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PII: S2666-5018(22)00356-7
DOI: https://doi.org/10.1016/j.hroo.2022.12.007
Reference: HROO 339

To appear in: Heart Rhythm O2

Received Date: 14 December 2022
Accepted Date: 17 December 2022

Please cite this article as: Modaff DS, Wright JM, Determinants and Disparities in Oral Anticoagulation Prescription: We are Far from the PINNACLE of Care, Heart Rhythm O2 (2023), doi: https://doi.org/10.1016/j.hroo.2022.12.007.

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Determinants and Disparities in Oral Anticoagulation Prescription: We are Far from the PINNACLE of Care

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Atrial fibrillation (AF), the most common arrhythmia in the United States, carries with it a well-known association with stroke that is approximately 5 times the general population.1 Consequently, for over two decades, clinical practice guidelines have recommended anticoagulation in AF patients most at risk for stroke or systemic embolism.2

While specifics of oral anticoagulation (OAC) recommendations have evolved over the years, the concept of OAC to reduce AF-associated strokes is not novel. Despite this, the medical community continues to struggle with transitioning this knowledge into practice. Prior registry data have consistently shown OAC prescription rates ranging from 45-70% in AF patients at risk for stroke, with minimal gains through the years despite the addition of direct oral anticoagulants (DOACs) and dissemination of guidelines.3–5 Moreover, when compared with non-Hispanic White and higher income populations, implementation of guideline-based AF management is disproportionately lower in historically underserved populations resulting in
lower rates of rhythm control, including catheter ablation, and higher rates of adverse arrhythmia related outcomes.\textsuperscript{6–8}

In this study, Dr. Azizi and colleagues utilize descriptive and machine learning (ML) models on the American College of Cardiology’s Practice Innovation and Clinical Excellence (PINNACLE) registry data (now known as the Veradigm Cardiology Registry) to identify social and geographic factors associated with OAC prescription rates for AF patients.\textsuperscript{9} Of the 864,330 registry patients included between Jan 1, 2017 and June 20, 2018, 68% were prescribed OAC with significant variation depending on geographic location, ranging as low as 26.8% to as high as 93.2%, with higher rates for patients who resided in suburban counties and the Western US. Prescription rates were additionally higher for those who identified as non-Hispanic White, were seen in larger clinics, had greater household incomes and were insured by Medicare. Interestingly, while these correlations were identified in the descriptive data, race and ethnicity were ultimately not predictors of OAC prescription in ML derived models. In the study population, Non-Hispanic White accounted for 66% of patients, while <10% were identified as Black, Hispanic or “other”, and the remaining 25% of the population was missing race and/or ethnic data. This missing demographic data may not only account for the limitation in the ML analysis, but also highlights the underrepresentation of the non-Hispanic White population in this very large cohort of patients.

Importantly, this study provides further insight into disparities in OAC prescription trends in the US based on a large outpatient registry. At the same time, we must consider that this registry is voluntary and presumably includes providers and practices with an interest in quality
improvement. As a result, this study may be susceptible to selection bias and OAC prescription rates may be higher than those in the “real world”. Furthermore, patients with a history of left atrial appendage occlusion (LAAO) will also decrease longitudinal OAC prescription rates, which the authors note to be a limitation of the data capture.

The authors are to be lauded for their use of ML in the investigation of the sociodemographic predictors of OAC utilization in a large registry of patients. The present analysis contributes to the growing body of evidence regarding disparities in arrhythmia care. As we move forward, however, it is imperative we not only continue to identify these disparities but also translate this knowledge into change. The recent “call for action” in the Heart Rhythm Journal highlights the urgency of this issue and the need for just that: action.\(^\text{10}\) As we are only privy to the tip of the iceberg with respect to disproportionate care, we must strive to continue to uncover inequities and take steps to address them in our quest to provide representative and evidenced-based care for our arrhythmia patients. Equitable care, after all, is a key component to reach the pinnacle of health care we all strive for.

**Funding Sources:** This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Disclosures:** The authors have no relationships relevant to the contents of this paper to disclose.


