
Target: Aortic Stenosis

WELCOME

GARY W. MYERS, MS
NATIONAL SR. PROGRAM MANAGER
QUALITY, OUTCOMES, RESEARCH AND ANALYTICS (QORA)
AMERICAN HEART ASSOCIATION
GARY.MYERS@HEART.ORG
605-675-9446

American Heart Association.

Clyde W. Yancy, MD, MSc, FAHA

Clyde W. Yancy, MD, MSc is Chief of Cardiology at Northwestern University, Feinberg School of Medicine, and Associate Director of the Bluhm Cardiovascular Institute at Northwestern Memorial Hospital. He holds the Magerstadt Endowed Professor of Medicine Chair and Professor of Medical Social Sciences. He concurrently serves as Vice-Dean of Diversity & Inclusion, Northwestern University, Feinberg School of Medicine. He is an Honors graduate of Southern University (Baton Rouge, LA), Alpha Phi Omega honors graduate of Tulane University School of Medicine (MD) and Beta Sigma honors graduate of the University of Texas-Dallas School of Business and Management (MSc).

His research interests are in heart failure, clinical guideline generation, outcomes sciences and health care disparities. He is extensively published with well over 500 peer reviewed publications and has been named among the top 1% of cited scientific authors. He is Deputy Editor, JAMA Cardiology; Senior Section Editor (Heart Failure), Journal of the American College of Cardiology; and serves on the editorial boards for Circulation, Circulation Heart Failure, the American Heart Journal and JACC Heart Failure.

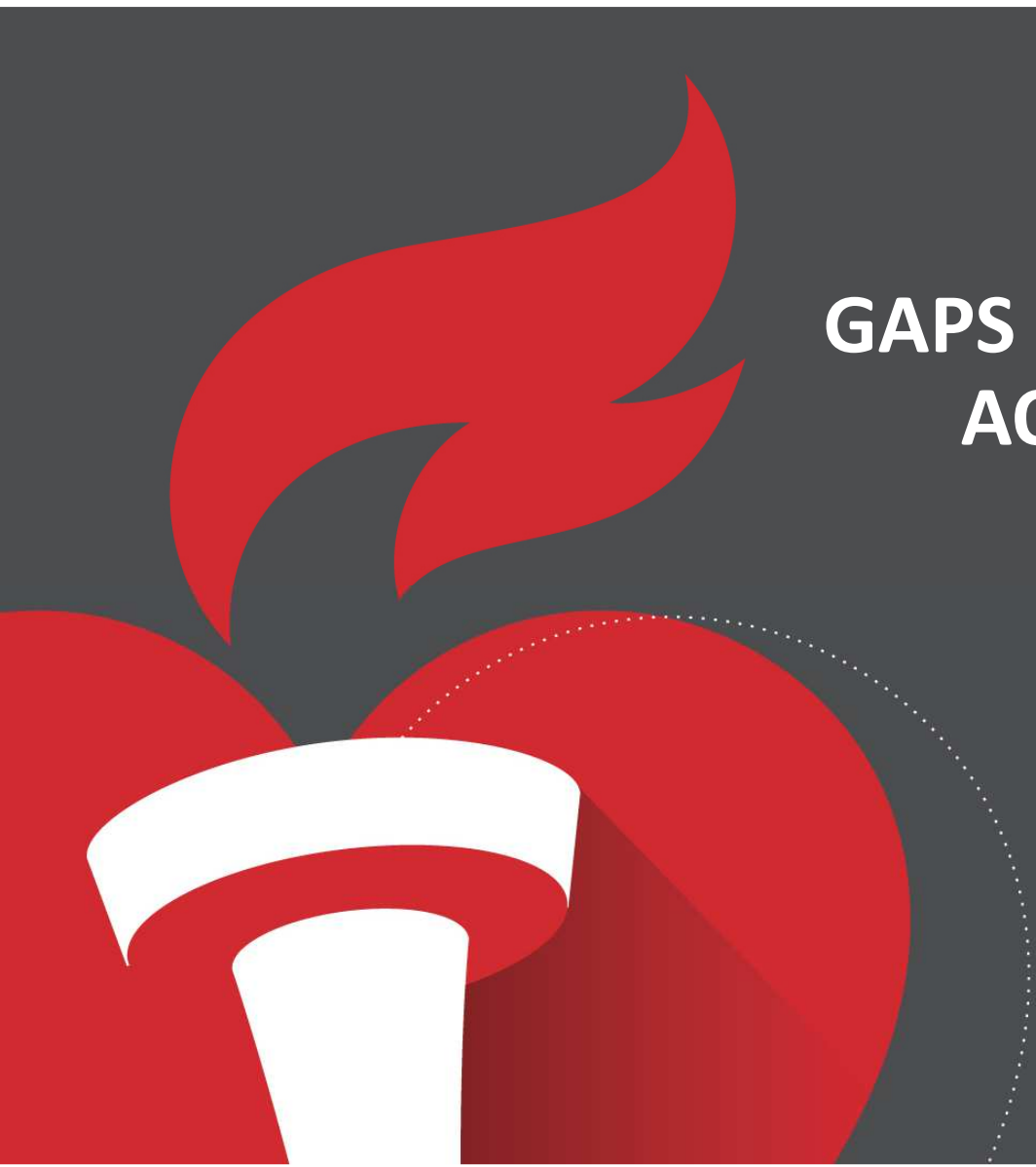
He has served the NIH, NHLBI, PCORI, FDA and AHRQ in a variety of service and leadership roles.

He is a Master of the American College of Cardiology, a Fellow of the American Heart Association, a Master of the American College of Physicians and a Fellow of the Heart Failure Society of America. He is the chair of the ACC/AHA Heart Failure Guideline Writing Committee, Chair of the ACC Heart Failure Clinical Pathway Writing Committee and Co-Chair of the Aortic Stenosis Science Advisory Group. He is a former President of the American Heart Association (2009-2010), as well as past recipient of the AHA National Physician of the Year and the Gold Heart award. He is the recipient of innumerable best doctor and best teacher awards and has held a number of Visiting Professorships at leading academic medical centers.
In 2016, he was elected to the National Academy of Medicine, one of the topmost tiers of recognition for physicians. In 2018, he was named a member of the Minority Subcommittee on Health in the Department of Health and Human Services.

American Heart Association.

J. Matthew Brennan, MD, MPH

Dr. Brennan is an Interventional Cardiologist at Duke University School of Medicine--specializing in the treatment of complex coronary artery disease and the clinical management of valvular heart disease. His research interests include shared decision making-- particularly as it relates to coronary and valvular heart disease--and the use of statistical techniques and study design to provide non-biased estimates in comparative effectiveness analyses using large non-randomized, observational databases. Dr. Brennan has served as the Director of the Duke analysis center for the Transcatheter Valve Therapies (TVT) Registry and co-director of the analysis center for the Society of Thoracic Surgeons (STS) Database. He was the PI of a U01 grant from the US FDA for the use of Medicare data for comparative effectiveness research and a PCORI award for comparison of TAVR vs SAVR using STS and TVT Registry data. Dr. Brennan's research has most recently focused on defining the scale of undertreatment of Aortic Valve Stenosis in the United States and bringing awareness to the issue.



GAPS IN THE JOURNEY OF THE AORTIC STENOSIS PATIENT

IMPACT AND IMPLICATIONS

J. Matthew Brennan, MD, MPH
Interventional Cardiology
Duke University School of Medicine
brenn009@duke.edu

DISCLOSURES

CONSULTING & STUDY DESIGN FOR:

- EDWARDS Lifesciences
- AtriCure
- CardioCare

Today's slides were created in collaboration with the ELS team and Boston Consulting Group and reviewed by the AHA Scientific Oversight Committee.

American Heart Association.

