

Cost Savings Analysis of Implementing BENCHMARK Best Practices for TAVI Patients in Europe

Objective:

To evaluate the cost savings of implementing BENCHMARK best practices for TAVI in four European countries based on the 30-day results.

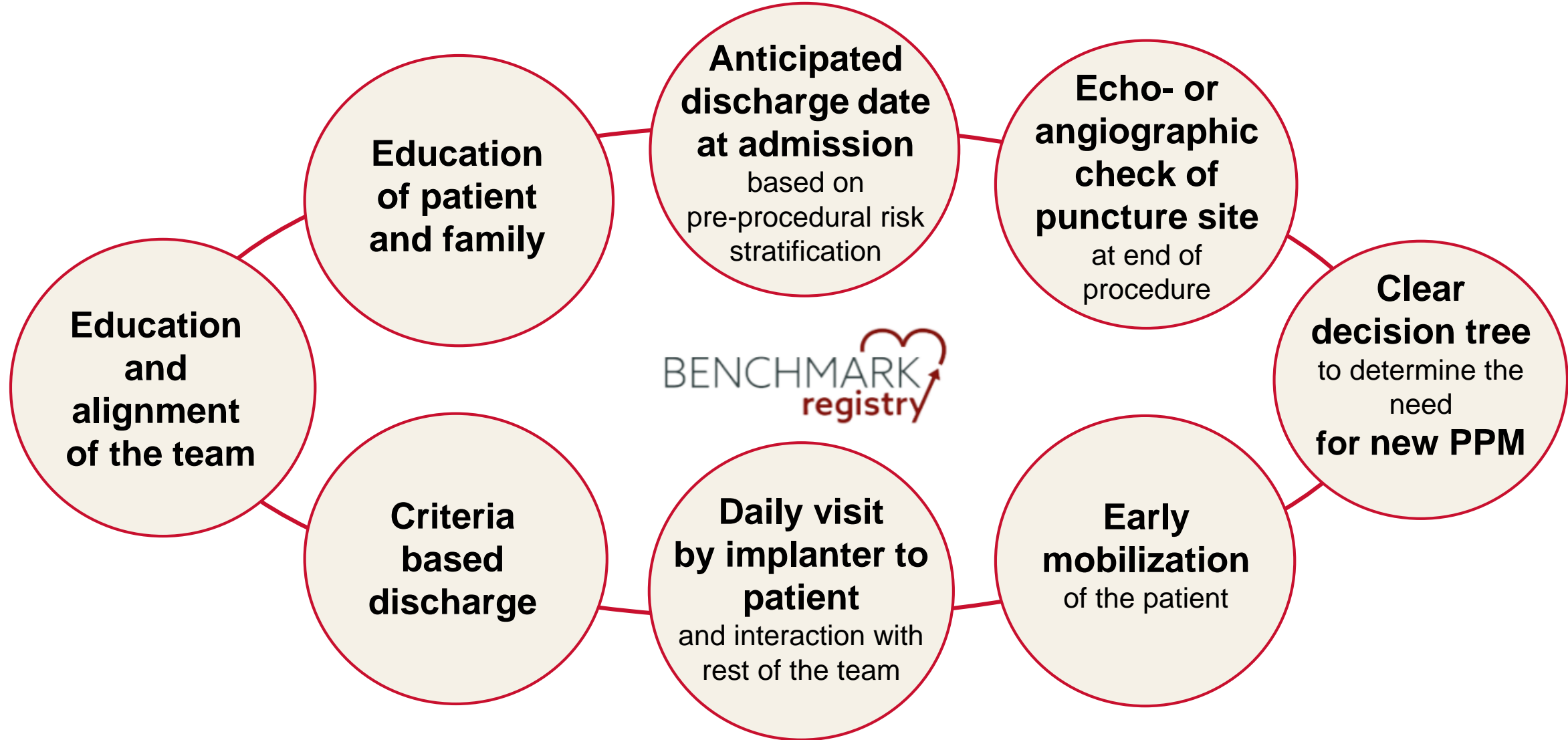
Key Point for Decision Makers:

Wider implementation of BENCHMARK best practices across Europe will make TAVI pathway more resource-efficient.

INTRODUCTION

- Transcatheter aortic valve implantation (TAVI) has been established as a safe, effective, and cost-effective minimally invasive treatment for severe symptomatic aortic stenosis (sSAS).¹⁻⁸
- The rapid adoption of TAVI has resulted in a need to develop a more efficient patient pathway with shorter procedures and reduced hospital stays while maintaining excellent clinical outcomes.
- Recently, the BENCHMARK registry was established to assess the effectiveness of **8 pre-defined best practices** in improving the patient pathway in multiple TAVI centres across Europe (**Figure 1**).⁹

Figure 1: BENCHMARK best practices



- The 30-day results of the registry demonstrated that implementing best practices into the standard of care for patients undergoing TAVI reduced total hospital length of stay (LoS) and intensive care LoS without compromising patient safety.¹⁰
- In addition to improving patient experience and increasing hospital capacity, shorter LoS may be associated with a potential economic benefit.

