# Prescribing trends of Direct Oral Anticoagulants (DOACs) in atrial fibrillation by ethnicity

Author: Elvis Annan[1],Yvonne Nartey[1], Francesca Zaccagnino[2], Rohan Takhar[2], Caroline Dale[2], Reecha Sofat[2], Venexia Walker[1], Jonathan Sterne[1], Rachel Denholm[1]

1. Population Health Science, University of Bristol Medical School, Bristol, UK.
2. Department of Pharmacology and Therapeutics, University of Liverpool, Leicester, UK,

## Background

- Atrial fibrillation affects **1.4M** in the UK and raises stroke risk; anticoagulants like DOACs and warfarin help prevent this.
- DOACs are seen as safer compared to warfarin, but ethnic prescribing disparities worsened during COVID-19.

## Aims & Objectives

- To examine the prescribing trends of Direct Oral Anticoagulants (DOACs) in patients with Atrial fibrillation across different ethnic groups.
- To evaluate whether disparities in prescribing patterns widened or narrowed after the pandemic.

## Methodology

- Data from General Practice Data for Planning and Research included adults prescribed DOACs (apixaban, edoxaban, rivaroxaban and dabigatran) or warfarin (**Jan 2020–Dec 2024**), with details on demographics, deprivation index, and ethnicity.
- Analysis included **1,067,991** adults (aged 18–113) with atrial fibrillation
- Patients with missing ethnicity or non-AF prescriptions were excluded.
- Analyses compared pre- and post-pandemic prescribing patterns across ethnic groups using descriptive statistics and multivariable logistic

