

Results of the PARTNER Trial Cohort A cost effectiveness analysis reported

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The cost effectiveness of transcatheter aortic valve implantation (TAVR) compared to surgical aortic valve replacement (SAVR) depends on whether TAVR is performed via the femoral artery or transapically, through a small incision in the chest, according to a new study.

Recently, transcatheter aortic valve implantation (TAVR) has been shown to result in similar 12-month survival as surgical [aortic valve replacement](#) (SAVR) for high-risk patients with severe [aortic stenosis](#). The potential [cost-effectiveness](#) of TAVR versus SAVR in the PARTNER trial was examined and the results were presented today at the 23rd annual Transcatheter Cardiovascular Therapeutics (TCT) scientific symposium, sponsored by the Cardiovascular Research Foundation.

The PARTNER trial randomized patients with severe, symptomatic aortic stenosis and high surgical risk to either TAVR (N=348) or SAVR (N=351) and followed them for a minimum of 12 months. Health state utilities were estimated using the EuroQOL (EQ-5D) at baseline, one, six, and 12 months. Detailed medical resource utilization data were collected on all study patients, and hospital billing data were collected for both index and follow-up hospitalizations for any cause from consenting U.S. patients.

The objectives of the study were to combine cost data with survival and Quality of Life (QoL) data to estimate the 12-month cost-effectiveness of TAVR compared with AVR and to explore potential differences in

costs and cost-effectiveness of TAVR vs. AVR for the transfemoral vs. transapical populations.

Among high risk aortic stenosis patients eligible for the transfemoral approach, TAVR, compared with surgical AVR:

- Provided small but significant gains in 12 month quality-adjusted [life expectancy](#) (0.06 – 0.07 Quality Adjusted Life Years, QALYs)
- Was associated with higher procedural costs but slightly lower index hospitalization and total 12 month costs

However, not all patients qualify medically for the transfemoral approach. Among patients only eligible for the transapical approach:

- TAVR provided no increase (and possible decrease) in QALYs
- TAVR increased procedural, index admission, and 12 month costs (by ~\$10,000/patient)

"Results of this trial indicate that for patients with severe aortic stenosis and high surgical risk, transcatheter aortic valve replacement is an economically attractive and possibly dominant strategy compared with surgical aortic valve replacement, provided that [patients](#) are suitable for the transfemoral approach," said Matthew R. Reynolds, MD. Dr. Reynolds is Director of the Economics and Quality of Life Research Center at Harvard Clinical Research Institute (HCRI), an Assistant Professor of Medicine at Harvard Medical School and Associate Director of Electrophysiology at the Boston VA Health Care System.

"Current results for transcatheter aortic valve replacement via the transapical approach, compared with surgical aortic valve replacement,

are unattractive from a health economic perspective," said Dr. Reynolds.

"Whether the transapical approach can be refined to provide faster recovery and better results from a cost perspective should be the subject of further study."

Provided by Cardiovascular Research Foundation

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