OVERVIEW

1. Case for change in severe aortic stenosis
2. Barriers to appropriate management in the patient pathway
3. Looking forward to improving care

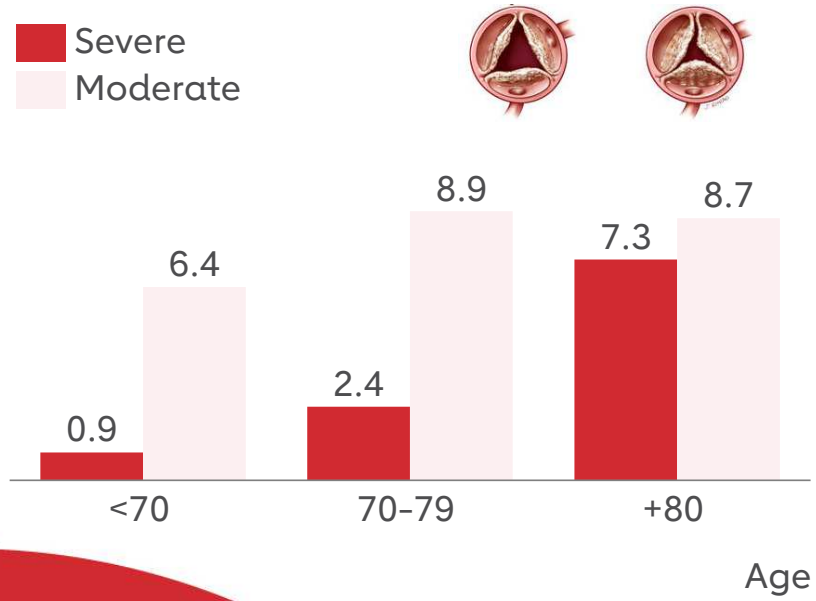
American Heart Association.

CASE FOR CHANGE

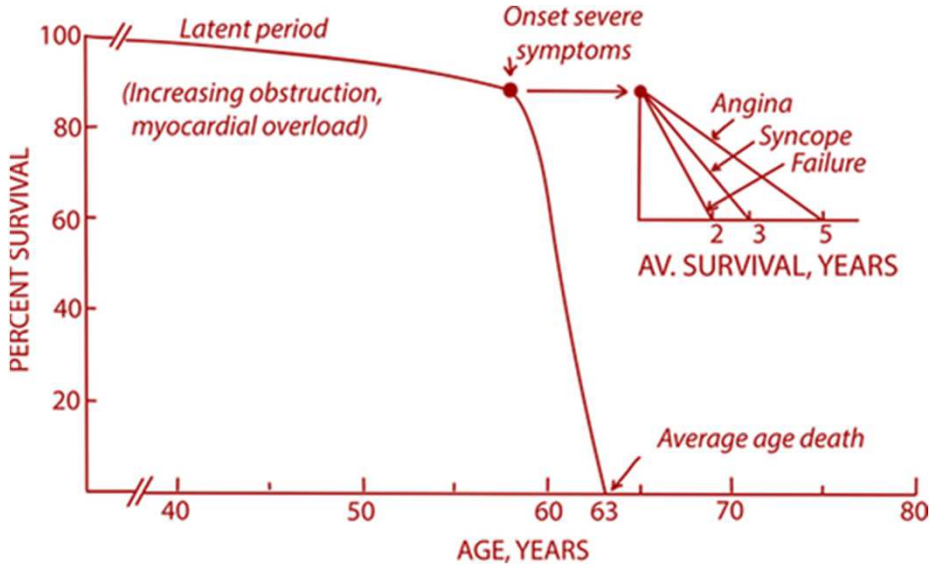
AORTIC STENOSIS: SIGNIFICANT BURDEN & RISK IN THE ELDERLY

Risk of sAS increases with age; ~1 in 15 individuals over 80 with severe AS (sAS)

Prevalence of significant aortic stenosis (%)[1]



Significant mortality risk if untreated once symptoms develop



Note: AVR, aortic valve replacement. Sources: 1.Danielsen et al. 2014. 2. Ross et. al.1973

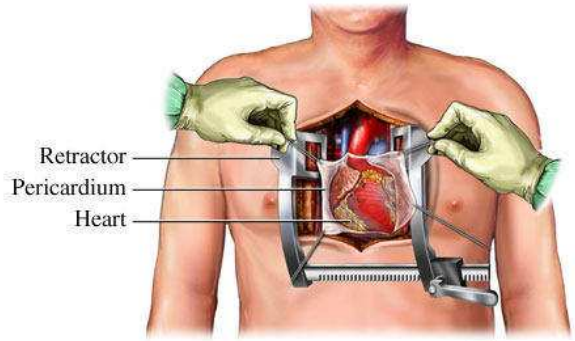
American Heart Association.

Within 2 years of symptom onset,
1 in 2 patients with Severe AS **will die**
without Aortic Valve Replacement

Sources: 1. Bonow et al. (Circulation 2015), 2. Braunwald (Circulation, 2018), 3. Ross et. al. (British Heart Journal, 1973), 4. Braunwald et al. (Circulation, 1968)

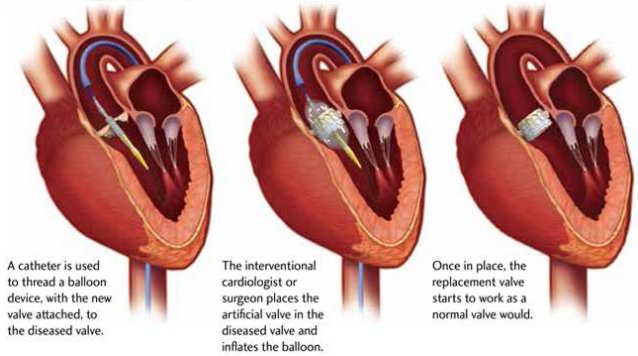
American Heart Association.

TREATMENT INDICATED FOR SEVERE AORTIC STENOSIS WITH EVIDENCE OF MYOCARDIAL DAMAGE

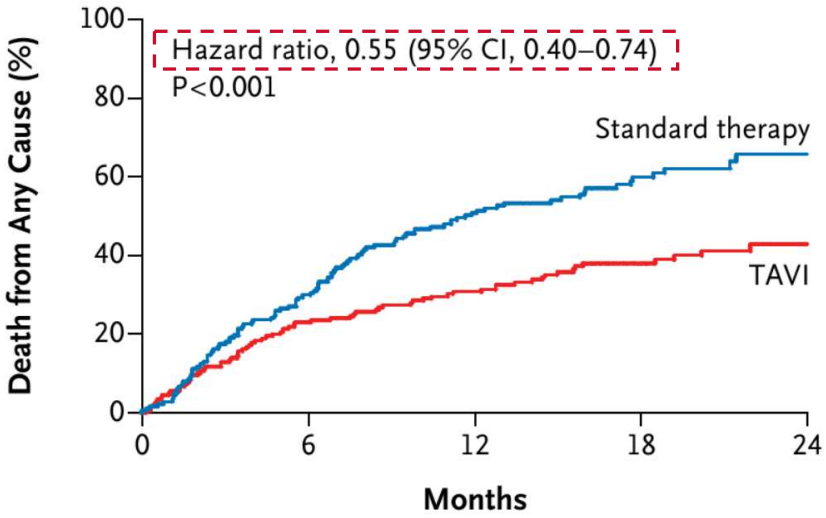


<u>Surgical</u> Valve Replacement (SAVR)

<u>Transcatheter</u> Aortic Valve Replacement (TAVI)



Survival after randomization to medical (standard) therapy or AVR (TAVI) in inoperable symptomatic sAS[2]



American Heart Association.

Source: Leon et al. 2010

TREATMENT BENEFITS EXTEND OUTSIDE SURVIVAL

Relative to medical management, AVR (TAVI) with significant benefit on QoL & economics

Physical benefits

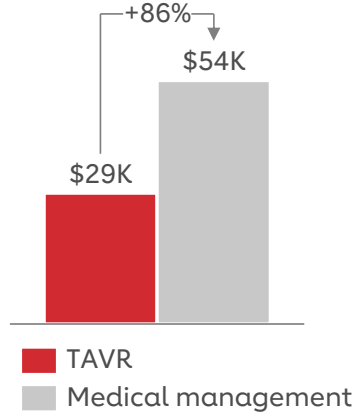
	Medical management[1]		TAVI[1]
KCCQ total symptoms (12 mos.)	59	+16	75
KCCQ physical limitations	40	+16	56
SF-12 physical	30	+5	35

Mental benefits

	Medical management[1]		TAVI[1]
KCCQ quality of life (12 mos.)	48	+28	76
KCCQ social limitations	50	+15	65
SF-12 mental	47	+6	53

Decreased post-op hospitalization costs[2]

1 year follow up costs



Notes: Values represent survey data where 100 represents better outcomes and 0 represents worse outcomes.
Source: 1. Reynolds et al. (Circulation, 2011) 2. PARTNER 1B Trial (Circulation, 2012)

American Heart Association.