METHODS

- BENCHMARK (NCT04579445) is a multicentre, international registry of patients with severe symptomatic AS undergoing TAVI at 28 centres across Europe.
- Patient data from Germany, France, Italy, and Spain were included in the analysis.
- Total costs included the daily cost per patient for intensive care unit (ICU), coronary care unit (CCU), intermediate care unit (IMC), and general ward stay (pre- and post-TAVI), procedural parameters (i.e., procedural time, overall intervention time, and labour cost savings), and management of periprocedural complications.
- Weighted average costs were calculated based on the number of patients in all considered countries to estimate potential cost savings per patient.

RESULTS

- Overall, the cost saving associated with post-procedural LoS was €1 416 per patient (**Table 1**).

Table 1: Length of stay cost savings (€)

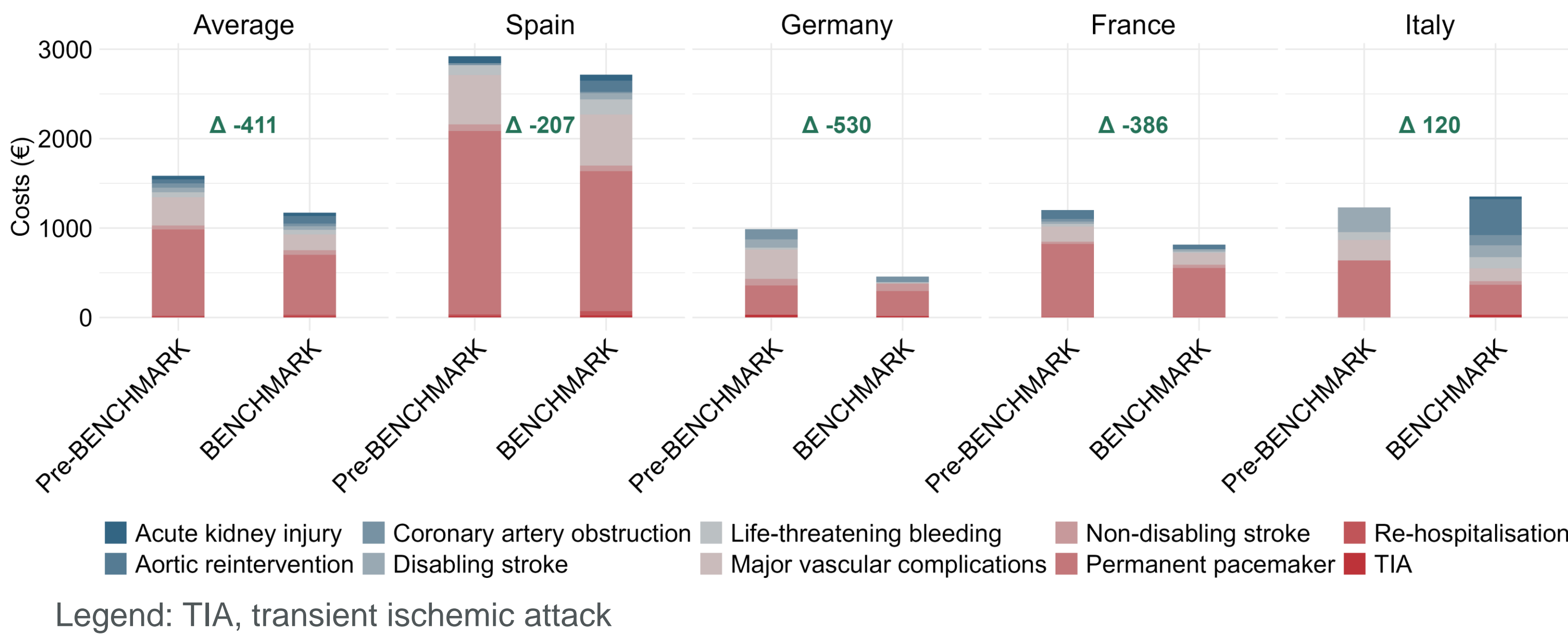
| Costs (€) | Pre-BENCHMARK N = 697 | BENCHMARK N = 1127 | Mean difference (95% CI) | p-value |
|--------------------|--------------------------|-----------------------|-----------------------------|---------|
| ICU stay | 1 392 | 989 | 403 (191, 615) | <0.001 |
| CCU stay | 850 | 405 | 445 (304, 587) | <0.001 |
| IMC stay | 135 | 132 | 3 (-45, 51) | 0.9 |
| General ward stay | 1 928 | 1 363 | 565 (372, 758) | <0.001 |
| Total saved: 1 416 | | | | |

Legend: CCU, coronary care unit; CI, confidence interval; ICU, intensive care unit; IMC, intermediate care unit

RESULTS (cont.)

