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# Benchmark Program

Transcatheter Valve Care Pathway



Clinical Evidence Series



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## The future of TAVI is an optimised patient care pathway. The future is now.

The indications and demand for TAVI are expanding rapidly.<sup>1</sup> The Edwards Benchmark program brings a streamlined hospitalisation approach that will enable your Multidisciplinary Heart Team to help you treat and care for more patients with excellent safety outcomes, and without additional resource usage. **The cost effectiveness of the optimised approach for TAVI was recently established by the investigators of the 3M pathway at the TVT Congress 2021.**<sup>2</sup>

### Background

- Innovations in TAVI device design and technique have enabled the development of optimised approaches to TAVI.
- The 3M (Multidisciplinary, Multimodality but Minimalist) study demonstrated excellent safety and efficacy outcomes following transfemoral TAVI.
- However, the economic implications of optimised TAVI are unknown.

### Study design

- Economic analysis of the costs associated with the 3M clinical pathway from the perspective of the US healthcare system.

- Propensity score matched comparison of outcomes and healthcare costs for 351 patients from the 3M TAVR economic study versus 351 patients from the SAPIEN 3 Intermediate Risk (S3i) Registry.

### Results

- Propensity matched mean patient age was 82 years. Mean STS risk score was 5.2–5.3.
- The 3M pathway reduced procedure duration (by 66 minutes total room time) and hospital length of stay (by 2.3 days), resulting in significant cost savings.
- At 30-day follow-up, patients in the 3M pathway cohort spent less time (reduction of 1 day) in rehabilitation or skilled nurse facility.
- There were no statistically significant differences in other healthcare costs or clinical outcomes.

**Cost savings associated with the 3M pathway:**



↓19%\*

**Index hospital**

Savings driven by index procedures, reduced hospitalisation and physician fees (including anaesthesiology).



↓11%

**30-day follow-up**

Savings driven by reduced rehabilitation/skilled nursing facility days.

\*Statistically significant reduction; †Intermediate-risk patients.

**Indirect comparisons in cost reduction per patient:**

Optimised TAVI may reduce 30-day costs by 19% per patient *versus* conventional TAVI.†



Total cost savings with TAVI.

**Conclusion**

- The 3M approach resulted in substantial in-hospital cost savings that persisted for at least 30 days after TAVI in intermediate-risk patients.
- Optimised TAVI is associated with similar clinical outcomes to those observed with conventional TAVI.
- These findings suggest that continued efforts to expand the use of both the optimised approach and a streamlined TAVI clinical pathway are warranted and are likely to substantially improve the cost-effectiveness of this procedure.

**Abbreviations**

- 3M: Multidisciplinary, Multimodality but Minimalist
- S3i: SAPIEN 3 Intermediate Risk
- SAVR: surgical aortic valve replacement
- STS: Society of Thoracic Surgeons
- TAVI: transcatheter aortic valve implantation
- TAVR: transcatheter aortic valve replacement



This document is a summary of the oral presentation by Dr Neel Butala at TVT 2021.<sup>2</sup> Scan the QR code for access options to the full presentation.

**The Edwards Benchmark program targets meaningful clinical outcomes:**

**1%**

30-day mortality<sup>3</sup>

**1%**

30-day stroke<sup>3</sup>

**1%**

30-day major vascular complications<sup>4</sup>

**6%**

30-day permanent pacemaker<sup>5</sup>

**4%**

30-day cardiac readmissions<sup>3</sup>

**80%**

Next-day discharge home<sup>5</sup>

Broadly described as “Multidisciplinary, Multimodal and Optimised”, the Edwards Benchmark program incorporates the latest practices based on a curated set of evidence-based resources and expert insights. It is designed to educate the Multidisciplinary Heart Team and improve operations at every point of the clinical pathway.

To access your Edwards Benchmark program profile and to listen to new video content from the program faculties, visit [eu.edwardsbenchmark.com](http://eu.edwardsbenchmark.com)



**Pre-Procedure**  
Stratify case selection



**Peri-Procedure**  
Optimise approaches



**Post-Procedure**  
Standardise protocols

**References**

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3. Barbanti M, van Mourik MS, Spence MS *et al.* Optimising patient discharge management after transfemoral transcatheter aortic valve implantation: the multicentre European FAST-TAVI trial. *EuroIntervention.* 2019; **15**: 147–54.
4. Lauck SB, Wood DA, Baumbusch J *et al.* Vancouver transcatheter aortic valve replacement clinical pathway: Minimalist approach, standardized care, and discharge criteria to reduce length of stay. *Circ Cardiovasc Qual Outcomes.* 2016; **9**: 312–21.
5. Wood DA, Lauck SB, Cairns JA *et al.* The Vancouver 3M (Multidisciplinary, Multimodality, but Minimalist) clinical pathway facilitates safe next-day discharge home at low-, medium-, and high-volume transfemoral transcatheter aortic valve replacement centers: The 3M TAVR study. *JACC Cardiovasc Interv.* 2019; **12**: 459–69.

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