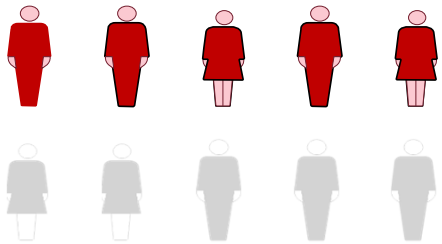
Less than **1 in 2 patients** with known Severe AS **receive treatment** within a year after symptom development

Sources: 1. Optum database, manuscript in submission, 2. Frey et al (BMC Cardiovasc Disord. 2017)

American Heart Association.

UNDER-TREATMENT IS EVEN GREATER FOR WOMEN & MINORITIES

Severe symptomatic AS[1,2]



US Population Treatment Rate

<50%

ssAS diagnosed incidence / 10k	Men	Women
	6.09	**3.91**

A **woman** is **36%** less likely to be ***diagnosed*** than a **man**, and

A **woman** is **20%** less likely to be ***treated*** than a **man**

ssAS diagnosed incidence / 10k	Caucasian	Black
	6.20	**2.19**

A **black patient** is **65%** less likely to be ***diagnosed*** than a **white patient**

A **black patient** is **23%** less likely to be ***treated*** than a **white patient**

American Heart Association.

Source: 1. Frey et al.2017, 2. Brennan et al. 2020. 3. Lowenstern et al. 2021

BARRIERS TO APPROPRIATE MANAGEMENT & COVID

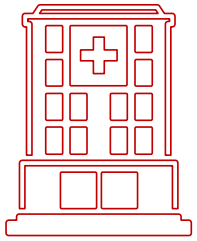
POTENTIAL CHALLENGES ACROSS THE PATIENT PATHWAY

Awareness

Lack of recognition of the burden of sAS and its impact on patients from QoL to survival

Detection & diagnosis

Failure to refer an indicated patient to echo; challenges on echo review; missed follow up for less severe AS



Referral

Challenges in assessing symptomatic status, patient uncertainty in risk/benefit trade off

American Heart Association.

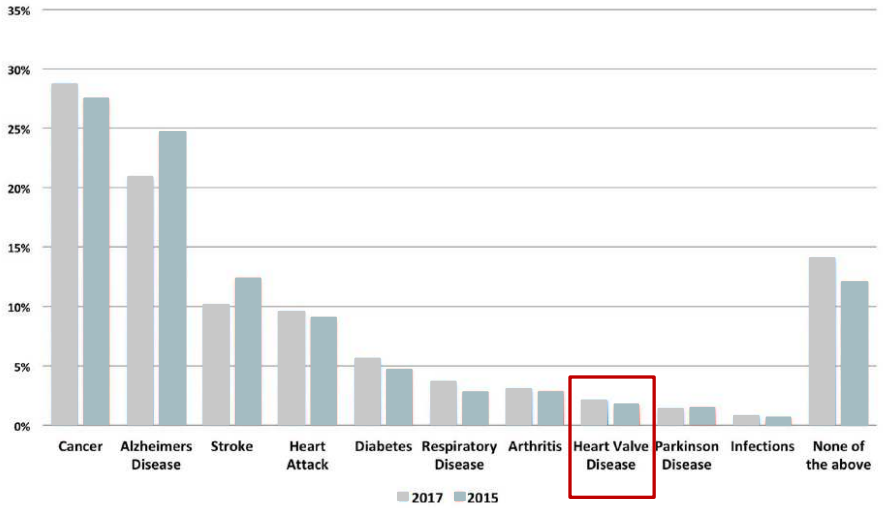
Public Awareness Gaps

American Heart Association.

DESPITE INROADS IN TREATMENT, AWARENESS REMAINS LOW FOR AORTIC STENOSIS

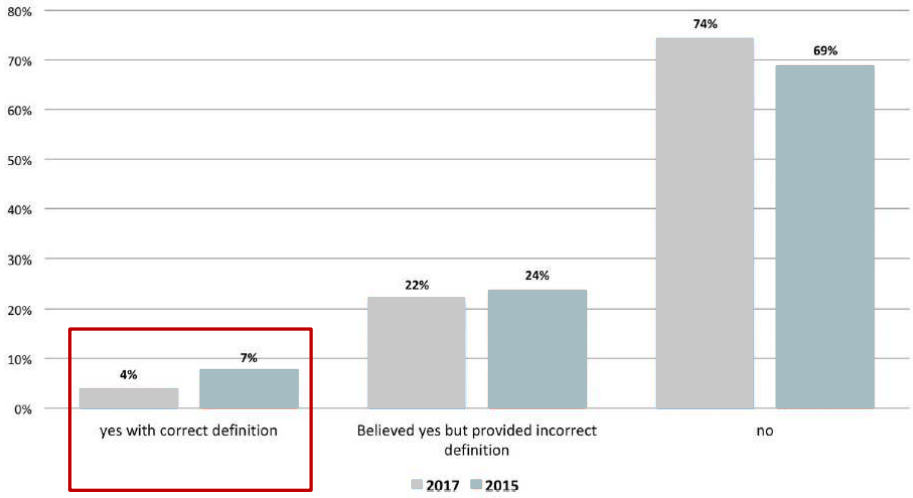
Questions for EU patients over 60

*Q: Which of the following health conditions **concerns you most**?*



*Just **2%** of respondents said that valvular heart disease is the condition that concerns them the most*

*Q: Do you know what **"aortic stenosis" is**?*



*Even in 2017, only **4%** of respondents were aware and could correctly define aortic stenosis*

Source: Gaede et al. (Clinical Research in Cardiology, 2019)

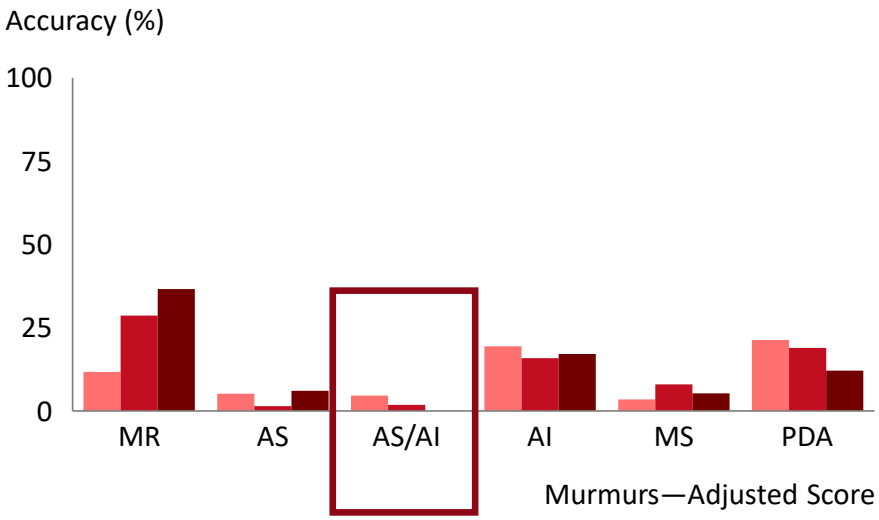
American Heart Association.

Detection & Diagnosis Gaps

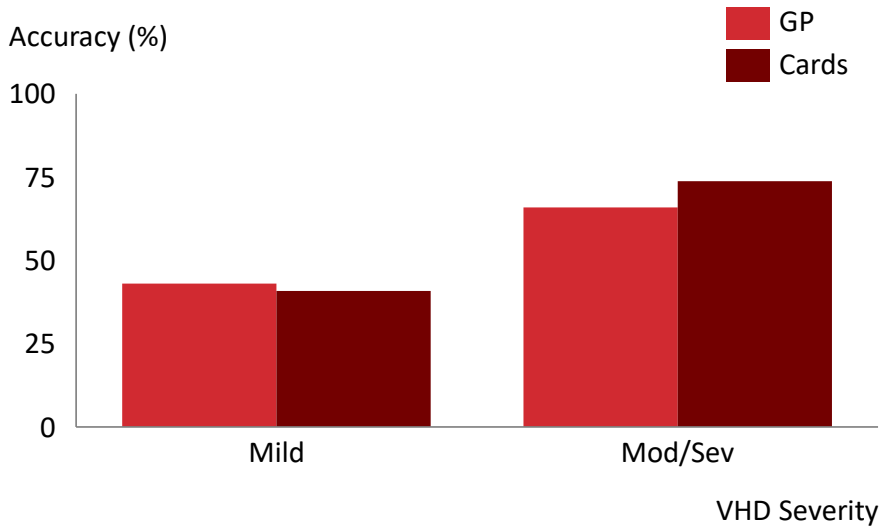
American Heart Association.