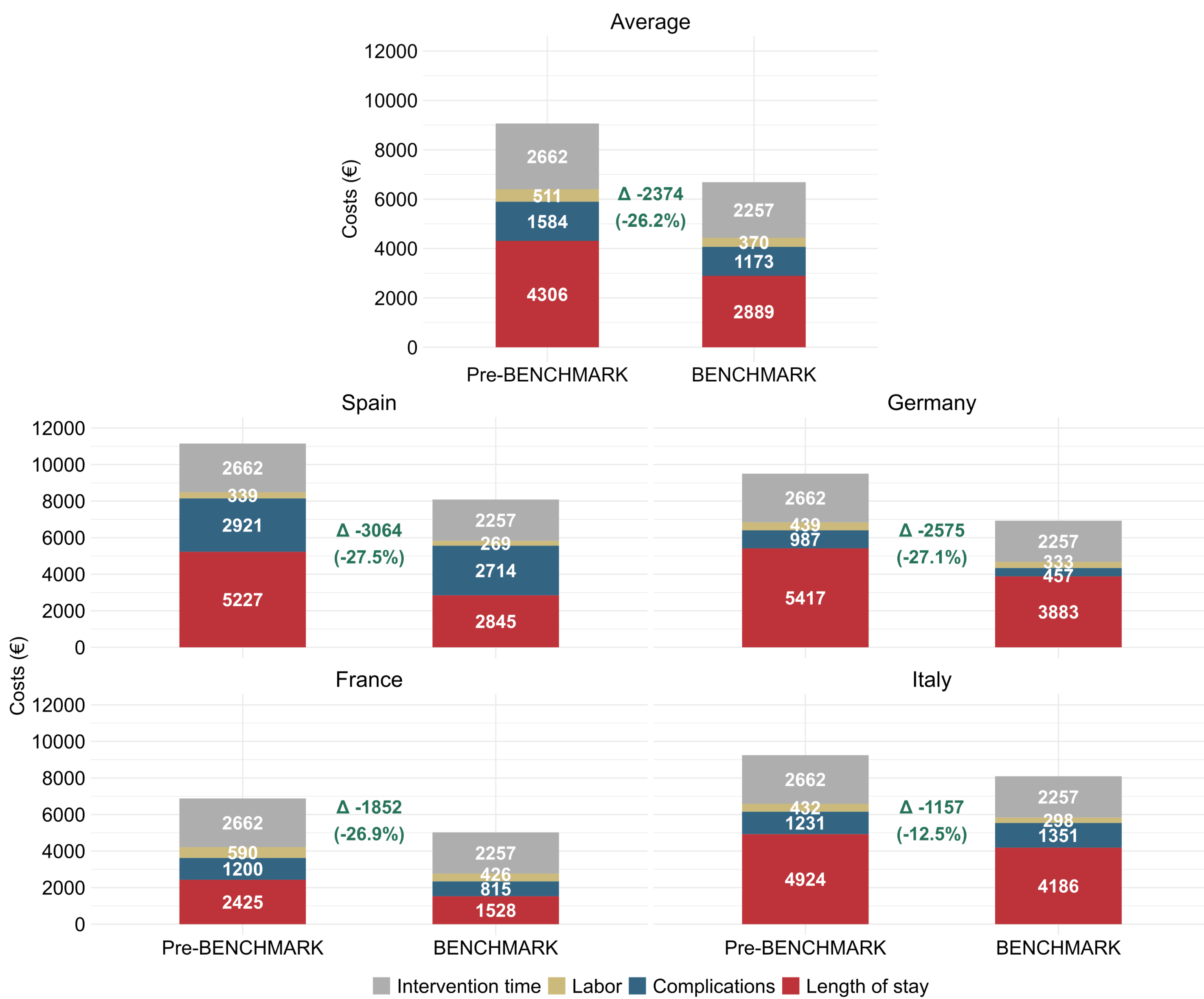
- Costs attributable to 30-day clinical events, including coronary artery obstruction requiring intervention, disabling stroke, life-threatening bleeding, acute kidney injury stage 2 or 3, permanent pacemaker implantation, as well as potential other expenditures, resulted in further savings of €411 per patient (**Figure 2**).

