



Background & Objective:

- The clinical and economic benefits associated with Transcatheter Aortic Valve Implantation (TAVI) have been well-established for European and U.S. high-risk patient populations.
- TAVI was incorporated in 2022 into an extrabudgetary fund aimed at enhancing DRG reimbursement for public healthcare providers in Chile.
- Since the fund is dynamic, and therapies included, amounts, and total funds are subject to changes, it is mandatory to demonstrate and advocate for the value of TAVI within this fund to maintain its prioritization.



Figure 1:
Medtronic TAVI device.

► This analysis sought to assess the cost-effectiveness of TAVI, compared to Surgical Aortic Valve Replacement (SAVR), in high-risk patients from the perspective of the Chilean healthcare system.

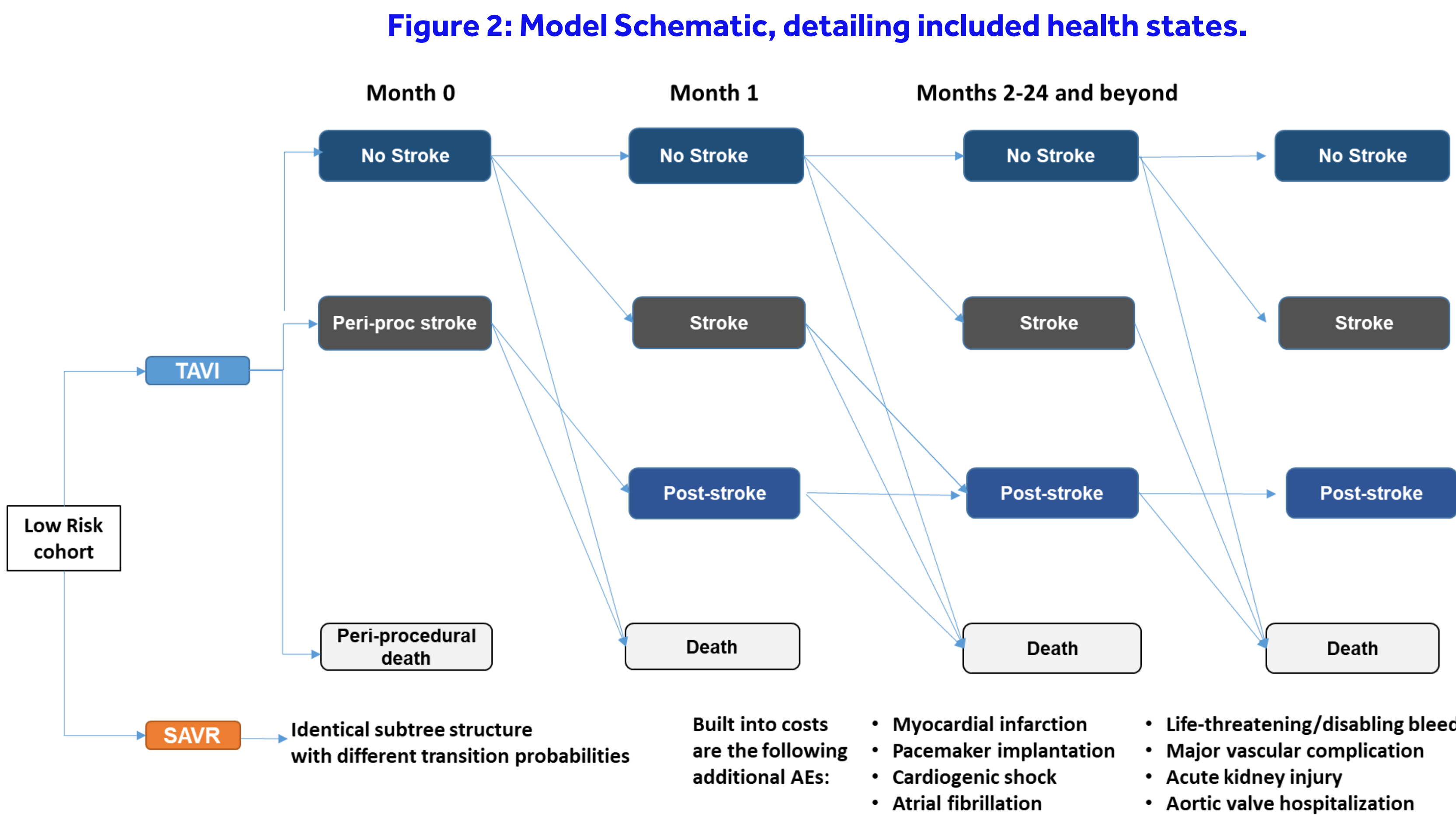
Methods:

- A previously published decision-analytic Markov model, including transitions between three primary health states -- alive with no stroke, alive post-stroke, and death - was utilized to project outcomes for both strategies over lifetime [1,2].
- Five-year follow-up from the CoreValve High-Risk Trial (NCT01240902), mean age 83.1, 47.2% female, informed clinical event rates, survival, and utilities [3]. Survival was modeled per trial data through 60 months and then was assumed to not differ between TAVI and SAVR and be equivalent to general population mortality, with no difference between TAVI and SAVR.
- Costs were reported in 2022 CLP and were obtained from activity-based costing and national registries. Costs and effects were discounted 3.5% per annum.
- The resulting incremental cost-effectiveness ratio (ICER) was evaluated against one to three times GDP per capita, based on WHO guidance, with the cost-effectiveness threshold ranging from \$13,395,069 (highly cost-effective) to \$40,185,207 (cost-effective) [4,5].