CHALLENGES IN AUSCULTATION IN DETECTING AORTIC STENOSIS

Limited accuracy identifying AS by exam, including among graduating medical trainees[1]



Limited accuracy identifying Valvular Heart Disease by exam, including among practicing clinicians[2]



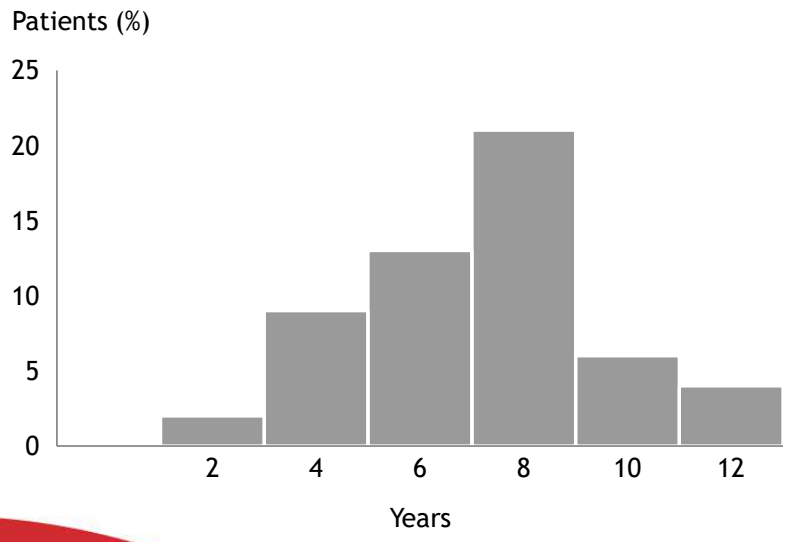
Sources: 1. Mangione S. JAMA 1997, 2. Gardezi S. Heart 2018

American Heart Association.

AORTIC STENOSIS NOT INDOLENT WITH NEED FOR CAREFUL MONITORING TO CAPTURE PROGRESSION TO SIGNIFICANT DISEASE

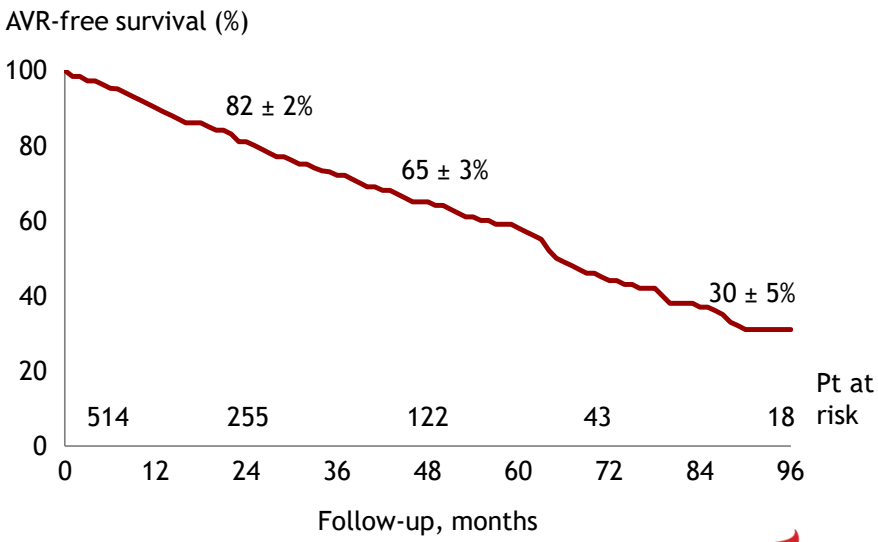
Majority of patients progress from sclerosis to severe AS within 8 years[1]

Number of years from aortic valve thickening to severe aortic stenosis



For patients with moderate disease, ~50% will require an intervention in 5 years[2]

AVR free survival in patients with moderate aortic stenosis



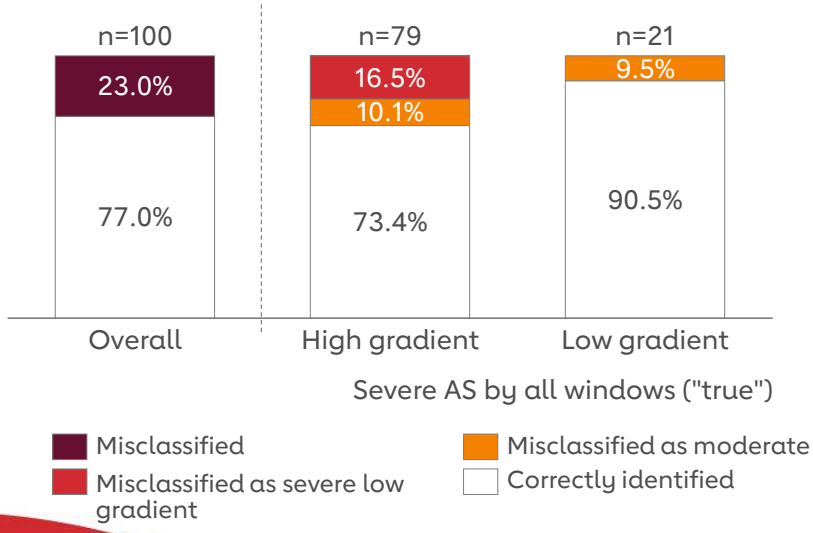
American Heart Association.

1. Cosmi et al. 2002 2. Lancelloti et al. 2018.

COMPLEXITY IN ECHO TECHNIQUE AND INTERPRETATION CAN ALSO CONTRIBUTE TO MISSED SEVERE AORTIC STENOSIS

Thorough doppler evaluation critical to accurately determine the severity of AS[1]

Share of patients misclassified with only interrogating the apical window



Variation in the number of severe AS patients diagnosed depending on echo criterion used

Guidelines/ Recommendations	Parameter	Patients with severe stenosis
AHA/ACC[3]	AVA < 1.0 cm^2	**69%**
ESC[2]	AVA/BSA < 0.6 cm^2	**76%**
Otto[4]	V_{max} > 4.0 m/s	**45%**
AHA/ACC[3]	ΔP_m > 40 mmHg	**40%**

AVA, aortic valve area; BSA, body surface area; V_{max}, peak flow velocity; ΔP_M, mean pressure gradient

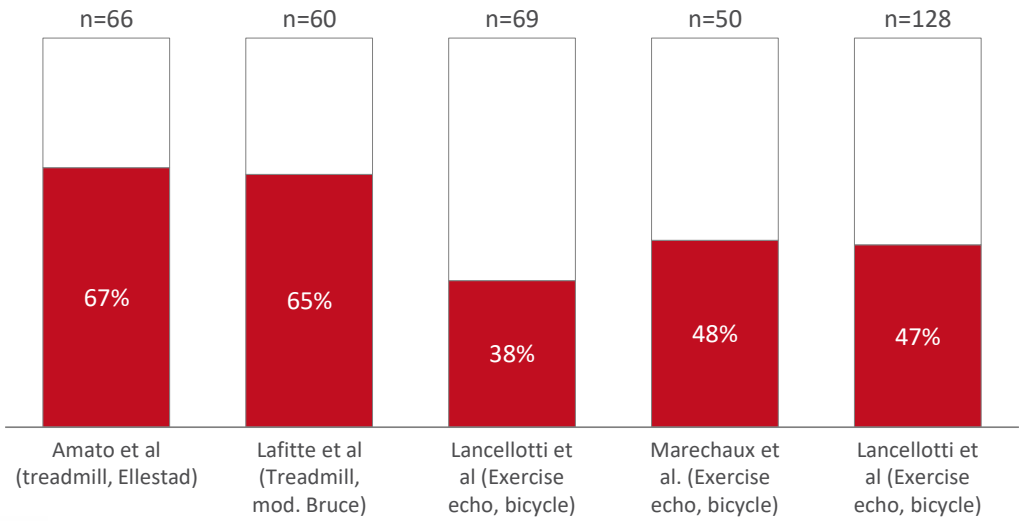
1. Thaden et al. 2015 2. Minners et al. 2008

American Heart Association.

