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ACE impact

Treating non-valvular atrial fibrillation with non-vitamin K antagonist oral anticoagulation agents

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MAKING NOACs MORE AFFORDABLE

For decades, warfarin has been the mainstay and subsidised oral anticoagulant treatment for preventing stroke and systemic embolism (a blood clot breaking off and travelling to other parts of the body) in people with atrial fibrillation (AF). Patients on warfarin treatment must adhere to dietary restrictions and regular blood tests, and be mindful of its potential interactions with other drugs.

Clinical studies have shown that non-vitamin K antagonist oral anticoagulation agents (NOACs) are effective in reducing stroke and systemic embolism and have a favourable safety profile (lower risk of bleeding) compared to warfarin in patients with non-valvular AF. Due to this high clinical need, ACE conducted a Health Technology Assessment (HTA) to inform subsidy recommendations for NOACs. Value-based pricing negotiations conducted by ACE also improved their cost-effectiveness.

The NOACs, rivaroxaban and apixaban, were listed on the Medication Assistance Fund (MAF) in January 2017 and October 2018 respectively.*

*Apixaban was reclassified from MAF to the Ministry of Health (MOH) Standard Drug List (SDL) in July of 2022. The data presented in this study spans the period from 2015 to 2020.

DID YOU KNOW?

AF also known as irregular heartbeat, can lead to the formation of blood clots and higher risk of stroke, heart-failure and other heart-related complications.

In Singapore, the prevalence of AF in adults of Chinese ethnicity above 55 years old is about **1.5%** and **5.8%** in those above 80 years old[1]

The risk of ischemic stroke is **3 to 5 times higher** in patients with AF[2]

"Stroke is the most debilitating complication of AF. NOAC is effective in reducing stroke with significantly lower risk of the dreaded bleeding complications associated with warfarin. Subsidy listing for NOAC has increased its affordability, especially for the lower income group."

Associate Professor Yeo Tiong Cheng,
Deputy Director,
National University Heart Centre, Singapore

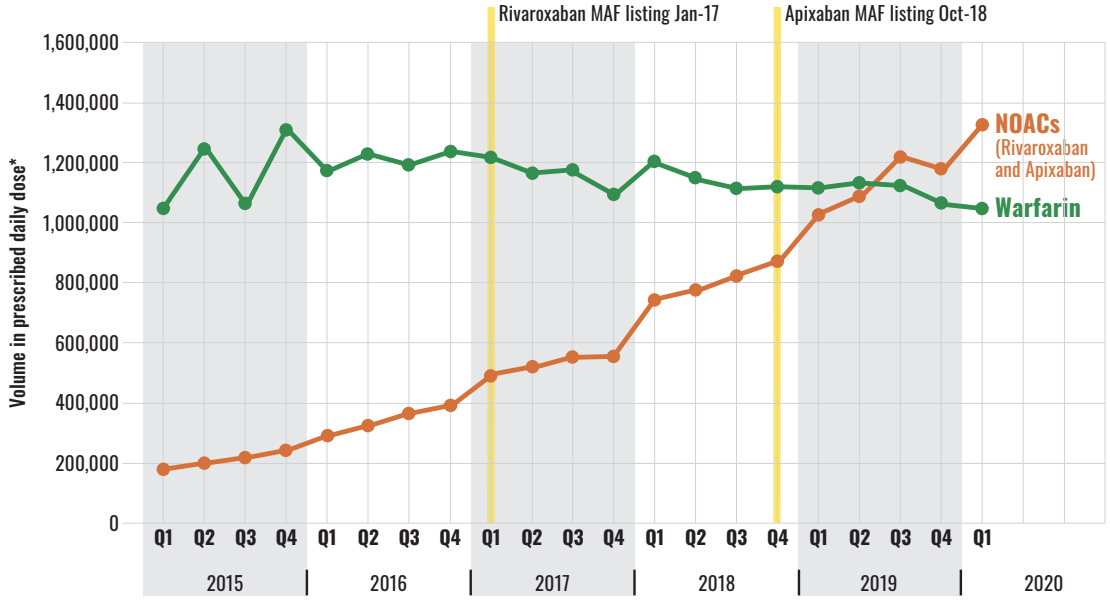
"Subsidisation of NOACs has made the medication more affordable to many patients who, prior to this, would have declined to change from warfarin due to the cost involved. The change also helps to reduce frequency of visits and blood tests, hence saving time, cost and manpower resources.

Dr Tan Wei Beng,
Associate Consultant, Family Physician,
National University Polyclinics

POSITIVE IMPACT OF SUBSIDY

Warfarin vs Rivaroxaban and Apixaban

* Prescribed daily dose (PDD) is defined as the average dose prescribed based on a representative sample of prescriptions[3]. PDD used for warfarin: 3mg; rivaroxaban: 20mg; apixaban: 10mg



The utilisation of NOACs in public healthcare institutions increased sharply, by more than 200%, after their subsidy listing in 2017. This increase in utilisation can be attributed to more new patients being initiated with NOACs. Correspondingly, the utilisation of warfarin decreased by 12%.

ACE's retrospective real-world study showed that over a median follow-up of two years, compared with warfarin, patients on NOAC treatment were associated with:

19% reduction in deaths

23% reduction in risk of any major bleeding complications

17% reduction in risk of stroke or systemic embolism (SE) and other heart-related complications

Based on the actual and projected number of AF patients in the first 5 years after the subsidy listing, NOACs, when compared with warfarin are also estimated to result in:

PREVENTING:

600 Hospitalisations due to major bleeding complications

550 Deaths

300 Stroke/SE hospitalisations

Potentially up to **S$12M** saved in healthcare dollars*

*Does not include difference in treatment costs

1 Yap KB, Ng TP, Ong HY. Low prevalence of atrial fibrillation in community-dwelling Chinese aged 55 years or older in Singapore: a population-based study. Journal of electrocardiology. 2008;41(2):94-8.

2 Kannel WB, Wolf PA, Benjamin EJ, et al. Prevalence, incidence, prognosis, and predisposing conditions for atrial fibrillation: population-based estimates 1. American Journal of Cardiology.82(7):2N-9N.

3 World Health Organization 2022. Definition and general considerations. https://www.who.int/tools/atc-ddd-toolkit/about-ddd

Scan this QR code for Guide.

We would like to thank the public healthcare institutions for supporting us in carrying out the study.
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