

## Online Appendix: Relationships With Industry (RWI) and Other Entities

### Appropriate Use Criteria for the Treatment of Patients with Severe Aortic Stenosis: Members of the Writing Group, Rating Panel, External Reviewers, and AUC Task Force—Relationships with Industry and Other Entities (Comprehensive)

The ACC maintains a database that tracks all relationships for ACC members and persons who participate in ACC activities, including the development of AUC. A table of relevant disclosures by the writing group, rating panel, external reviewers, and AUC Task Force is listed in the manuscript. To ensure complete transparency, a full list of disclosure information—including relationships not pertinent to this document—can be found below.

Participant	Employment	Representing	Consultant	Speakers Bureau	Ownership/ Partnership/ Principal	Personal Research	Institutional, Organizational, or Other Financial Benefit	Expert Witness
<b>Writing Group</b>								
Robert O. Bonow	Northwestern University Feinberg School of Medicine, Center for Cardiovascular Innovation— Director and Professor of Cardiology	ACC (Chair)	None	None	None	• Harvard Clinical Research Institute (DSMB)	• Gilead Sciences • JAMA (Editor)* • NHLBI†	None
Alan S. Brown	Advocate Lutheran General Hospital, Division of Cardiology— Director; Loyola Stritch School of Medicine—Clinical Associate Professor	ACC	• Akcea Therapeutics • Amgen Inc.* • Astra Zeneca • Kastle • Regeneron*	None	None	None	• National Lipid Association† • American Society for Preventative Cardiology (Board member)† • Astra Zeneca‡	None
Linda D. Gillam	Morristown Medical Center, Department of Cardiovascular Medicine—Chair	ACC AUC Task Force liaison	None	None	None	• Bracco† • Edwards Lifesciences† • Medtronic†	• Circulation Imaging • National Board of Echocardiography† • Abbott Vascular‡ • Bracco‡	None
Samir R. Kapadia	Cleveland Clinic Foundation, Cardiac Catheterization Laboratories—	ACC	None	None	None	• Claret Medical – Sentinel trial (Co-PI)†	• Cleveland Clinic† • Abbott Laboratories (Steering Committee)†	None

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	Director and Professor of Medicine						<ul style="list-style-type: none"> <li>• Boston Scientific (Steering Committee)†</li> <li>• Edwards Lifesciences (Steering Committee)†</li> <li>• St. Jude Medical (Steering Committee)†</li> <li>• Abbott Laboratories‡</li> <li>• Claret Medical‡</li> <li>• Direct Flow Medical, Inc. ‡</li> <li>• Edwards Lifesciences‡</li> <li>• St. Jude Medical‡</li> </ul>	
Clifford J. Kavinsky	Rush University Medical Center, Rush Center for Adult Structural Heart Disease— Director	SCAI	None	None	None	None	<ul style="list-style-type: none"> <li>• Abbott Laboratories‡</li> <li>• Edwards Lifesciences‡</li> </ul>	None
Brian R. Lindman	Vanderbilt University Medical Center, Structural Heart and Valve Center—Medical Director	ACC Geriatric Cardiology Section Leadership Council	<ul style="list-style-type: none"> <li>• Roche Diagnostics</li> </ul>	None	None	<ul style="list-style-type: none"> <li>• Edwards Lifesciences*</li> <li>• Roche Diagnostics*</li> <li>• AHA Clinical Research Grant</li> <li>• Doris Duke Charitable Foundation*</li> </ul>	<ul style="list-style-type: none"> <li>• Barnes-Jewish Hospital Foundation*</li> <li>• NIH*</li> </ul>	None
Michael J. Mack	Baylor Scott & White Health, Cardiovascular Governance Council—Chair	STS	None	None	None	<ul style="list-style-type: none"> <li>• Abbott Vascular†</li> <li>• Edwards Lifesciences – PARTNER 3 (Co-PI)†</li> </ul>	None	None

