

## Abstract submitted to the CSANZ conference 2022

### Title:

Cost-effectiveness of Stroke Prevention Strategies in Atrial Fibrillation: a Systematic Review and Meta-analysis

Sumudu Hewage, Rini Noviyani, Adrian Barnett, William Parsonage, David Brain, Steven McPhail, Pakhi Sharma, Sanjeewa Kularatna

### Introduction

Economic evaluations claim left atrial appendage closure (LAAC) is cost-effective against oral anticoagulants in preventing stroke among patients with atrial fibrillation. We estimated a pooled cost-effectiveness measure comparing LAAC against anticoagulants and its variation across patient populations.

### Method

We conducted the review based on the Expert Review of Pharmacoeconomics & Outcomes Research on preparing systematic review of economic evaluation. Meta-analysis was done using the Comparative Efficiency Research Method using incremental net benefit. Studies selected through systematic screening of databases were evaluated using the Risk of Bias in a Model-based Economic Evaluations (ECOBIAS) checklist. Pooled cost-effectiveness and its 95% confidence interval for LAAC was estimated against warfarin, novel oral anticoagulants, and all oral anticoagulants using incremental net benefits.

### Results

Ten studies were selected to review from 3580 screened. Although nine studies were eligible for the meta-analysis, only six could be included due to lack of required data. Most of the studies showed mixed risk levels for biases. The main limitation in all studies was the unavailability of primary data. The pooled incremental net benefits (95%CI) for LAAC against warfarin, novel oral anticoagulants and all oral anticoagulants were US\$ 53,711 (31630, 75792); US\$ 17,924 (-1550, 37399) and US\$ 33079 (12672, 53486) respectively.

### Conclusions

We found out that on average, LAAC is cost-effective compared to warfarin and all oral anticoagulants but not against novel oral anticoagulants. This is despite many primary studies indicating the cost-effectiveness of LAAC against novel oral anticoagulants as per the incremental cost-effectiveness ratio. Our study highlights the importance of meta-analysis and detailed reporting and data sharing in economic evaluations.