparation. Dronedarone for the treatment of atrial fibrillation. Expected date of

	<p>publication August 2010.</p> <p>Technology Appraisal in preparation. Dabigatran etexilate for the prevention of stroke and systemic embolism in atrial fibrillation. Expected date of publication June 2011.</p> <p>Technology Appraisal in preparation. Clopidogrel in combination with aspirin for the prevention of vascular events in people with atrial fibrillation. Expected date of publication tbc.</p> <p>Related Guidelines:</p> <p>Clinical guideline No. 36, June 2006, The management of Atrial Fibrillation. Review date June 2011.</p>
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### Questions for consultation

Should the population in the scope be further defined by risk of thromboembolic events?

Have the most appropriate comparators for the prevention of stroke and systemic embolism in atrial fibrillation been included in the scope? Are the comparators listed routinely used in clinical practice? Which antiplatelet agents are predominantly used?

Are there any other subgroups of people in whom rivaroxaban is expected to be more clinically effective and cost effective or other groups that should be examined separately?

Are there any issues that require special attention in light of the duty to have due regard to the need to eliminate unlawful discrimination and promote equality?

What do you consider to be the relevant clinical outcomes and other potential health related benefits of rivaroxaban in the prevention of stroke and systemic embolism in atrial fibrillation particularly when compared with currently used treatment options?

Please identify the nature of the data which you understand to be available to enable the Appraisal Committee to take account of these benefits.

NICE intends to appraise this technology through its Single Technology Appraisal (STA) Process. We welcome comments on the appropriateness of appraising this topic through this process. (Information on the Institute's Technology Appraisal processes is available at [http://www.nice.org.uk/aboutnice/howwework/devnicetech/technologyappraisalprocessguides/technology\\_appraisal\\_process\\_guides.jsp](http://www.nice.org.uk/aboutnice/howwework/devnicetech/technologyappraisalprocessguides/technology_appraisal_process_guides.jsp))