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						• Medtronic†		
Vinod H. Thourani	Emory Hospital Midtown, Structural Heart & Valve Center—Co-Director and Chief of Cardiothoracic Surgery; Emory University School of Medicine—Professor of Surgery and Medicine	ACC Surgeons' Section Leadership Council	• Edwards Lifesciences • St. Jude Medical	None	None	• Abbott Medical • Boston Scientific† • Edwards Lifesciences† • Medtronic†	None	None
<b>Rating Panel</b>								
Thomas M. Beaver	Shands Hospital at University of Florida, Department of Surgery—Professor and Chief of Cardiothoracic Surgery	STS	None	None	None	None	None	None
Steven M. Bradley	Minneapolis Heart Institute, Center for Healthcare Delivery Innovation—Associate Director	AHA	• Heart Journal* • Centers for Medicare & Medicaid Services	None	None	• U.S. Department of Veterans Affairs HSR&D† • U.S. Department of Veterans Affairs QUERI†	None	None
Blase A. Carabello	East Carolina University, Division of Cardiology—Chief	ACC	None	None	None	• Edwards Lifesciences (DSMB)†	None	None
Milind Y. Desai	Cleveland Clinic Foundation, Heart and Vascular Institute—Professor of Medicine	ACC	None	None	None	None	None	None
Isaac George	New York Presbyterian Hospital/Columbia	ACC Surgeons' Section	• Bolton Medical • Edwards Lifesciences	None	None	• Direct Flow Medical (PD)†	None	None

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	University Medical Center, Division of Cardiothoracic Surgery—Assistant Professor of Surgery and Medicine	Leadership Council	• Medtronic			• Tendyne Medical (DSMB)		
Philip Green	Columbia University Medical Center—Assistant Professor of Medicine	ACC Geriatric Cardiology Section Leadership Council	None	None	None	None	None	• Plaintiff, complication of cardiac catheterization, 2016
David R. Holmes, Jr.	Mayo Clinic—Consultant	ACC Interventional Section Leadership Council	None	None	None	None	• Technology licensed to Boston Scientific from Mayo Clinic†	None
Douglas Johnston	Cleveland Clinic Foundation, Department of Thoracic and Cardiovascular Surgery, Aortic Valve Center—Surgical Director	AATS	• Edwards Lifesciences • St. Jude Medical*	None	• JACE Medical	None	• KEF Healthcare*	None
Jonathon Leipsic	University of British Columbia—Associate Professor of Radiology and Cardiovascular Medicine	SCCT	• CIRCL* • Edwards Lifesciences* • Neovasc† • Samsung* • Valcare†	• General Electric Healthcare	None	• Heartflow, Inc.*	None	None
Stephanie L. Mick	Cleveland Clinic, Heart and Vascular Institute, Department of Thoracic and Cardiovascular Surgery—Surgical Director	ACC	• Medtronic	None	None	None	• Abbott Laboratories‡ • Direct Flow Medical‡ • Edwards Lifesciences‡ • St. Jude Medical‡	None

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Jonathan J. Passeri	Massachusetts General Hospital, Corrigan Minehan Heart Center, Heart Valve Program— Medical Director; and Interventional Echocardiography —Director	ACC	• Medtronic	None	None	None	None	• Defendant, endocarditis/ aortic regurgitation, 2014
Robert N. Piana	Vanderbilt University Medical Center, Division of Cardiovascular Medicine— Professor of Medicine	ACC	• Axio Research • HCRI • W.L. Gore & Associates, Inc.	None	None	• Terumo Medical (DSMB)	• Cardiovascular Peer Review, LLC* • Doris Duke Charitable Foundation‡ • Duke Clinical Research Institute‡ • St. Jude Medical‡	None
Nathaniel Reich	St. Francis Hospital, Cardiac Imaging Program—Director; State University of New York at Stony Brook—Professor of Medicine	SCMR	None	None	• AbbVie* • Aetna† • Amgen, Inc.* • Express Scripts*	• Novartis* • American Heart Association* • Women’s Alliance of Nassau County Against Breast Cancer*	• Johnson & Johnson* • St. Francis Hospital Research Department, Cardiac Imaging Program* • Stony Brook University†	None
Carlos E. Ruiz	Hackensack University Medical Center, Structural and Congenital Heart Center— Director; Seton Hall Hackensack Meridian School of Medicine— Professor of Cardiology in Pediatrics and Medicine	HVS	• Cardiac Implants, LLC† • Sorin • Valtech	None	• Entourage* • MitrAssist* • Vascular Therapies*	• Philips Healthcare* • St. Jude Medical*	• BioInspire* • St. Jude Medical‡	None
Cynthia C. Taub	Albert Einstein College of Medicine—	ACC	None	None	None	None	None	None

