

## All you want to know about the arrhythmia: A comprehensive, nationwide registry study of atrial fibrillation in Finland

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**Introduction:** The number of atrial fibrillation (AF) patients is increasing, and thus, the socio-medico-economic impact of AF is exploding. Up-to-date, multifaceted data about the characteristics of AF patients, their treatments, and outcomes are urgently needed.

**Purpose:** The aim of the Finnish AntiCoagulation in Atrial Fibrillation (FinACAF) study is to evaluate the incidence and prevalence of AF, risk of stroke, thromboembolic complications, myocardial infarction, major bleeding events, and mortality in AF patients using comprehensive nationwide registries regulated by law. Assessment of the socio-medico-economic aspects of AF and the effect of socio-economic factors on the AF treatment play a central role in this study.

**Methods:** The FinACAF study collects data from 411 000 patients covering all Finnish AF patients from 1st January 2004 to 31st December 2018. Using national unique personal identification number, individual patient data from ten nationwide population registries and six regional laboratory databases (~282000, 77 % of the patients) are linked together. All the register data were obtained during Q1-Q2/2020. The main results will be expected during Q1-2/2021.

**Results:** Since the introduction of the national primary care register in 2012, 9% of all AF patients were identified outside hospital care registers. The total number of AF patients on 31st December 2018 was 227 114, which translates to an AF prevalence of 4.1% in Finland (population of 5 517 900).

The Table represents the registries used in the FinACAF study.

**Conclusions:** The FinACAF study records all patient contacts with the health care institutions and organizations, as well as incomes and places of domicile. Thus, the database allows a unique possibility to investigate the epidemiology and socio-medico-economic impact of AF as well as the cost effectiveness of different AF management strategies in a completely unselected, nationwide population. This data will markedly help "leading with data" when the increasing number of AF patients are treated.

The registries used in the FinACAF study

Register	Registry	Information obtained
Finnish Care Register for Health Care: Primary, Hospital and Social care registries	National Institute for Health and Welfare	Diagnosis (ICD-10), procedure codes and date; non-hospital institutionalizations
National Prescription Register, National Reimbursement Register	The Social Insurance Institution of Finland	Drug purchases (date, ATC codes, amount), Reimbursement decisions for chronic diseases (date, ICD-10)
National Causes of Death Register, The Register of Completed Education and Degrees	Statistics Finland	Deaths and causes of deaths (ICD-10), Education and socio-economic status
National Cancer Registry (1st Jan 1950 to 31st Dec 2018)	Finnish Cancer Registry	National registry of all cancer cases (e.g. date, ICD-O-3, TNM)
Population Register, Tax register	Population Register Center, Tax Administration	Places of domicile, Income and taxes
Laboratory databases (1st Jan 2010 to 31st Dec 2018)	Six largest regional laboratory databases	INR and other relevant laboratory measurements