

Web-based TAVR marketing found to overstate benefits, understate risks

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Transcatheter aortic valve replacement, or TAVR, has been called one of the biggest advances in cardiac surgery in recent years. The procedure delivers a new, collapsible aortic valve through a catheter to the valve site within the heart - a repair that otherwise requires open heart surgery. While a boon for many patients who would not have been a candidate for conventional surgery, Penn Medicine researchers have discovered that marketing for TAVR does not accurately portray the risks associated with undergoing the procedure. Their analysis is available in the January 12 issue of *JAMA Internal Medicine*.

"We were struck by the amount of marketing that surrounded this new procedure," says senior author Mark Neuman, MD, MSc, an assistant professor of Anesthesiology and Critical Care in Penn's Perelman School of Medicine and a Senior Fellow in the Leonard Davis Institute of Health Economics. "Since people commonly seek out health information online, we assessed the content available regarding the known risks and benefits of TAVR on hospitals' websites."

The aortic valve functions to allow newly oxygenated blood to leave the heart's left ventricle for pumping to the rest of the body. Normally, the valve closes immediately to prevent blood from leaking backwards into the ventricle. The aortic valve can malfunction for many reasons, the most common of which is a congenital defect or decay resulting from advanced age. Until recently a new aortic valve required patients to undergo an open heart procedure. TAVR eliminates the need for this in some patients: instead, the replacement valve is threaded through a

catheter placed into a major artery and expanded at the site, pushing the old valve leaflets out of the way and allowing the replacement valve to take over the job of regulating blood flow.

During May and June of 2014, Neuman, Lee A. Fleisher, MD, chair of Anesthesiology and Critical Care in the Perelman School of Medicine, and lead author, Mariah Kincaid, BS, a summer research intern in Neuman's lab and an MD/MPH student at Tufts University School of Medicine, reviewed the websites of the hospitals listed in the Society of Thoracic Surgeons and the American College of Cardiology's Transcatheter Valve Therapy Registry and abstracted information into a standardized form that chronicled 11 potential risks and 11 potential benefits of TAVR compared with open aortic valve replacement.

Of 262 U.S. hospitals with pages describing TAVR, nearly all (99 percent) described at least one benefit of TAVR relative to open [aortic valve replacement](#). The most common benefits described included the lower degree of invasiveness of TAVR compared with open [aortic valve](#) procedures (95 percent), the potential for a more rapid recovery (46 percent), and improved quality of life (45 percent).

In contrast, only 69 websites (26 percent) mentioned any of the risks known to be associated with TAVR. The most common risks mentioned were stroke or transient ischemic attack (18 percent), vascular complications (14 percent), death (12 percent), and unknown long-term valve durability (11 percent).

Information on hospital websites is one avenue of patient education; patients who are candidates for the procedure would typically receive additional information, including a one-on-one discussion with their physician and sign an informed consent prior to undergoing TAVR. But, the web is a powerful source of information that may set the tone for how patients perceive the risks and benefits of the procedure.

"Our analysis determined that while hospital websites universally mention the potential benefits of TAVR, they rarely present any information on the procedure's known risks," says Neuman. "Hospitals have an opportunity to encourage appropriate use of this treatment by presenting a more balanced view of both the known risks and benefits of TAVR."

Provided by University of Pennsylvania School of Medicine

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