Figure 2: Clinical events / complications cost savings per patient (€)



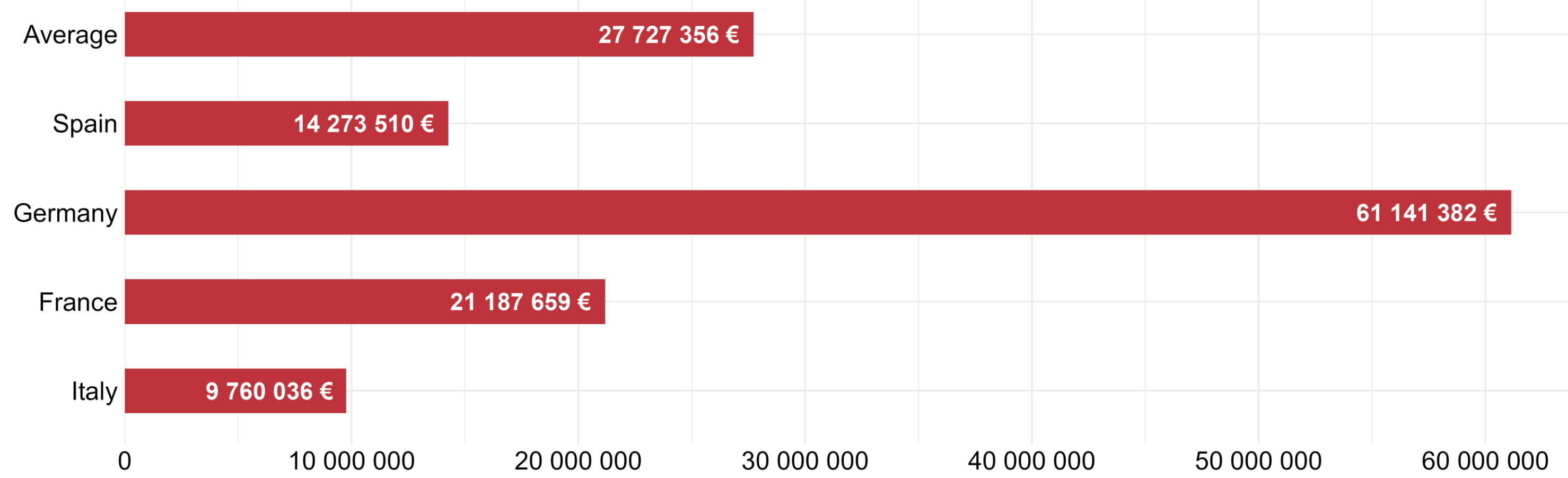
- Total cost savings reflecting the BENCHMARK best practices were €2 374 per patient, ranging from €1 157 in Italy to €3 064 in Spain (**Figure 3**).

Figure 3: Total cost savings per patient (€)



- Based on the number of TAVIs performed in each country per year,¹¹ the implementation of BENCHMARK best practices could potentially result in significant annual savings (**Figure 4**).

Figure 4: Potential annual cost savings per country (€)



Implementing BENCHMARK best practices in four European countries resulted in significant cost savings, demonstrating how a minimally invasive technology combined with its optimisation program may improve resource utilisation and lead to efficiency gains in the healthcare environment.

Derk Frank¹, Eric Durand², Mark Spence³, Mariuca Vasa-Nicotera⁴, Francesco Saia⁵, Douglas Muir⁶, David Wood⁷, Cristobal A. Urbano⁸, Damien Bouchayer⁹, Vlad Anton Iliescu¹⁰, Christophe Saint Etienne¹¹, Florence Leclercq¹², Lluís Asmarats Serra¹³, Claudia Lüske¹⁴, Violetta Hachaturyan¹⁴, Wilbert Wesselink¹⁵, Radka Rakova¹⁵, Jana Kurucova¹⁵, Peter Bramlage¹⁴, Sandra Lauck⁷ for the BENCHMARK registry group

¹University Clinical Centre Schleswig-Holstein (UKSH), Kiel, Germany, ²University Hospital of Rouen, Rouen, France, ³Mater Private Network, Dublin, Ireland, ⁴Hospital Sindelfingen-Böblingen, Sindelfingen, Germany, ⁵University of Bologna, Policlinico S. Orsola-Malpighi, Bologna, Italy, ⁶James Cook University Hospital, Middlesbrough, UK, ⁷University of British Columbia, Vancouver, BC, Canada, ⁸Hospital Regional Universitario de Málaga, Málaga, Spain, ⁹The Clinique de l'Infirmier Protestante, Lyon, France, ¹⁰University of Medicine and Pharmacy Carol Davila, Bucharest, Romania, ¹¹Centre Hospitalier Regional Universitaire de Tours, Hôpital Trousseau, Tours, France, ¹²Montpellier University Hospital, Montpellier University, France, ¹³Hospital de la Santa Creu i Sant Pau, Instituto de Investigación Biomédica Sant Pau, Barcelona, Spain, ¹⁴Institute for Pharmacology and Preventive Medicine, Cloppenburg, Germany, ¹⁵Edwards Lifesciences, Prague, Czech Republic

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