



# Effective Health Care

## Atrial Fibrillation (Treatment, Stroke Prevention, Primary Prevention)

### Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- Treatment of atrial fibrillation (AF) and stroke prevention in AF will go forward for refinement as systematic reviews. Primary prevention of AF will not go forward for systematic review due to the limited data available for review at this time. The scope of these topics, including populations, interventions, comparators, and outcomes, will be further developed in the refinement phase.
- When key questions have been drafted, they will be posted on the AHRQ Web site and open for public comment. To sign up for notification when these and other Effective Health Care (EHC) Program topics are posted for public comment, please go to <http://effectivehealthcare.ahrq.gov/index.cfm/join-the-email-list1/>.

#### Topic Description

**Nominator:** Health care professional association

**Nomination Summary:** The nominator asks what recent evidence exists regarding the treatment of AF, stroke prevention in patients with AF, and primary prevention of AF and later progression to heart failure.

**Staff-Generated PICO: Treatment of Atrial Fibrillation**

**Population(s):** Adults with AF

**Intervention(s):** Drugs (antiarrhythmics, ACEIs, ARBs, statins), devices (pacemakers, implanted cardioverters), procedures (cardioversion, surgical, ablation)

**Comparator(s):** Different drug and/or device and/or procedure (must have comparator)

**Outcome(s):** Benefit(s) of intervention, harm(s) of intervention, maintenance of sinus rhythm, mortality, accuracy and utility of risk stratification in determining treatment strategy, accuracy and utility of echocardiographic studies, quality of life

**Staff-Generated PICO: Stroke Prevention in Atrial Fibrillation**

**Population(s):** Adults with AF

**Intervention(s):** Anticoagulation therapy, left atrial appendage (LAA) occlusive devices

**Comparator(s):** Different anticoagulant and antiplatelet regimens, LAA occlusive devices (must have comparator)

**Outcome(s):** Benefit(s) of intervention, harm(s) of intervention, stroke (both hemorrhagic and thromboembolic), other thromboembolic events (deep vein thrombosis, pulmonary embolism), bleeding events, mortality, quality of life

**Staff-Generated PICO: Prevention of Atrial Fibrillation and Progression to Heart Failure**

**Population(s):** Adults with, or at high risk of developing, AF (will not include atrial fibrillation in cardiothoracic post-operative patients)

**Intervention(s):** ACEIs, ARBs, and/or statins

**Comparator(s):** Placebo, different ACEIs, ARBs, and/or statins (must have comparator)

**Outcome(s):** Benefit(s) of intervention, harm(s) of intervention, development of or progression to AF, mortality, quality of life

**Key Questions from Nominator:**

1. What are the benefits and harms of rhythm control compared to rate control (including newer agents)? What are the benefits and harms of strict versus more lenient rate control?
2. What are the benefits and harms of different anticoagulation and antiplatelet agents and monitoring strategies for stroke prevention in patients in chronic atrial fibrillation? How do benefits and harms differ in specific patient populations (e.g., paroxysmal vs. chronic AF, younger vs. older, structural heart disease versus not; common comorbidities vs. not)? What are the accuracy and utility of methods of risk stratification to guide choice of therapy (e.g., aspirin vs. warfarin)?
3. What are the benefits and harms of agents used for ventricular rate control in AF (including newer agents)?
4. What are the benefits and harms of antiarrhythmic agents for acute conversion of AF to sinus rhythm (including newer agents)?
5. What are the benefits and harms of pharmacologic treatment of AF before electrical cardioversion (including newer agents)?
6. What are the benefits and harms of antiarrhythmic agents for the maintenance of sinus rhythm after successful conversion of AF to sinus rhythm (including newer agents)?
7. What are the accuracy and utility of echocardiographic studies for predicting a) likelihood of benefitting from anticoagulation, b) successful conversion of AF and c) maintenance of sinus rhythm?
8. What are the benefits and harms of ACEIs, ARBs and statins in the prevention of new AF and progression of AF to heart failure?
9. What are the comparative benefits and harms of newer surgical and less invasive therapies, such as AVJ ablation, cardiac resynchronization therapy, left atrial appendage occlusive devices, and autonomic ganglion ablation or denervation?

## Considerations

- The topic meets all EHC Program selection criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/>.)
- This topic was divided into three major areas (1) treatment of AF, (2) stroke prevention in AF, and (3) primary prevention of AF and progression to heart failure. Each of these topics was considered separately.

- AF is the most common sustained cardiac arrhythmia. Further, the associated hemodynamic and thromboembolic adverse events are a source of increasing cost, morbidity, and mortality as the population ages. There are several drugs, devices, and procedures used for the treatment of atrial fibrillation. In recent years, technological advancements, new marketed drugs, and new therapeutic considerations for the treatment of AF have led to a substantially increased body of literature. The evolution of newer anticoagulation agents as well as the risks and benefits when compared to older pharmacotherapy strategies and devices make the question of stroke prevention in AF an area of clinical uncertainty. The area of prevention, with regards to both prevention of AF and then progression to heart failure, is relatively understudied at this point.
- It will be important for these topics to address the subpopulations of women and ethnic minorities (particularly in regard to stroke prevention).