About costing procedures:

DRG proceedings: The reimbursement rate was estimated using open-access DRG databases from high-complexity public providers belonging to the DRG Program. Data on: DRG coding, DRG weights, basal reimbursement, and add-on payment amounts were collected. The tracked procedure was 35.5 Endovascular replacement of aortic valve (ICD-9-CM Vol. 3 Procedure Codes). DRG base price was estimated considering 65 hospital rates, their classification according to complexity, relative weight of each, and distribution, resulting in a mean base price of CLP\$2,184,664.

Cost proceedings: An activity-based costing approach and a bottom-up strategy were used to estimate local provider costs. DRG registries were used to determine bed days for critical and non-critical beds, and procedure rates, when possible. Costs were categorized to explore significant cost drivers. Estimations were made on a per-patient (PP) basis, considering cases without complications. All costs are expressed in 2022 Chilean pesos (CLP).



Results:

- Over lifetime, **TAVI added 0.17 QALYs (4.00 vs. 3.83) at increased costs of \$6,560,891 (\$21,962,615 vs. \$15,401,724), resulting in a base case ICER of \$38,968,884 per QALY gained and a survival benefit of 0.20 life years.**
- The ICER was most sensitive to assumptions about long-term survival and administrative costs but remained cost-effective in the majority of scenarios explored.

Figure 3: Modeled Survival Curves, by strategy, based on 5-year follow-up from the CoreValve HR trial [3].

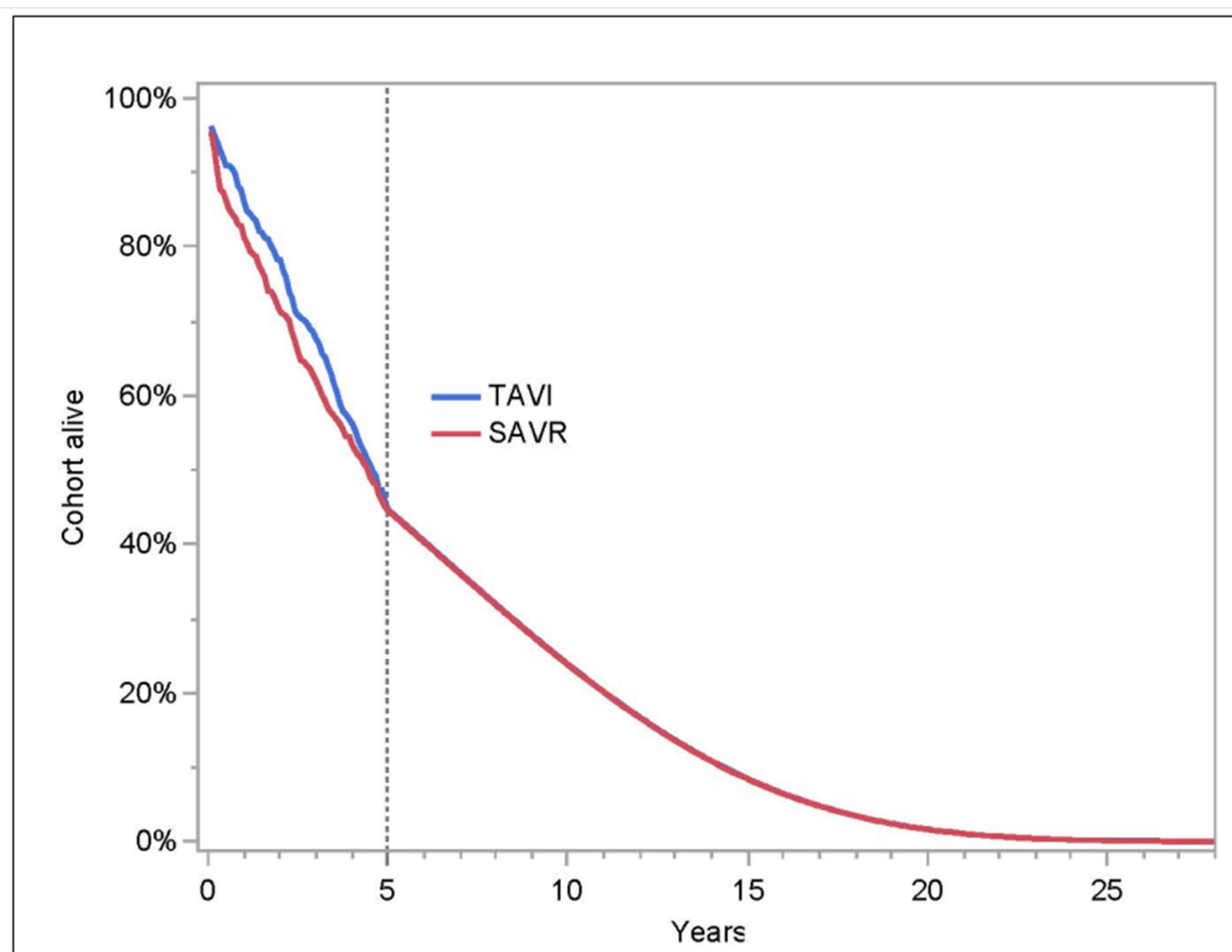


Table 1: Base case results.

	Total Costs	Incremental Costs	Total QALYs	Incremental QALYs	ICER
TAVI	\$21,962,615	\$6,560,891	4.00	0.17	\$38,968,884
SAVR	\$15,401,724		3.83		

Conclusion:

- This analysis suggests **TAVI in high-risk patients is cost-effective, leading to improved outcomes for high-risk patients in the Chilean healthcare system**, supporting ongoing activities to fund this intervention.
- Further analyses should explore TAVI use in a low-risk population to better understand the implications of use in a broader patient population.

References

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Disclosures

Wing Tech Inc. (AMR, JBP) report consulting fees from Medtronic Inc.