

How Payment Schemes Drive the Adoption of Transcatheter Aortic Valve Implantation?

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INTRODUCTION

Transcatheter Aortic Valve Implantation (TAVI) is an innovative, minimally invasive treatment for Aortic Valve Stenosis (AoVS), a condition characterized by the narrowing of the aortic valve opening. Since its market introduction in 2010 as an alternative to open-heart Surgical Aortic Valve Replacement (SAVR), TAVI adoption has been slow across EU countries. Access to the TAVI procedure varies widely worldwide due to high device costs and differing levels of healthcare resources.

This study, conducted as part of the Hi-Prix project, explores the different payment models and financial incentives used (if any) across 9 European countries to support TAVI adoption.

OBJECTIVES

- The main objectives are:
- To identify current payment models used for TAVI.
 - To identify the barriers/challenges of current payment schemes.
 - To analyze whether the current schemes are a positive incentive for the adoption of these technologies.

METHODS

- Information on payment schemes, barriers, and incentives was gathered through an open-ended questionnaire. The questionnaire was completed by stakeholders, identified and selected by Hi-Prix partners, with knowledge and experience in technology adoption across 9 EU countries (Austria, France, Germany, Italy, Lithuania, Netherlands, Portugal, Spain, and the United Kingdom).
- This was followed by a qualitative analysis of the responses.

RESULTS

The respondents' profiles included **healthcare professionals (HC)**, **Health Technology Assessment professionals (HTA)**, **health economists (HE)**, **payers**, **health care managers**, and **others**.

A total of **27 stakeholders** participated answering the questionnaire. The column chart summarizes the number of respondents by profile (**see Figure 1**).