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	Professor of Medicine							
James D. Thomas	Northwestern Memorial Hospital, Bluhm Cardiovascular Institute, Center for Heart Valve Disease—Director	ASE	<ul style="list-style-type: none"> <li>• Abbott Laboratories*</li> <li>• Edwards Lifesciences*</li> <li>• General Electric Healthcare*</li> </ul>	None	None	None	None	<ul style="list-style-type: none"> <li>• Defendant, inappropriate referral for surgery, 2015*</li> </ul>
Zoltan G. Turi	Hackensack University Medical Center, Structural and Congenital Heart Center—Co-Director, and Cardiac Catheterization Lab—Co-Director; Seton Hall Hackensack Meridian School of Medicine—Professor	SCAI	None	None	None	<ul style="list-style-type: none"> <li>• Mitralign (DSMB)*</li> </ul>	<ul style="list-style-type: none"> <li>• Medtronic†</li> <li>• St. Jude Medical†</li> </ul>	None
<b>Reviewers</b>								
Michael A. Borger	Leipzig Heart Center—Director of Cardiac Surgery	HVS	<ul style="list-style-type: none"> <li>• Edwards Lifesciences</li> <li>• Medtronic</li> <li>• St. Jude Medical</li> </ul>	None	None	<ul style="list-style-type: none"> <li>• Edwards Lifesciences†</li> <li>• NeoChord†</li> </ul>	<ul style="list-style-type: none"> <li>• Edwards Lifesciences‡</li> <li>• Medtronic‡</li> </ul>	None
Joao L. Cavalcante	University of Pittsburgh, Division of Cardiology—Assistant Professor of Medicine	ACC	None	None	None	<ul style="list-style-type: none"> <li>• Medtronic*</li> </ul>	None	None
Mehmet Cilingiroglu	Arkansas Heart Hospital—Professor of Medicine	SCAI	None	None	None	None	None	None
John A. Dodson	New York University School of Medicine, Leon H. Charney	ACC Geriatric Cardiology Section	<ul style="list-style-type: none"> <li>• Novartis Pharmaceuticals*</li> </ul>	None	None	None	None	None

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	Division of Cardiology— Assistant Professor of Medicine and Population Health	Leadership Council						
Maurice Enriquez-Sarano	Mayo Clinic— Professor of Medicine	HVS	None	None	None	• Edwards Lifesciences†	None	None
Dominik Fleischmann	Stanford University School of Medicine— Professor of Radiology	SCCT	None	None	•iSchema View, Inc.	• General Electric Healthcare* • Siemens Medical Solutions†	None	None
Jeffrey G. Gaca	Duke University Hospital, Division of Cardiac Surgery—Heart Surgeon	STS	None	None	None	None	None	None
Christopher A. Glover	University of Ottawa Heart Institute, Cardiac Catheterization Laboratory— Director; and Department of Medicine— Associate Professor	AHA	None	None	None	None	None	None
Rebecca T. Hahn	Columbia University Medical Center, Structural Heart and Valve Center—Director of Interventional Echocardiography and Professor of Medicine	ACC	• Edwards Lifesciences	• Abbott Vascular • Boston Scientific • General Electric Healthcare	None	• Mitralign, Inc.†	• Edwards Lifesciences†	None
Kishore J. Harjai	Geisinger Wyoming Valley Medical Center and Hospital—	SCAI	• Boston Scientific	None	• aucmonkey.com	None	• Boston Scientific • Astra Zeneca‡ • Janssen Pharmaceuticals‡	None