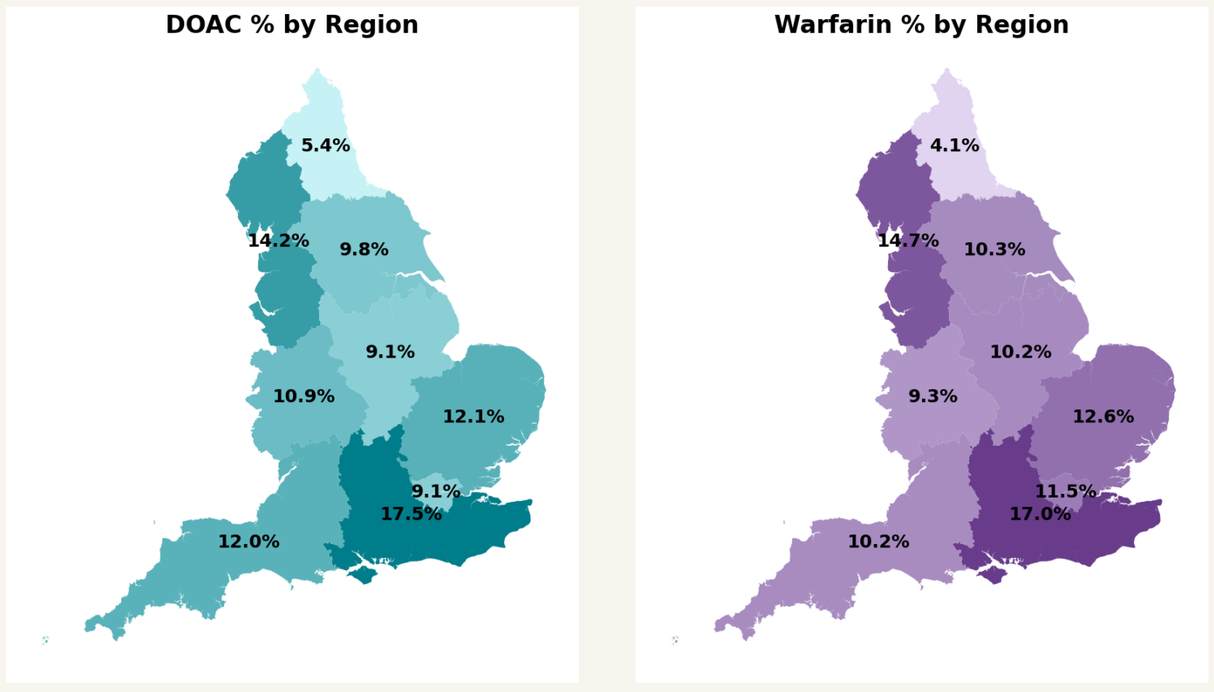
## Data

**Table 1 Baseline Characteristics of Patients with Atrial Fibrillation by Ethnicity**

| Characteristic | White | Asian | Mixed | Black | Other |
|---|---|---|---|---|---|
| N | 1,030,335 | 31,675 | 5,315 | 14,635 | 13,330 |
| Mean Age (SD) | 75.97 (12.5) | 71.2 (14.5) | 68.6 (16.6) | 69.7 (16.1) | 71.96 (14.8) |
| Male/Female | 550,240 / 452,790 | 17,610 / 14,0 | 2,880 / 2,435 | 7,650 / 6,985 | 7,620 / 5,710 |
| Hypertension | 702,800 | 24,635 | 3,660 | 11,465 | 7,910 |
| Diabetes | 228,130 | 15,620 | 1,675 | 6,005 | 3,245 |
| Heart Failure | 263,910 | 11,060 | 1,430 | 4,975 | 3,475 |
| Myocardial Infarction | 162,495 | 8,780 | 865 | 2,015 | 1,935 |
| Prescribed DOACs | 627,110 | 16,180 | 2,860 | 7,530 | 6,630 |