EXERCISE STRESS TESTING UNDERUTILIZED, DESPITE COMPELLING EVIDENCE OF BENEFIT IN ASYMPTOMATIC PATIENTS

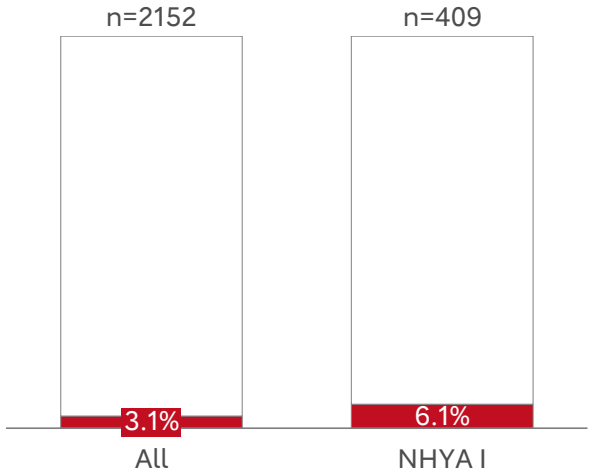
Despite literature showing formal stress tests find abnormal results in 40-70% of asymptomatic severe AS cases[2]

Share with abnormal stress



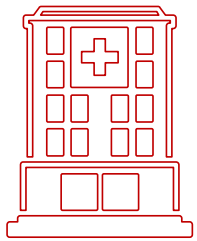
Valvular Heart Disease II Survey show low rates of formal stress testing in severe AS[1]

Share severe AS patients receiving stress testing



Notes: Study n shown above each column. 1. Iung et al. 2019 2. Redfors et al 2017

American Heart Association.



Referral & Treatment Gaps

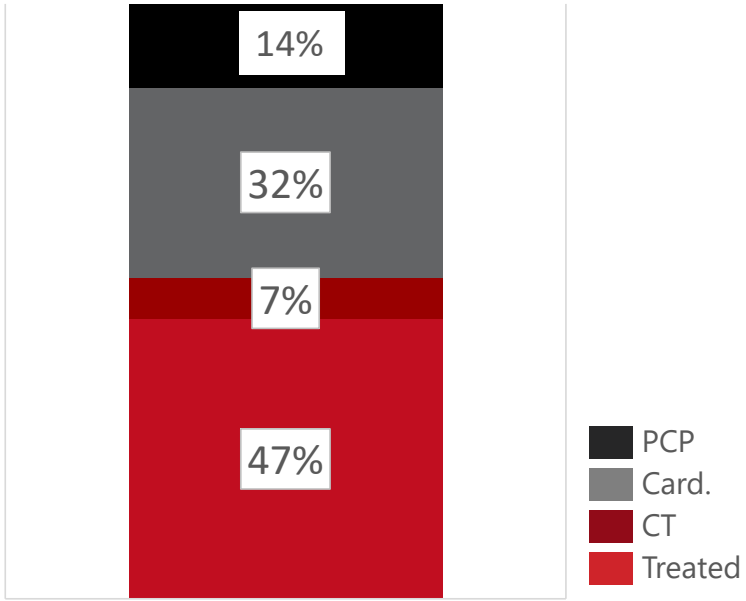
American Heart Association.

Referral

60% OF UNTREATED SSAS PATIENTS ARE FOLLOWED IN CARDIOLOGY CLINICS

Diagnosed untreated (by 'leakage point')

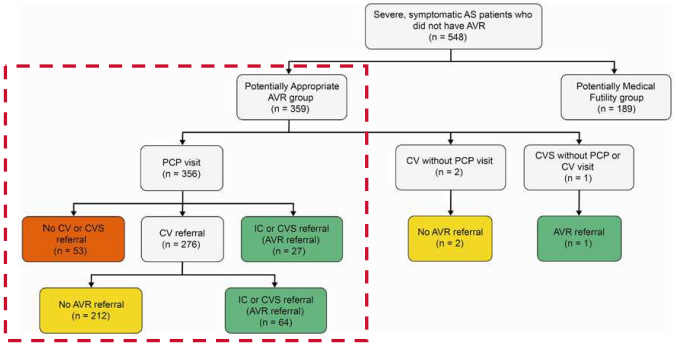
Furthest point of patient contact in the spectrum of ssAS care



Note: Cardiologist category includes ICs with >5 PCIs, and GCs
Source: Optum data, BCG EHR analytics

American Heart Association.

PATIENT PREFERENCE, MISCLASSIFICATION, AND VIEW OF SYMPTOMS DRIVE REFERRAL GAPS



Cited reasons for no AVR in patients with severe, symptomatic AS	Potentially appropriate for AVR (n=359)		
	PCP visit only (n=53)	CV consultation, no AVR referral (n=214)	AVR referral (n=92)
Patient or family refusal, n (%)	7 (13.2)	130 (60.7)	59 (64.1)
AS incorrectly deemed not severe, n (%)	13(24.5)	32 (15.0)	8 (8.7)
Symptoms not attributable to AS, n (%)	3 (5.7)	20 (9.3)	7 (7.6)
Mild or stable symptoms, n (%)	4 (7.5)	18 (8.4)	6 (6.5)
High risk, n (%)	0 (0)	13 (6.1)	2 (2.2)
Not documented, ‡ n (%)	26 (49.1)	0 (0)	0 (0)

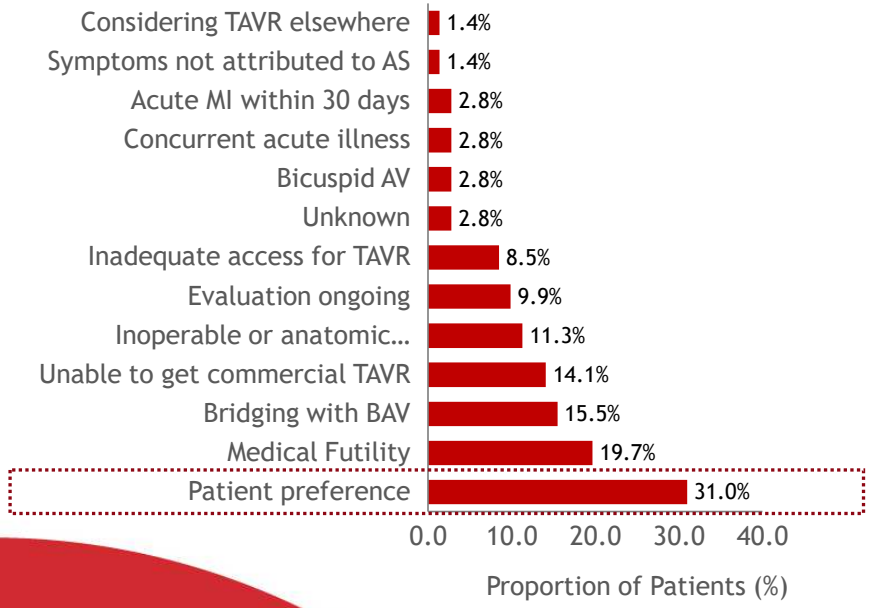
Source: Tang 2018

American Heart Association.

