

Model developed to help predict risk of in-hospital death after TAVR

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In a study published online by *JAMA Cardiology*, Fred H. Edwards, M.D., of the University of Florida College of Medicine-Jacksonville, and colleagues developed a statistical model to predict risk of in-hospital death after transcatheter aortic valve replacement (TAVR), based on more than 13,000 patients who underwent this procedure.

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Accurate risk prediction models for cardiac procedures are an essential component of patient-centric care. Patient selection for TAVR should include assessment of the risks of TAVR compared with surgical [aortic valve replacement](#) (SAVR). TAVR was developed to provide a treatment option for [patients](#) with critical aortic stenosis who are not good candidates for SAVR. Existing SAVR risk models accurately predict the risks for the population undergoing SAVR, but comparable models to predict risk for patients undergoing TAVR are currently not available.

The [model](#) was developed from 13,718 U.S. patients undergoing TAVR in centers participating in the Society of Thoracic Surgeons/American College of Cardiology Transcatheter Valve Therapy (STS/ACC TVT) Registry from November 2011 to February 2014. Validation of the model was completed using records from 6,868 patients. Covariates for the model were selected through a process of expert opinion and statistical analysis.

The final model covariates were age, [glomerular filtration rate](#), hemodialysis, New York Heart Association functional class IV, severe chronic lung disease, nonfemoral access site, and procedural acuity (sometimes termed operative priority, refers to the urgency of the procedure).

"This model is being incorporated into the standard TVT Registry software and should be a valuable adjunct for patient counseling, performance assessment, local quality improvement, and national monitoring of the appropriateness of patient selection for TAVR," the authors write.

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