

Atrial fibrillation

When designing atrial fibrillation (AF) services, consider the following interventions as ways to achieve specific productivity improvements whilst maintaining the quality and safety of clinical care. This approach is being trialled as a beta product alongside the Map of Medicine Atrial fibrillation pathway, which covers all areas of a patient's care.

Pill-in-Pocket (PIP) strategy

Consider using a PIP strategy to treat selected patients with paroxysmal AF.¹

The National Institute for Health and Clinical Excellence (NICE) guidance on AF, published in 2006, recommends using a PIP strategy in patients with paroxysmal AF provided they have a systolic blood pressure (BP) more than 100mmHg, a resting heart rate above 70bpm, no history of valvular or ischaemic heart disease, and the ability to recognize when to take their medication.¹ The PIP approach may be used in selected, highly symptomatic patients with infrequent (eg between once per month and once per year) recurrences of AF.²

A National Institute for Health Research (NIHR) Health Technology Assessment (HTA) study, published in 2010, compared different management strategies for paroxysmal AF, including PIP, continuous antiarrhythmic drugs (CAAD), and in-hospital treatment (IHT). The study demonstrated the three strategies to be of equal clinical effectiveness (mean quality-adjusted life years (QALYs) gained were 9.21, 9.23, and 9.29 for PIP, CAAD, and IHT respectively). PIP was shown to be the most cost effective option with a mean cost of treatment of £1,512, whereas it was £2,389 for CAAD and £2,340 for IHT.³

Rate control strategy

Use rate control strategy as the first line treatment in selected patients with persistent AF.¹

NICE guidance on atrial fibrillation, published in 2006, recommends that rate control strategy should be used as first line treatment in patients older than age 65 years with persistent AF who are known to have coronary artery disease, but not congestive cardiac failure, and who are not suitable candidates for cardioversion.¹ There is no significant difference in mortality rates, thromboembolic events or major bleeding events between rate and rhythm control strategies.⁴

A US economic evaluation, published in 2004, concluded that rate control strategy was, on average, US\$5,077 (approx. £2,800 as of January 2004) cheaper per person than rhythm control (US\$20,546 (approx. £11,500 as of January 2004) versus US\$25,623 (approx. £14,300 as of January 2004))⁵ – the higher costs being attributed to electrical cardioversion (ECV), hospital admissions or antiarrhythmic medications.⁶

Pharmacological cardioversion (PCV)

Use PCV as the initial treatment strategy in patients presenting with haemodynamically stable AF of recent onset (within 48 hours).^{1,7}

A US economic evaluation, published in 2003, concluded that initial treatment with PCV, followed by ECV if sinus rhythm was not restored, was more likely to result in successful cardioversion than those patients in whom the treatment preference was reversed (96% versus 84% respectively).⁷

The same study observed that the mean cost of PCV was US\$1,240 (approx. £700 as of January 2003) per patient versus US\$1,917 (approx. £1,100 as of January 2003) with the electrical method, a reduction of \$677 (approx. £400 as of January 2003).⁷

Anticoagulation

Place all patients with AF at risk of stroke on anticoagulation therapy.¹

NHS Improvement estimates there are 12,500 strokes directly attributable to AF annually, with up to 40% of patients who could benefit from anticoagulation not receiving it.⁸ Identifying and treating these patients appropriately would prevent around 6,000 strokes annually and save 4,000 lives.⁸ The cost per stroke due to AF is estimated to be £11,900 in the first year after stroke occurrence. This can be saved by maintaining a patient on warfarin for a year, at an estimated total cost, including monitoring, of £383.⁸

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Key dates

The Map of Medicine systematically monitors the medical literature for the latest productivity interventions and will update this document as new evidence emerges.

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Methodology

The productivity considerations presented in this document are relevant to the UK. They were identified by systematically searching for and appraising productivity evidence from multiple sources, including NICE guidance, health economic databases and Zynx Health (a sister company of Map of Medicine).

A productivity message explicitly states interventions that can reduce the cost of care, whilst maintaining or improving patient outcomes. Actions that are believed to lead to improved productivity, but lack unequivocal clinical or economic evidence, are not included.

Some productivity considerations are informed by more recent evidence than that included in relevant national guidelines.

The document has been peer reviewed by an independent group of experts.

Feedback

This approach to productivity guidance is being trialled as a beta product alongside the Map of Medicine Atrial fibrillation pathway. We welcome your feedback. If you know of additional resources that describe cost-effective interventions, please forward the reference information to us at productivity@mapofmedicine.com.

Other topics of interest

Productivity considerations for service design – [Stroke and transient ischaemic attack \(TIA\)](#)

References

1. The National Collaborating Centre for chronic conditions (NCCC). [Atrial Fibrillation](#). National Clinical Guideline for management in primary and secondary care. London: Royal College of Physicians; 2006.
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3. Martin Saborido C, Hockenhuil J, Bagust A et al. [Systematic review and cost-effectiveness evaluation of 'pill-in-the pocket' strategy for paroxysmal atrial fibrillation compared to episodic in-hospital treatment or continuous antiarrhythmic drug therapy](#). Health Technol Assess 2010; 14: 1-104.
4. Opolski G, Torbicki A, Kosior D et al. [Rhythm control versus rate control in patients with persistent atrial fibrillation. Results of the HOT CAFE Polish Study](#). Kardiol Pol 2003; 59: 1-16.
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6. Hagens V, Vermeulen K, TenVergert E et al. [Rate control is more cost-effective than rhythm control for patients with persistent atrial fibrillation – results from the RAte Control versus Electrical cardioversion \(RACE\) study](#). Eur Heart J 2004; 25: 1542-9.
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This document is not to be substituted for a healthcare professional's diagnosis or clinical decisions.