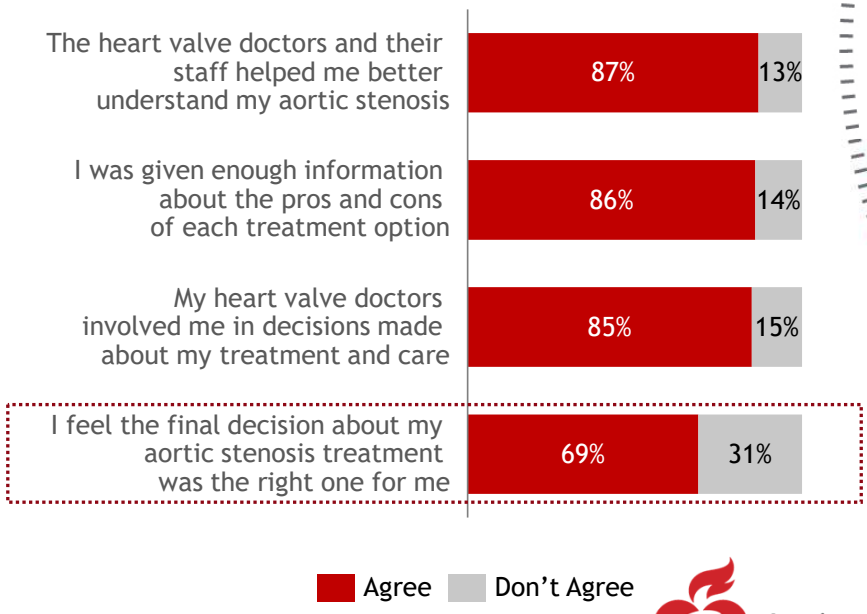
Referral

1 IN 3 MEDICALLY MANAGED PATIENTS "CHOOSE" THIS STRATEGY, BUT ARE THEY ADEQUATELY INFORMED?

Among medically managed patients, 31% chose 'no treatment' after referral[1]…



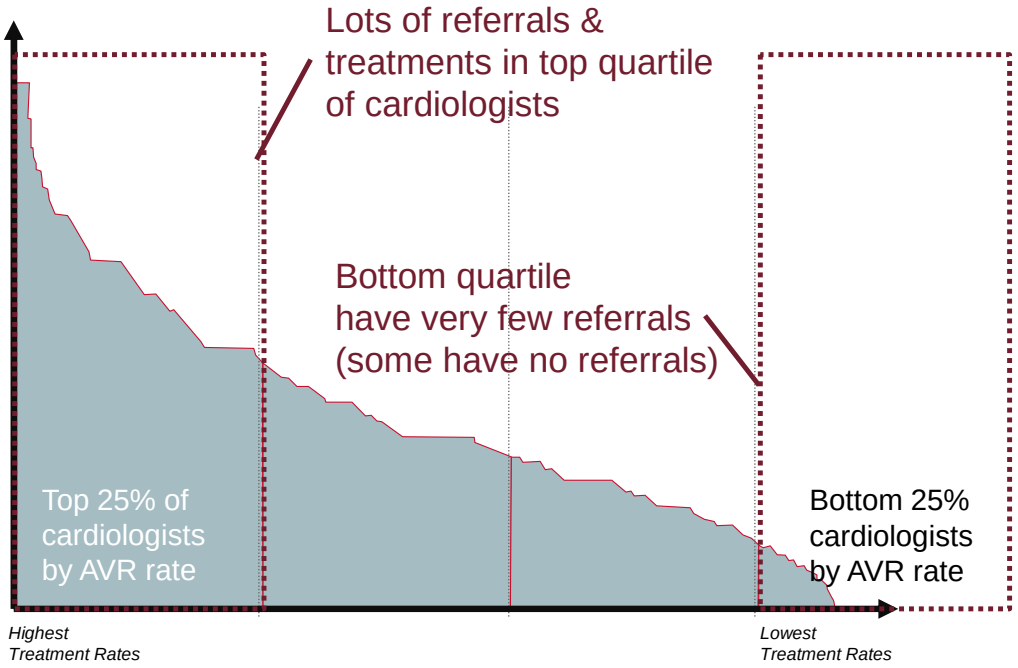
…for these patients, 31%, felt unsure; and, 14% didn't feel adequately prepared for the decision[1]



Sources: 1. Dharmarajan K.| PLOS ONE | https://doi.org/10.1371/journal.pone.0175926 April 21, 2017

American Heart Association.

VARIATION IN AVR RATES AMONG US CARDIOLOGISTS



% of Class I indicated patients that are treated

Cardiologists ranked by treatment rates of AVR patients

2.28

95% CI 2.17 to 2.38

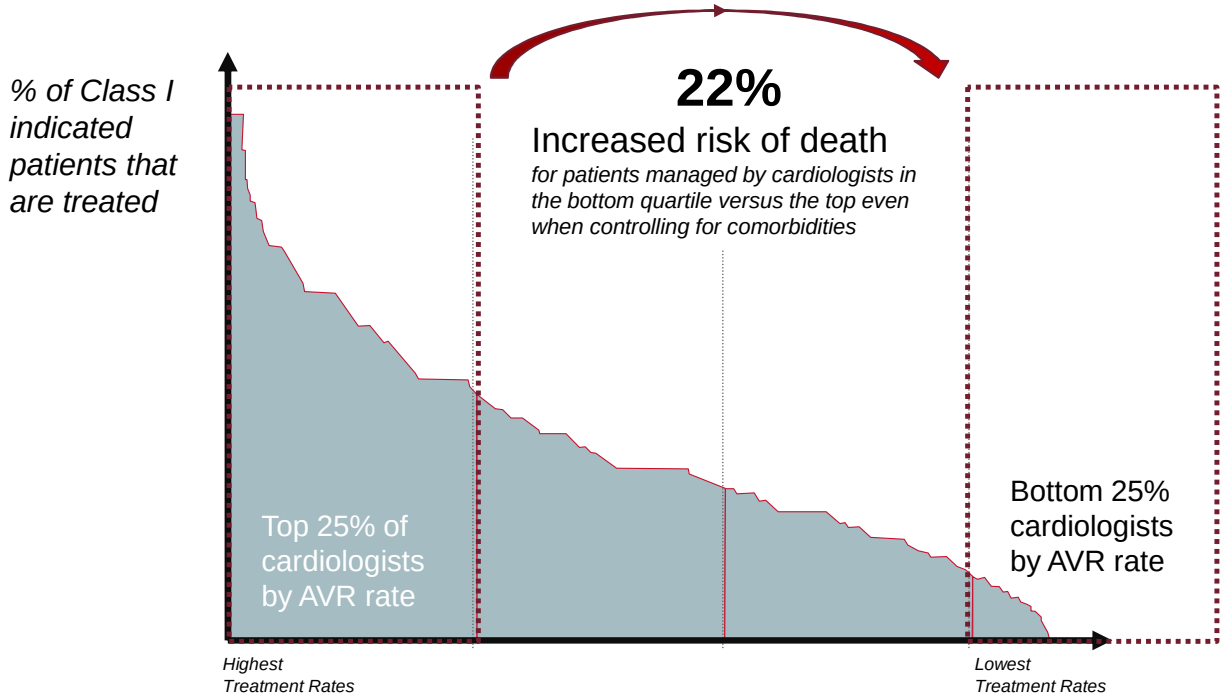
2.3x likelihood of different outcome (AVR or no AVR) if the patient had another managing cardiologist

Median odds ratio (MOR) expresses the likelihood of a different outcome (i.e. AVR) if a patient goes to another randomly selected provider. MOR of 1 indicates no difference in outcomes between providers; MOR of 1.5 indicates 50% chance of a different outcome if the patient goes to another randomly selected physician. Source: Optum EHR, n=30,642 patients. BCG analysis.

1. Brennan, TVT 2019. 2. Median odds ratio (MOR) expresses the likelihood of a different outcome (i.e. AVR) if a patient goes to another randomly selected provider. MOR of 1 indicates no difference in outcomes between providers; MOR of 1.5 indicates 50% chance of a different outcome if the patient goes to another randomly selected physician. MOR can be directly compared to hazard ratios.

