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“TRANSCATHETER AORTIC VALVE IMPLANTATION FOR EVERYONE”: YES, OF COURSE, BUT HOW MUCH IS THAT?

To the Editor:

Health economics arguments pose many challenges. There is often a clash between the ethical assumption of unlimited resource use and the economic need to confine therapeutic possibilities within clear boundaries. When deciding between two products or procedures, however, common sense would suggest that the less expensive option should be selected, provided that its “noninferiority” relative to the more expensive option has been demonstrated. This consideration holds even truer for patients with limited life expectancy. The possibility of managing the care of patients with aortic valve stenosis with either conventional surgical aortic valve replacement or transcatheter aortic valve implantation (TAVI) often gives rise to this kind of debate. Current evidence from comparisons of the two treatment strategies is controversial, whether TAVI may be extended to low-risk patients is still an open issue, and there are also considerations in terms of health economics and policy.

We appreciated the recent study of McCarthy and colleagues,¹ which compared the cost of and payments for TAVI and surgical aortic valve replacement in propensity score–matched patients. TAVI was associated with significantly higher hospital costs, despite overall shorter hospital stay. The outcome of “modern” TAVI was compared with that of “old” conventional surgical aortic valve replacement, however, without considering more recent surgical treatment options, including minimally invasive surgery or the use of sutureless aortic valves, even though the latter are burdened with higher costs than stented bioprostheses. Similarly to McCarthy and colleagues,¹ in a previous study from our group,² we found TAVI technology to be more expensive than sutureless aortic valve replacement performed through a minimally invasive

approach. These results were driven mainly by the higher costs of TAVI devices, which largely exceed those of sutureless prosthetic valves.² It is worth noting that both studies reached similar conclusions, although they were carried out in the context of different hospital strategies (eg, hospital stays are typically longer in Europe) and health care systems (Medicare vs diagnosis-related groups).

Overall hospital costs for TAVI might be even higher relative to conventional surgery if increased readmissions caused by higher procedure-related incidence of paravalvular leakage are considered.² So, are we really sure that “TAVI for everyone” is the best medical and economic strategy?

Giuseppe Santarpino, MD, PhD^{a,b}

Renato Gregorini, MD, PhD^a

^aHeart Center

Città di Lecce Hospital

GVM Care & Research

Lecce, Italy

^bDepartment of Cardiac Surgery

Paracelsus Medical University

Nuremberg, Germany

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LONG-TERM OUTCOMES WILL DETERMINE THE COST-EFFECTIVE APPROACH TO AORTIC VALVE DISEASE

Reply to the Editor:

We appreciate the comments from Santarpino and colleagues regarding cost considerations in the treatment of severe aortic stenosis.^{1,2} Santarpino and colleagues observed a similar finding to our study in that the predominant cost difference associated with transcatheter aortic valve replacement (TAVR) remains the prosthesis. Presumably, over time many of these technology costs will decrease with increased competition or technologic advances in manufacturing costs.

In the more recent era, conscious sedation techniques and earlier discharge may further lower costs of the index hospitalization, which was the episode of care analyzed for our study and others. However, the larger questions of cost and cost-effectiveness of using TAVR in lower-risk patients relate predominantly to longevity, durability, and potential

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costs associated with both more reinterventions and potentially multiple, more costly TAVR prosthesis. Further studies on how this may affect the cost curves to beyond 1 year are important questions yet to be evaluated.

Fenton H. McCarthy, MD, MS^{a,b,c}

Nimesh D. Desai, MD, PhD^{a,b,c}

*^aLeonard Davis Institute of Health Economics
University of Pennsylvania
Philadelphia, Pa*

*^bDivision of Cardiovascular Surgery
University of Pennsylvania
Philadelphia, Pa*

*^cCardiovascular Outcomes, Quality, and Evaluative
Research Center
University of Pennsylvania
Philadelphia, Pa*

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