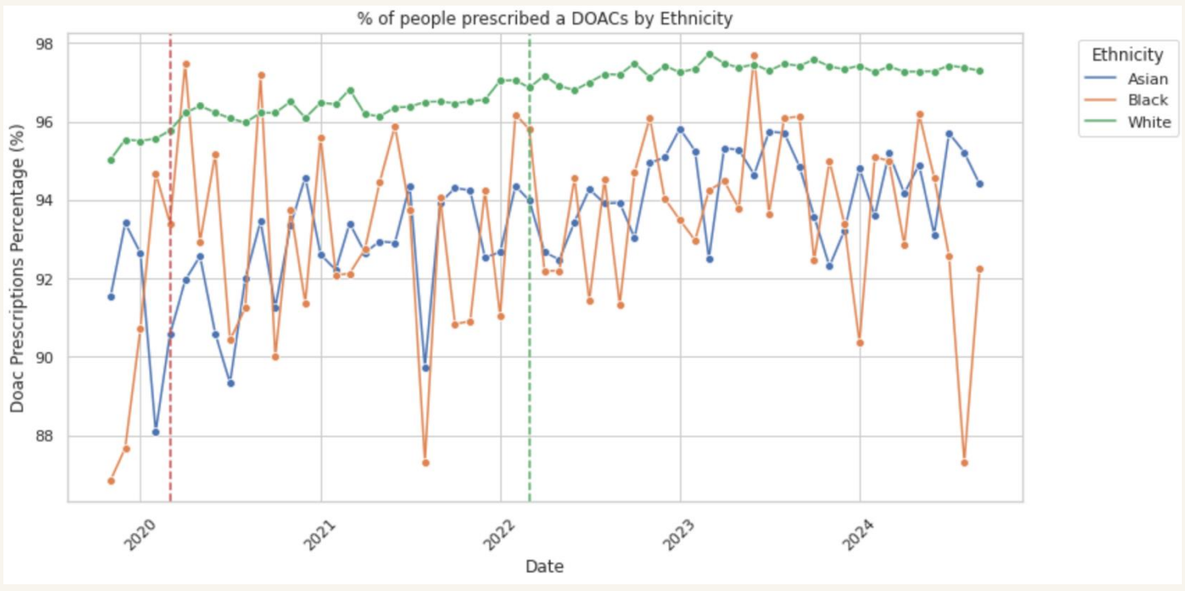
## Results – Regional Analysis

**Figure 1. Proportion of individuals prescribed DOACs or warfarin**



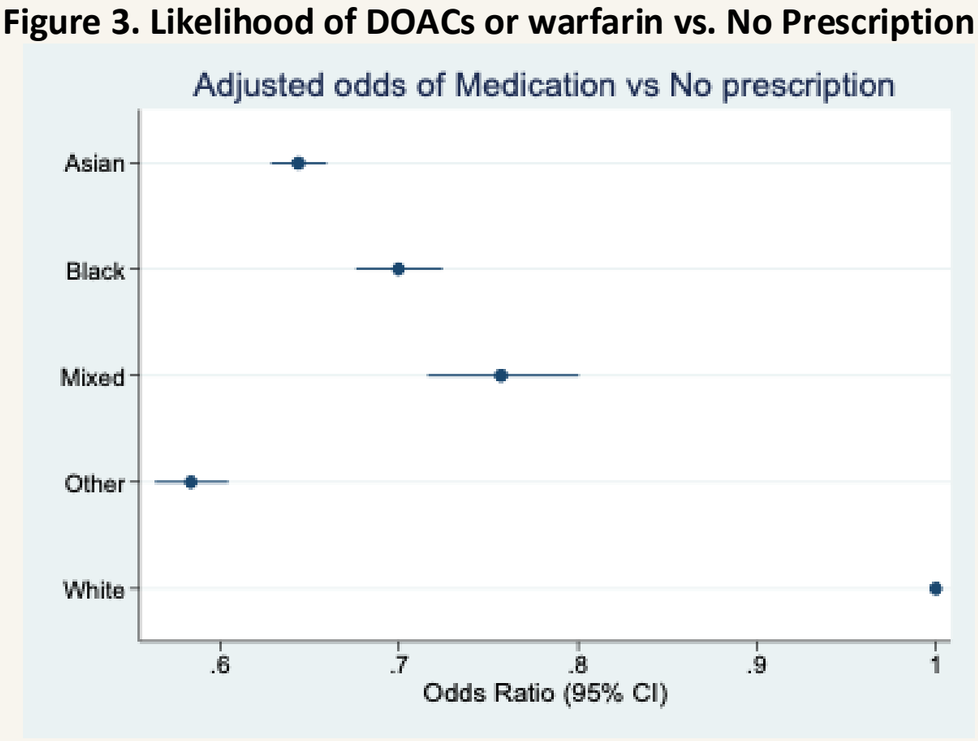

## Results – Pandemic

**Figure 2. Proportion of individuals prescribed DOACs from 2020 to 2024**



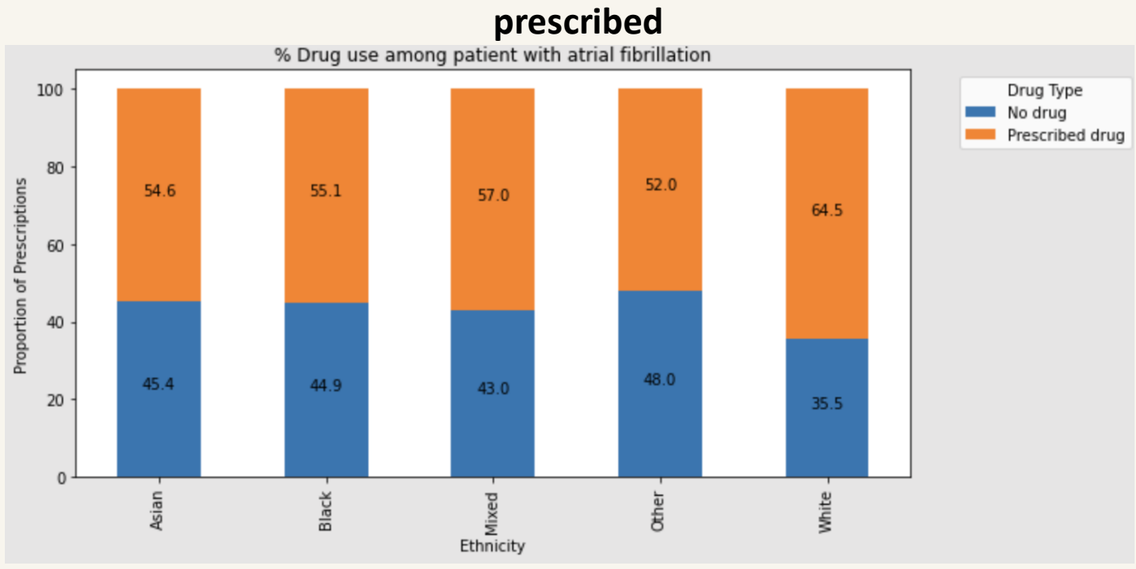

## Results – Medication rates

**Figure 3. Likelihood of DOACs or warfarin vs. No Prescription [3]**




3.. Models adjusted for demographics, lifestyle factors, and major comorbidities.

**Figure 4. Proportion of individuals prescribed a DOACs or warfarin vs those not prescribed**




## Conclusion

- DOACs were more commonly prescribed to White patients.
- Bleeding-related hospitalisations were slightly lower with DOACs (**8.85% vs 10.1%**), but not statistically significant (Tu et al., 2024).
- Ethnic differences in comorbidities may influence prescribing and warrant further study (Tu et al., 2024).

## Findings

- Prescribing rates for DOACs and Warfarin vary significantly by region.
- DOACs prescribing rates fluctuate over time and differ by ethnicity.
- Unadjusted data show non-White groups are less likely to be prescribed DOACs versus Warfarin.
- This ethnic disparity in DOACs versus Warfarin prescriptions persists after adjustment.
- Adjusted data show non-White groups are also less likely to be prescribed medication compared to White groups

## Reference

**1. Vinogradova, Y. *et al.*,** 2018. *Risks and benefits of direct oral anticoagulants versus warfarin in a real-world setting: cohort study in primary care*.

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**4. Tu, Z.H., Perez, A.D., Diaz, T.E., Loop, M.S. and Clarke, M.,** 2024. Safety and efficacy of direct oral anticoagulants vs warfarin in patients with obesity and venous thromboembolism: A retrospective analysis. *Texas Heart Institute Journal*, 51(1), p.e238260.

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