IMPACT OF WATCHFUL WAITING

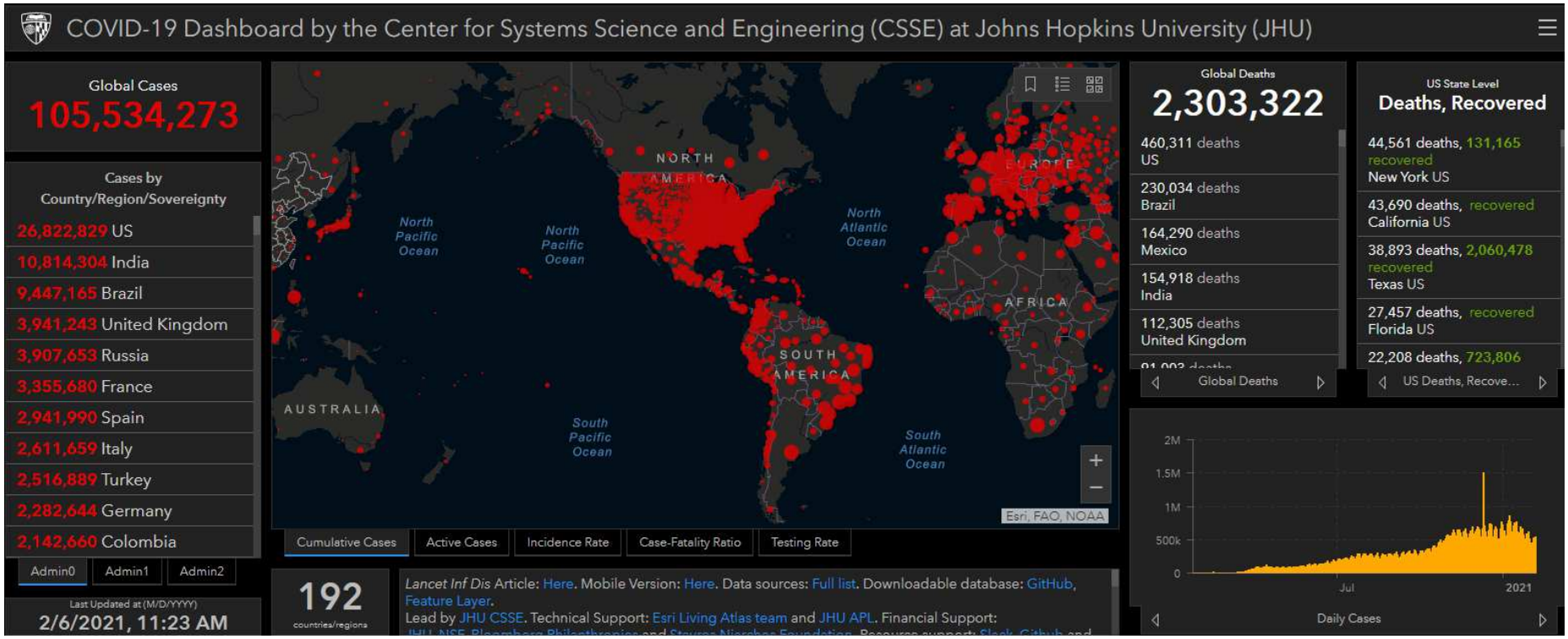
Significant variation in cardiologist ssAS treatment rate with impact on outcomes



1. Yes . 2. Median odds ratio (MOR) expresses the likelihood of a different outcome (i.e. AVR) if a patient goes to another randomly selected provider. MOR of 1 indicates no difference in outcomes between providers; MOR of 1.5 indicates 50% chance of a different outcome if the patient goes to another randomly selected physician. MOR can be directly compared to hazard ratios.

Referral

COVID-19: IMPACT OF A GLOBAL PANDEMIC ON SEVERE SYMPTOMATIC AORTIC STENOSIS



Source: https://coronavirus.jhu.edu/map.html, Accessed: 2/6/2021

American Heart Association.

Referral

COVID-19: IMPACT OF A GLOBAL PANDEMIC ON SEVERE SYMPTOMATIC AORTIC STENOSIS

Temporary guidance to triage intervention including AVR *during* COVID-19

Issued April 2020

JACC Cardiovascular Interventions

-- All Journals --

JACC Journals | Issues | Topics | Multimedia | Guidelines

JACC: Cardiovascular Interventions
April 2020
DOI: 10.1016/j.jcin.2020.04.001
Just Accepted

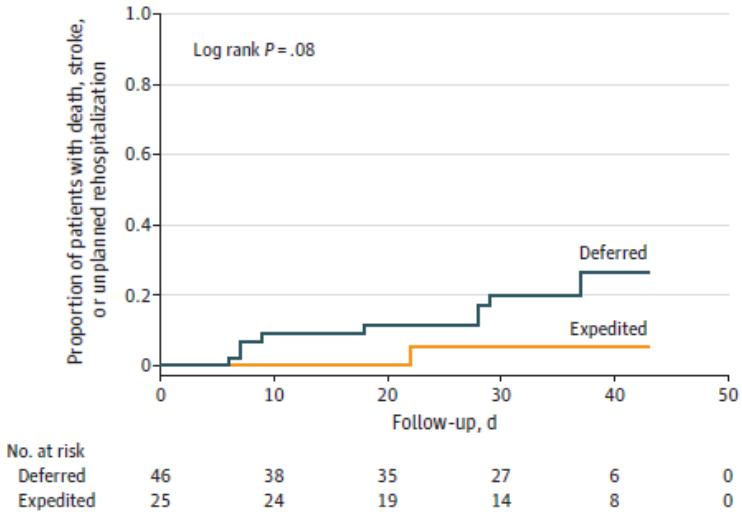
PDF Article

Triage Considerations for Patients Referred for Structural Heart Disease Intervention During the Coronavirus Disease 2019 (COVID-19) Pandemic: An ACC /SCAI Consensus Statement

Pinak B. Shah, Frederick G.P. Welt, Ehtisham Mahmud, Alistair Phillips, Neal S. Kleiman, Michael N. Young, Matthew Sherwood, Wayne Batchelor, Dee Dee Wang, Laura Davidson, Janet Wyman, Sabeeda Kadavath, Molly Szerlip, James Hermiller, David Fullerton, Saif Anwaruddin and from the American College of Cardiology (ACC) and the Society for Cardiovascular Angiography and Interventions (SCAI)

- *TAVI recommended for **highly symptomatic AS patients***
- *TAVI or **close monitoring** recommended for minimally symptomatic AS patients*

Recent prospective view highlighted higher rates of adverse events associated with deferred AVR[1]

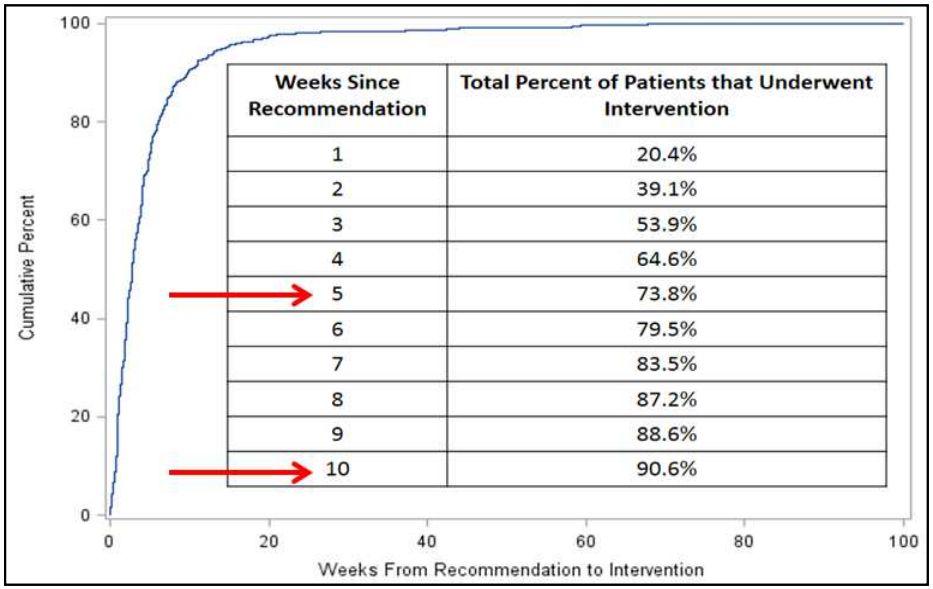


1. Ryfell et al. 2020.

American Heart Association.