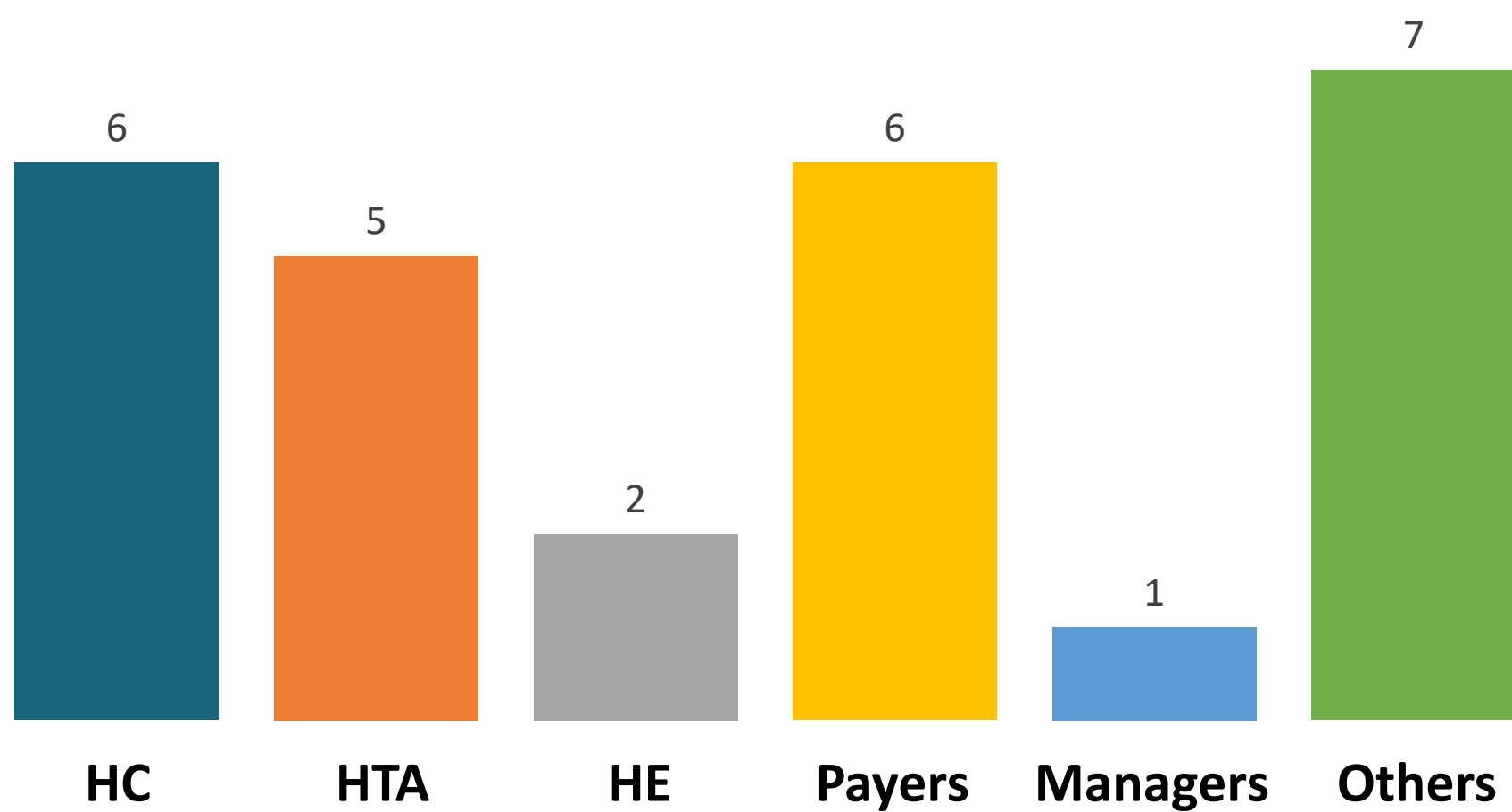


Figure 1. Number of Respondents by Profile.

Findings indicate **variability in TAVI payment models** across Europe. While some countries use separate add-on payments for implantable devices (as TAVI), others rely solely on DRG or global budgets, which may not fully cover the high cost of the TAVI (**see details in Table 1**).

Table 1. Overview of TAVI Payment Models, Barriers, and Incentives Across 9 European Countries.

Country	Current Payment Model	Barriers/Challenges of current payment models	Incentives for TAVI adoption
Austria	DRG with an add-on tariff for the implantable valve, additional staff,.. (MEL-code)	Not Available	No strong incentive to use TAVI; TAVI reimbursement only slightly higher than open surgery
France	DRG with an add-on list for implantable devices	DRG often doesn't cover full costs; may limit the number of procedures carried out	The add-on list allows for separate reimbursement of the device, which helps cover part of the additional costs of TAVI. The ETIPS rebate* encourages hospitals to negotiate lower prices, sharing savings between hospitals and public payers
Germany	DRG	In the case of Germany, DRG are not reported as notable barriers	TAVI is already established as a standard procedure; no incentives are needed for adoption
Italy	Mostly DRG, with regional variations	DRG payments often don't cover full cost; lack of differentiation between TAVI and open surgery. Also, the current system used for TAVI does not incentivize quality and appropriateness of care	Current DRG offers minimal incentive for TAVI. Recent shift towards regional tenders introduces value-based procurement and outcome-based risk-sharing
Lithuania	DRG with add-on payments for the implants	Limits on TAVI procedures and centrally procured implants (250-300/year)	Add-ons and centralized procurement as specific incentives
Netherlands	DRG	Not Available	Not Available
Portugal	Global budget based on historical financing; Activity registered by DRG	Global hospital budget is based on the historical case-mix with a two-year lag. This limits timely adjustments. In any case the budget does not account for disease severity, performance, complications, or outcomes; so, they are far from a value-based approach	No positive incentives for adoption; difficult to justify TAVI's higher cost to administrations without outcome-based evidence. Risk-adjusted outcome analysis needed to support value-based adoption
Spain	Varies by autonomous region (e.g. a dedicated DRG category that covers both the procedure and the valve; or under global budget for hospital)	The barriers identified are related to the willingness to pay from payers (usually low) due to budget constraints. In some regions, and in addition to the absence of a specific payment model for TAVI, the existence of negative HTA evaluations can further disincentive adoption.	No positive incentive identified in regions with no specific payment model for TAVI
U.K.	DRG for procedure costs; TAVI device reimbursed separately under Specialised Services Devices Programme (SSDP)	The previous fragmented model where procurement was the responsibility of each NHS Trust was identified as a barrier to secure prices that favoured adoption.	Separate reimbursement for TAVI device under SSDP excludes it from DRG, supporting adoption by covering the most expensive part of the procedure. The shift towards the new national supply system aims to standardize device costs, reduce disparities and incentivise adoption.

DRG: Diagnostic Related Groups; **MEL code:** individual medical services code; **ETIPS rebate:** from the French “Effet Tarifaire Incitatif pour les Produits de Santé”: hospitals purchasing medical devices at costs below the national tariff are reimbursed at the purchase price and receive 50% of the savings.

CONCLUSIONS

- Payment models can act as incentives or disincentives for the adoption of innovative technologies. In the case of TAVI, although it is a cost-effective technology and has been on the market for 14 years, there is no systematic tendency to incentivize its adoption through novel payment schemes.
- Revising current payment schemes and exploring innovative payment models is needed to support the proper adoption of TAVI.

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