



Cost-Effectiveness Analysis of Left Atrial Appendage Closure (LAAC) Device Versus Warfarin and New Oral Anticoagulants (NOACS) in Patients with Atrial Fibrillation (AF) - Large Brazilian Healthcare Payer Perspective

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Poster Code – **MT45**

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BACKGROUND AND OBJECTIVE

- Atrial fibrillation (AF) is associated with increasing risk for stroke.¹
- Strokes are related to a large economic burden such as increased health expenditures, high and prolonged rates of hospitalization.²
- Left atrial appendage closure (LAAC) emerged as viable treatment alternative for stroke risk reduction.

The objective of the study was to evaluate the cost-effectiveness of LAAC with WATCHMAN device in the perspective of a large Brazilian healthcare payer with more than 18 million patients.

METHODS

- A cost-effectiveness analysis was performed using data from a previously published static Markov model³ to assess the cost-effectiveness of LAAC with WATCHMAN device compared to Warfarin and new oral anticoagulants (NOACs) in the treatment of patients 65 years and older with non-valvular atrial fibrillation, CHA2DS2VASc score greater than 2 and contraindication of oral anticoagulants. Probability estimates, success rates, healthcare resources and utilities were obtained from published literature when available or by expert opinion. Only direct medical costs were considered. The analysis was carried out with 4,500 eligible patients and a time horizon of 9 years (Average life expectancy of Brazilians aged 65 or older).
- Dollar average of 2022, according to the Brazilian central bank: US\$1 = R\$5.17

RESULTS

- LAAC device led to an expected gain of 1.08 QALYs versus Warfarin and 0.4 QALYs versus NOACs and LAAC in the analysis time horizon (Fig. 1).
- LAAC was dominant (cost saving and more effective) compared to warfarin in the second year with an incremental cost-effectiveness ratio (ICER) of US\$ -16,924 and in the fifth year compared to NOACs with an ICER of US\$ -5,003 and remained so throughout the 9-year time horizon (Fig 2 and 3).

Figure 1. Cumulative QALY gain



Figure 4. Cumulative cost per treatment (US\$)