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	Interventional Cardiologist							
Stuart J. Head	Erasmus University Medical Center, Department of Cardiothoracic Surgery—Surgeon	EACTS	None	None	None	None	• Medtronic Cardiovascular‡	None
Susheel K. Kodali	New York Presbyterian Hospital and Columbia University Medical Center, Structural Heart and Valve Center—Co-Director; Interventional Cardiology Fellowship Program—Director; Columbia University Medical Center—Assistant Professor in Medicine	ACC Interventional Section Leadership Council	• Claret Medical • Edwards Lifesciences • Meril Lifesciences	None	None	None	• Thubrikar Aortic Valve, Inc. (Scientific Advisory Board)† • VS Medtech, Inc. (Scientific Advisory Board)†	None
Ashok Krishnaswami	Kaiser Permanente San Jose Medical Center—Cardiologist	ACC Geriatric Cardiology Section Leadership Council	None	None	None	None	None	None
Hersh S. Maniar	Barnes Jewish Hospital and Washington University School of Medicine in St. Louis, Division of Cardiothoracic Surgery—Associate Professor of Surgery	AATS	None	None	None	None	• Boston Scientific‡ • Direct Flow Medical‡ • Edwards Lifesciences‡ • St. Jude Medical‡	None



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Randolph P. Martin	Piedmont Heart Institute, Cardiovascular Imaging—Medical Director; and Chief of Valvular and Structural Heart Disease	ACC	None	<ul style="list-style-type: none"> <li>• Abbott Vascular</li> <li>• Edwards Lifesciences</li> <li>• Medtronic*</li> </ul>	<ul style="list-style-type: none"> <li>• Bay Labs†</li> </ul>	None	None	None
Hani K. Najm	Cleveland Clinic Foundation, Department of Thoracic and Cardiovascular Surgery, Pediatric and Congenital Heart Surgery—Chair	ACC Surgeons' Section Leadership Council	None	None	None	None	None	None
Alina Nicoara	Duke University School of Medicine—Anesthesiologist and Associate Professor of Anesthesiology	SCA	None	None	None	None	None	None
Jae K. Oh	Mayo Clinic, Division of Cardiology, Echocardiography (Echo) Core Lab—Director	ASE	<ul style="list-style-type: none"> <li>• UpToDate</li> </ul>	None	None	None	<ul style="list-style-type: none"> <li>• Echo Core Lab for Medtronic Core Valve*</li> </ul>	None
Philippe Pibarot	Laval University, Department of Medicine—Professor; Quebec Heart and Lung Institute, Canada Research in Valvular Heart Diseases—Chair	ASE	None	None	None	<ul style="list-style-type: none"> <li>• Phoenix Cardiac*</li> <li>• Edwards Lifesciences*</li> <li>• Medtronic*</li> <li>• V-Wave Ltd.*</li> <li>• Canadian Institutes of Health Research*</li> </ul>	None	None
Michael H. Picard	Massachusetts General Hospital,	ASE	None	None	None	<ul style="list-style-type: none"> <li>• NHLBI*</li> </ul>	None	None

