

# Thromboprophylaxis for patients with atrial fibrillation: A systematic review of strategies to improve guideline adherence in primary care

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**Background** Atrial fibrillation (AF) increases the risk of thromboembolic events such as stroke and systemic embolism. Oral anticoagulants (OACs) reduce thromboembolic events in patients with AF. Clinical guidelines on AF management help optimize OAC use and guideline-adherent thromboprophylaxis management is associated with improved patient outcomes. However, guideline non-adherence is common, particularly in the primary care setting.

**Purpose** Efforts to improve guideline adherence may minimize the risk of thromboembolic and bleeding events. Therefore, the primary aim of this systematic review was to identify effective strategies for improving the prescribing of thromboprophylaxis to patients with AF in primary care setting.

**Method** The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) statement was followed to conduct a search of 6 electronic databases (Medline, Embase, ScienceDirect, Scopus, the Cumulative Indexing of Nursing and Allied Health Literature, and Web of Science) supplemented by a Google advanced search. Studies aimed at improving oral thromboprophylaxis guideline adherence in patients with AF in the primary care setting were included in the study. The main outcome measure was the proportion of patients with AF who were prescribed guideline-adherent thromboprophylaxis. The secondary outcome measure was the proportion of patients who experienced thromboembolism and/or bleeding.

**Findings** A total of 33 studies were included in this review. Seventeen and sixteen studies had multifaceted and single-faceted interventions, respectively. Nine studies employed electronic decision support (EDS), of which 4 reported only modest improvements in guideline adherence. Five of 6 studies that utilized local guidelines as quality improvement measures reported improvement in prescribing. In all of these studies, guideline implementation was complemented by other interventions. All 5 studies that employed coordinated care and the use of specialist support and 4 of the 5 studies that involved pharmacist-led interventions reported improvements in guideline adherence. The pharmacist-led studies involved a decision support-assisted clinical pharmacist consultation, GP education and training, multidisciplinary team video conferences, reviewing patients' medical records, and/or making recommendations to GPs. Interventions based mainly on feedback from audits were less effective. With the exception of one study that reported a lower incidence of significant bleeding ( $p=0.004$ ), four single-faceted studies that employed EDS failed to show significant improvements on thromboembolic events and bleeding.

**Conclusion** Multifaceted interventions, especially those incorporating coordinated care and specialist support, pharmacists, or local adaptations to and implementation of national and/or international guidelines appear to be more consistently effective in improving guideline adherence in the primary care setting than interventions based mainly on EDS and feedback from audits.