



## Present Treatment Options for Atrial Fibrillation

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### Abstract

Atrial fibrillation affects almost 60 million adults worldwide. Atrial fibrillation is linked to an increased risk of cardiovascular morbidity and death as well as social, psychological, and financial costs on patients and their families. In the examination, treatment, and management of atrial fibrillation, socioeconomic variables such as race and ethnicity, financial resources, social support, access to health care, reality and residential environment, local language competence, and health literacy play important roles. Reducing the significant clinical and non-clinical difficulties associated with atrial fibrillation requires addressing the socioeconomic determinants of health. The contributions of social variables on the patient experience and outcomes associated with this common ailment are summarized in this review. The importance of socioeconomic variables and their critical confluence with atrial fibrillation therapy and outcomes is highlighted. Finally, we point out gaps in the literature and suggest future research objectives for social determinants and atrial fibrillation.

**Keywords:** Atrial fibrillation; Cardiology; Heart rhythm

### Introduction

The most prevalent arrhythmia is Atrial Fibrillation (AF), which accounts for one third of all hospitalizations for rhythm disorders in the United States. The prevalence of AF is about 1% and rises with age, with 10% of the population over the age of 80 having AF, and approximately 70% of AF occurrences occurring in people between the ages of 65 and 85. By 2050, the number of patients with AF is predicted to increase by 150% due to population ageing, with more than half of AF patients being above the age of 80 [1]. Patients with AF have a five to sevenfold higher risk of stroke than the general population, so this rising burden of AF will lead to a higher incidence of stroke.

Strokes caused by AF have a worse prognosis than strokes caused by other causes. Furthermore, as demonstrated in the Framingham group, AF is an independent risk factor for death, with an adjusted odds ratio of 1.5 in men and 1.9 in women [2]. Oral anticoagulants such as vitamin K antagonists (warfarin), direct thrombin inhibitors (dabigatran), and factor Xa inhibitors (rivaroxaban and apixaban) have all been licensed by the FDA for the prevention of stroke in people

with AF [3]. Another factor Xa inhibitor, edoxaban, is expected to be approved by the FDA in the coming months.

Because the key results of the effective anticoagulation with factor Xa next generation in atrial fibrillation thrombolysis in myocardial infarction 48 (ENGAGE AF-TIMI 48) trial were just recently released, we will not go into the edoxaban experience in depth in this paper. Over the last five years, there has been an explosion of data coming from these trial databases and registries, redefining much of what we know about antithrombotic therapy for AF [4]. The clinical research experience with anticoagulation in patients with AF at Duke Clinical Research Institute, as well as similar work by others, will be summarized in this presentation.

### Atrial fibrillation

The most prevalent chronic cardiac arrhythmia, atrial fibrillation, is typically linked to advancing age, structural heart dysfunction, and prior comorbidities. Between 2.7 and 6.1 million Americans are thought to have this illness, with roughly 75% of instances apparently occurring in persons over the age of 65. According to the Framingham Heart Study, one in four people will develop atrial fibrillation throughout their lifetime [5]. Because of the ageing population in the United States, the incidence is predicted to more than double in the next 50 years.

Our health care system faces considerable financial costs as a result of atrial fibrillation. The cost of atrial fibrillation alone is estimated to be \$6 billion in the United States per year; when other cardiovascular and no cardiovascular care costs are added, the total rises to \$26 billion. According to data from 2001, atrial fibrillation caused 350,000 hospitalizations, 5 million office visits, 276,000 emergency department visits, and 234,000 ambulatory care visits in the United States [6]. According to more recent estimates, over 450,000 hospitalizations with atrial fibrillation as the primary diagnosis occur each year. The costs associated with atrial fibrillation are likely to climb as the number of elderly Americans grows. Following atrial fibrillation treatment guidelines will help you get the most out of your treatment and save money. The necessity of patient adherence to the specified treatment regimen is well understood in general [7]. As a result, nurses play a critical role in ensuring that patients (or their caregivers) understand and can follow the treatment plan.

This article explores the nursing implications of the recently modified guideline for the care of atrial fibrillation. Last year, the American Heart Association (AHA), the American College of Cardiology (ACC), and the Heart Rhythm Society (HRS) released a joint guideline. Its guidelines represent the most up-to-date evidence-based standard for the treatment of atrial fibrillation, referred to as guideline-directed medical therapy by the guideline. The primary treatment goals are thromboembolism prevention and symptom management [8].

The frequency with which atrial fibrillation treatment guidelines are changed reflects both the condition's prevalence and its critical health-care implications. The AHA/ACC/HRS guideline from 2014 replaces earlier versions from 2006 and 2011. The European Society of Cardiology has amended its guidelines several times, the most recent being in 2010 and 2012. The importance of patient involvement in and adherence to the prescribed plan of care, as well as the usefulness of a

customized treatment plan, are prominent topics in this new guideline [9].

Patients with comorbidities and structural heart abnormalities are more likely to develop atrial fibrillation. According to January and colleagues in the current AHA/ACC/HRS guideline, fibrosis and hypertrophy occur most commonly in the setting of underlying heart disease associated with hypertension, coronary artery disease and these conditions tend to increase (left atrial) pressure, cause atrial dilation, and alter wall stress. Abnormalities can also be caused by systemic factors such as excessive autonomic nervous system stimulation (which causes catecholamine imbalances) and excessive renin–angiotensin–aldosterone activation (which causes salt retention and hypertension) [10]. Obesity, diabetes, and hyperthyroidism; alcohol or drug use; and systemic influences such as excessive autonomic nervous system stimulation (causing catecholamine imbalances) and excessive renin–angiotensin–aldosterone system stimulation.

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