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	Department of Cardiology— Director of Clinical Echocardiography							
Pasala S. Ravichandran	Oregon Health and Science University Hospital and Legacy Medical Group— Cardiothoracic Surgeon	ACC Surgeons’ Section Leadership Council	None	None	None	None	None	None
Matthias Siepe	University Heart Centre Freiburg, Bad Krozingen, Department of Cardiovascular Surgery—Professor	EACTS	None	None	None	None	None	None
Nikolaos I. Skubas	Weill Cornell Medical College— Professor of Anesthesiology; Director, Cardiac Anesthesia	SCA	None	None	None	None	<ul style="list-style-type: none"> <li>• Anesthesiology (Journal)†</li> <li>• Anesthesia &amp; Analgesia (Editor)</li> <li>• National Board of Echocardiography†</li> </ul>	None
Rakesh M. Suri	Cleveland Clinic Abu Dhabi, Thoracic and Cardiovascular Surgery—Chair and Chief of Staff	HVS	None	None	None	• Sorin (PI)†	• Sorin†	None
Elaine Tseng	University of California San Francisco Medical Center, Division of Adult Cardiothoracic Surgery—Associate Professor of Surgery	HVS	None	None	None	• University of California*	<ul style="list-style-type: none"> <li>• American Heart Association†</li> <li>• Journal of Heart Valve Disease†</li> <li>• Society of Thoracic Surgeons†</li> <li>• Silk Road, Inc.</li> <li>• U.S. Department of Veterans Affairs*</li> </ul>	None
Daniel Wendt	West German Heart Center, Department of Thoracic and	EACTS	None	None	None	None	None	None

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	Cardiovascular Surgery—Surgeon							
Brian K. Whisenant	Intermountain Health Care— Medical Director	ACC Interventional Section Leadership Council	• Abbott Laboratories* • Boston Scientific* • Johnson & Johnson*	• Edwards Lifesciences*	• Coherex Medical*	None	• Abbott Laboratories‡ • Direct Flow Medical‡ • Edwards Lifesciences‡ • Gore Medical‡ • Medtronic‡	None
Joshua M. Zimmerman	University of Utah Health, Department of Anesthesiology— Associate Professor; Medical Director of Preoperative Clinic	SCA	None	None	None	None	None	None
<b>Appropriate Use Criteria Task Force</b>								
RWI and disclosure statements for members of the ACC Task Force on Appropriate Use Criteria can be found here: <a href="http://www.acc.org/guidelines/about-guidelines-and-clinical-documents/guidelines-and-documents-task-forces">http://www.acc.org/guidelines/about-guidelines-and-clinical-documents/guidelines-and-documents-task-forces</a>								

A person is deemed to have a *significant* interest in a business if the interest represents ownership of  $\geq 5\%$  of the voting stock or share of the business entity, or ownership of  $\geq \$5,000$  of the fair market value of the business entity; or if funds received by the person from the business entity exceed 5% of the person’s gross income for the previous year. Relationships in this table with no symbol are considered *modest* (less than significant under the preceding definition). Relationships that exist with *no financial benefit* are also included for the purpose of transparency. Please refer to <http://www.acc.org/guidelines/about-guidelines-and-clinical-documents/relationships-with-industry-policy> for definitions of disclosure categories or additional information about the ACC Disclosure Policy for Writing Committees.

- \* Significant relationship
- † No financial benefit
- ‡ Clinical trial enroller

AATS = American Association for Thoracic Surgery; ACC = American College of Cardiology; AHA = American Heart Association; ASE = American Society of Echocardiography; AUC = Appropriate Use Criteria; CIRCL = Center for Innovative Research in Cyber Learning; DSMB = Data Safety Monitoring Board; EACTS = European Association for Cardio-Thoracic Surgery; HCRI = Harvard Clinical Research Institute; HSR&D = Health Services Research & Development; HVS = Heart Valve Society; JAMA = Journal of the American Medical Association; NHLBI = National Heart, Lung, and Blood Institute; NIH = National Institutes of Health; PI = Principal Investigator; QUERI = Quality Enhancement Research Initiative; SCA = Society of Cardiovascular Anesthesiologists; SCAI = Society for Cardiovascular Angiography and Interventions; SCCT = Society of Cardiovascular Computed Tomography; SCMR = Society for Cardiovascular Magnetic Resonance; STS = Society of Thoracic Surgeons.