

## **Delayed prescribing of non-vitamin K antagonist oral anticoagulants (NOACs) in patients with low socioeconomic status**

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**Background/Objective:** Atrial fibrillation (AF) and venous thromboembolism (VTE) are conditions with significant morbidity and mortality when left untreated. American Heart Association guidelines changed in 2019 to make non-vitamin K antagonist oral anticoagulants (NOACs) the preferred method for preventing stroke and systemic embolism in patients with AF or history of VTE. NOACs were first introduced to the United States in 2010 and now include dabigatran, apixaban, rivaroxaban, and edoxaban. There is a dearth of research concerning the speed with which new treatments are prescribed to those in different socioeconomic status (SES) groups. We hypothesized that patients with lower SES were prescribed NOACs later than higher SES counterparts following the introduction of NOACs in 2010.

**Methods:** The IU Cardiovascular Research Consortium/Sidus Dataset was mined for AF and VTE patients prescribed a NOAC between 2010 and 2022. The SES groups were determined using 2020 U.S. Census income data that correlated to patients' zip codes. The yearly number of patients in each SES group were compared to assess for proportional uptake of NOAC prescribing. The primary outcome was the proportion of low SES to high SES prescribing over each year between 2010 and 2022.

**Results:** Low SES patients (n=101,945) were prescribed NOACs at an average of 0.65 times the rate of high SES patients (n= 89,130) from 2010 to 2012, the first three years of NOAC market availability. Prescribing rates equilibrated in 2013 and low SES prescribing has outpaced high SES prescribing since 2021.

**Conclusion/Impact:** Low SES patients experienced a three year delay in receiving NOAC prescriptions at the same rate as their high SES counterparts. Systemic changes, like more frequent prescribing guideline updates and improved evidence-based education amongst providers in low-income areas, could prevent a similar delay when introducing similarly transformative treatments in the future.