

# Annual Number of Candidates for Transcatheter Aortic Valve Implantation Per Country: Current Estimates and Future Projections

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**Period of study** January 2017

## Objectives

To estimate the current and future number of annual TAVI candidates in 27 EU countries, the US and Canada.

## Study design

Meta-analysis and modelling study.

## Materials and methods

- Separate systematic literature searches on the prevalence, symptom status and clinical decision-making in severe aortic stenosis (AS) were performed using Medline, Embase and Cochrane databases in January 2017
- After screening, full-length manuscripts were carefully assessed for eligibility
- The echocardiographic definition of AS was extracted from all studies, along with other information related to study design, including country, population characteristics and risk categorisation
- The search on clinical decision-making in AS was directed to identify studies that focused on 1. the proportion of patients declined surgical aortic valve replacement (SAVR) in the pre-transcatheter aortic valve implantation (TAVI) era and 2. the proportion of patients treated with TAVI or medical therapy if declined SAVR

## Key results

- Calculated incidence rate of severe AS was 4.4%/year in patients  $\geq 65$  years
- AS-related symptoms were present in 68.3% of patients with severe AS
- Despite having severe symptomatic AS, 42% did not undergo SAVR
- Of the non-operated patients, 62% received TAVI.
- The model predicted 114,757 EU and 58,556 North American TAVI candidates annually

## Limitations of study

- The determination of AS-related symptoms and SAVR- and TAVI-eligibility were based on the decision of individual physicians in each included study
- Substantial differences exist in healthcare systems among individual countries in Europe
- While predicting the number of potential TAVI candidates, this study did not consider the effect of local reimbursement or health insurance policies, regional differences in social background or life expectancy
- Prevalence and average disease duration used for the calculation influence our estimations

## Conclusions

Currently, approximately 180,000 patients can be considered potential TAVI candidates in the EU and in North America annually. This number might increase up to 270,000 if indications for TAVI expand to low-risk patients. These findings have major implications for healthcare resource planning in the 29 individual countries.