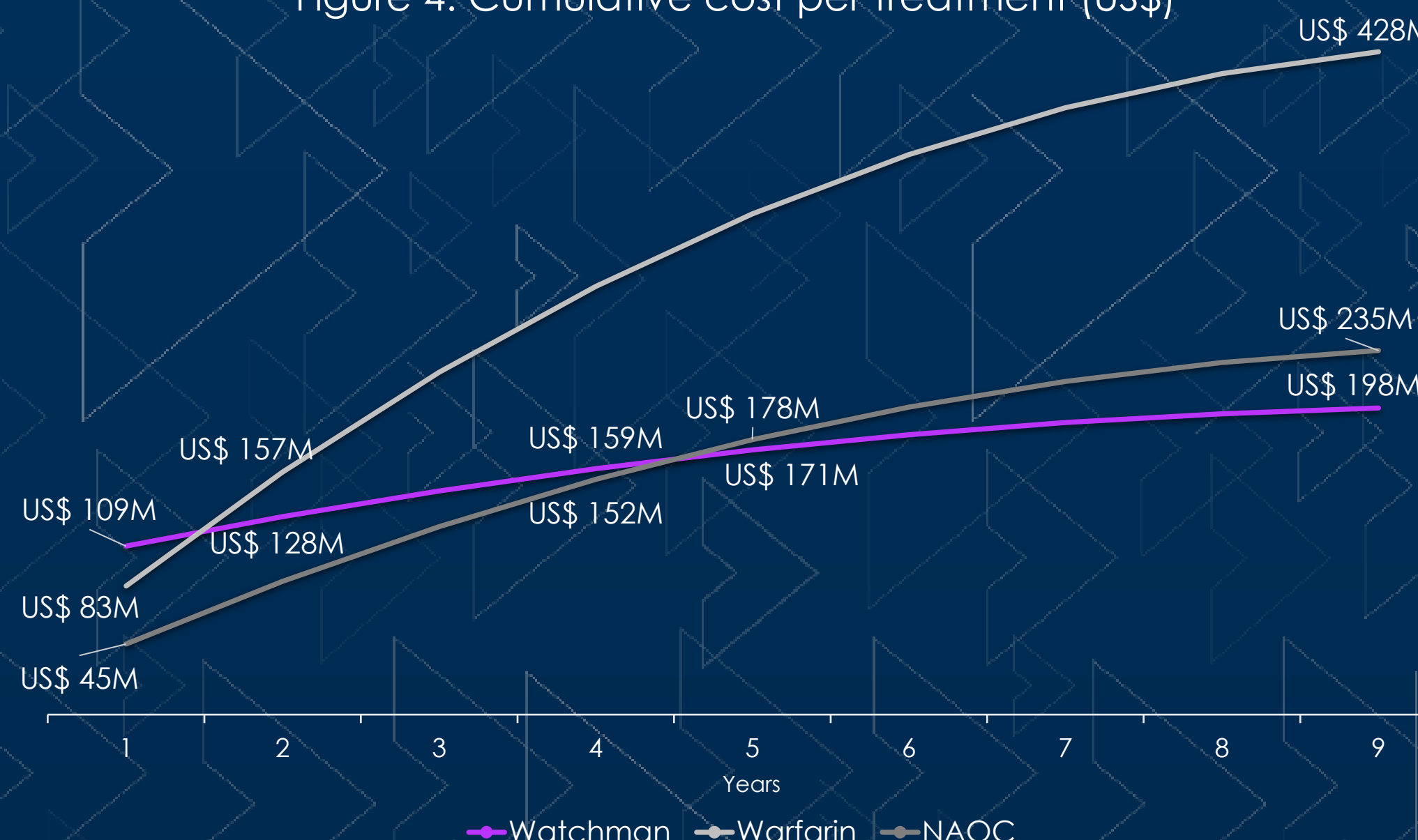
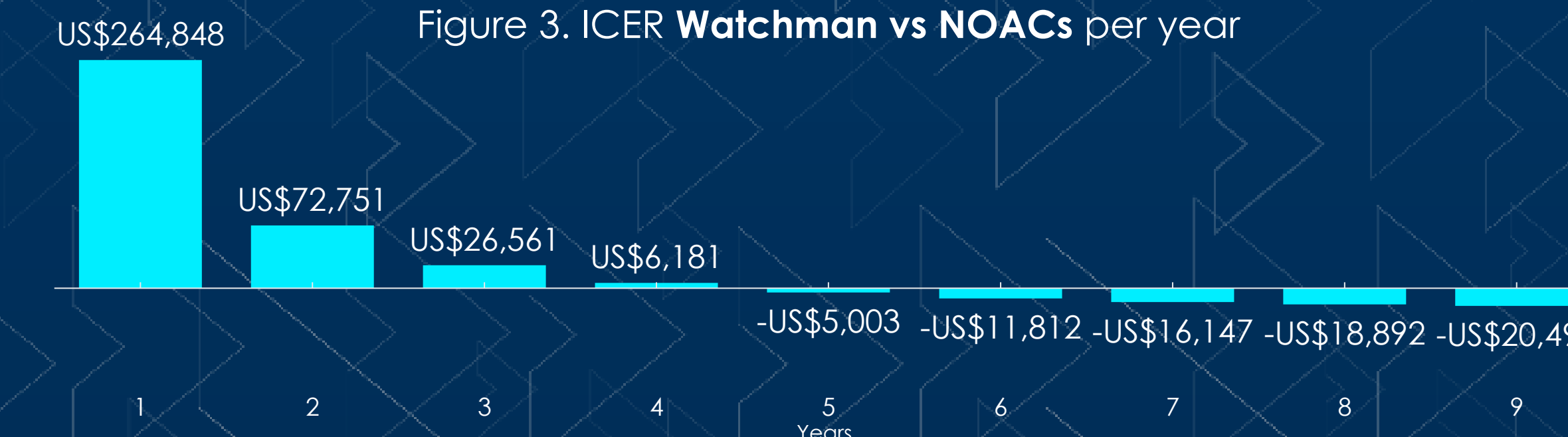


Figure 2. ICER Watchman vs Warfarin per year



Figure 3. ICER Watchman vs NOACs per year



- In the analysis for the healthcare payer, LAAC device presents potential savings with hospitalization and health resources of over US\$ 230 million vs warfarin and US\$ 37 million versus NOACs in the 9-year time horizon (Fig. 4).

CONCLUSION

- LAAC device is a health technology with gains in clinical outcomes and potential to save money and resources for private health plans.

REFERENCES

- O'Donnell MJ, Chin SL, Rangarajan S, et al. Global and regional effects of potentially modifiable risk factors associated with acute stroke in 32 countries (INTERSTROKE): A case-control study. Lancet 2016;388:761-75
- Rochmah, Thinni Nurul, et al. "Economic burden of stroke disease: a systematic review." International journal of environmental research and public health 18.14 (2021): 7552.
- Reddy, Vivek Y., et al. "Cost-effectiveness of left atrial appendage closure with the WATCHMAN device compared with warfarin or non-vitamin K antagonist oral anticoagulants for secondary prevention in nonvalvular atrial fibrillation." Stroke 49.6 (2018): 1464-1470.