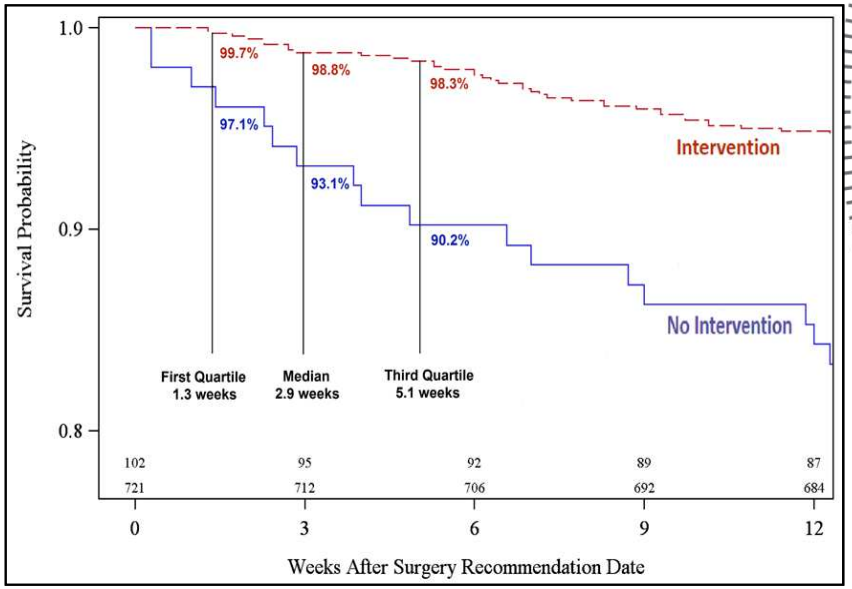
COMMON TREATMENT DELAYS COST LIVES[1]

1 in 4 patients waited >5 weeks from referral to treatment



Weeks Since Recommendation	Total Percent of Patients that Underwent Intervention
1	20.4%
2	39.1%
3	53.9%
4	64.6%
5	73.8%
6	79.5%
7	83.5%
8	87.2%
9	88.6%
10	90.6%

5-week delay translates to an 8% increase in mortality



Source: Malaisrie et al. *Annals of Thoracic Surgery*. 2014

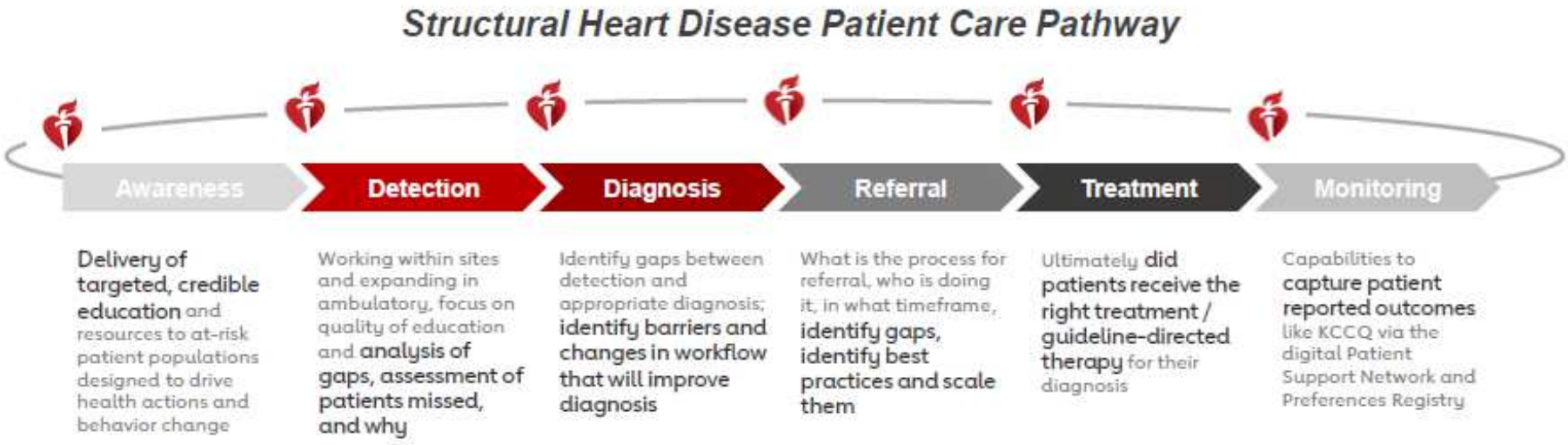
32

LOOKING FORWARD TO IMPROVING CARE

TARGET: AORTIC STENOSIS

American Heart Association.

TARGET: AORTIC STENOSIS



American Heart Association.

WHAT WOULD BE THE IMPACT OF BUILDING TO A GOLD STANDARD LEVEL OF CARE?

- With a proactive recognition of individuals at high-risk of sAS
- Objective criteria to indicate intervention timing and management protocols
- Greater society engagement and recognition
- Stronger public awareness and urgency to intervene
- At least 90% of patients receiving appropriate treatment

Potential for an additional **233,000** life years saved annually[1]

Note: Life years saved (232,455) determined by multiplying the expected life year extension from a TAVI procedure (2.7 years) by the annual incidence of diagnosed untreated sAS patients (86,095).
Source: Analyses of Optum data

American Heart Association.

BECAUSE THEY'RE WORTH IT…

J. Matthew Brennan, MD, MPH
Duke University School of Medicine
brenn009@duke.edu

American Heart Association.

TARGET: AORTIC STENOSIS
THE INITIATIVE

Clyde W. Yancy, MD, MSc, MACC, FAHA, MACP, FHFSA

Vice Dean, Diversity & Inclusion

Magerstadt Professor of Medicine, Professor of Medical Social Sciences,

Chief, Division of Cardiology Northwestern University, Feinberg School of Medicine

Associate Director, Bluhm Cardiovascular Institute Northwestern Memorial Hospital

Chicago, IL

Deputy Editor

JAMA Cardiology

cyancy@nm.org

American Heart Association®
Target: Aortic Stenosis™

Disclosures Dr. Yancy

Editor- JAMA Network

Special Government Employee- Department of Health and Human Services

Consultant- NHLBI, NIH, PCORI

Spousal employment, Abbott, Inc.

American Heart Association.
Target: Aortic Stenosis™

Initiative Objectives

A vision of lowering cardiovascular mortality, specifically by "establishing and advancing a new standard of care in structural heart disease"

How we will get there:

Quality Systems Improvement

Measure & recognize quality, deliver guideline-directed, optimal-care.

Public Health Awareness & Education

Launch programs to increase patient awareness and engagement.

External Partnerships

Amplify our reach with strategic organizational partnerships.

American Heart Association.
Target: Aortic Stenosis™

Announcement: November 2019

Newsroom / Search News Releases / **New structural heart disease initiative aims to extend and improve patients' lives**

Categories: Program News | **Published: November 17, 2019**

New structural heart disease initiative aims to extend and improve patients' lives

Together with support of Edwards Lifesciences, the American Heart Association's initiative addresses need for improvements in identification of patients with aortic stenosis and adherence to treatment guidelines

Embargoed for release November 17, 2019 2:30 p.m. ET

PHILADELPHIA, November 17, 2019 — Millions of people are living with structural heart disease in the United States, and many may be unaware or lack effective diagnoses and

"Our shared **vision** of ensuring all structural heart disease patients are identified and appropriately treated is no small undertaking.

With the support of Edwards Lifesciences and working with our clinical network on our patient-centered public outreach programs, we can better help the millions of Americans impacted by structural heart disease each year"

Nancy Brown,
Chief Executive Officer
American Heart Association

"We are excited to be collaborating with an organization who **shares our passion for helping transform patients' lives.**

Together with the Association, we are confident we can have a **positive impact** on people living with structural heart disease.

The Association is uniquely positioned to lead this initiative given its representation of not only the scientific community, but also patients and the full spectrum of care providers, all aimed at helping people live longer, healthier lives."

Todd J. Brinton, M.D., F.A.C.C.
Corporate Vice President of Advanced Technology and Chief Scientific Officer
Edwards Lifesciences

American Heart Association®
Target: Aortic Stenosis™

Aortic Stenosis Initiative Overview

To help healthcare providers identify and refine better/best practices that can be leveraged and scaled as part of an intensive continuous quality improvement for patients living with Aortic Stenosis.

Increased awareness of the signs and symptoms of aortic stenosis among at risk populations.

Increased percentage of aortic stenosis patients who are identified and diagnosed.

Improved clinical pathways and processes to impact patient outcomes.

Increased compliance with established guidelines for the appropriate follow-up of structural heart disease patients at discharge and beyond.

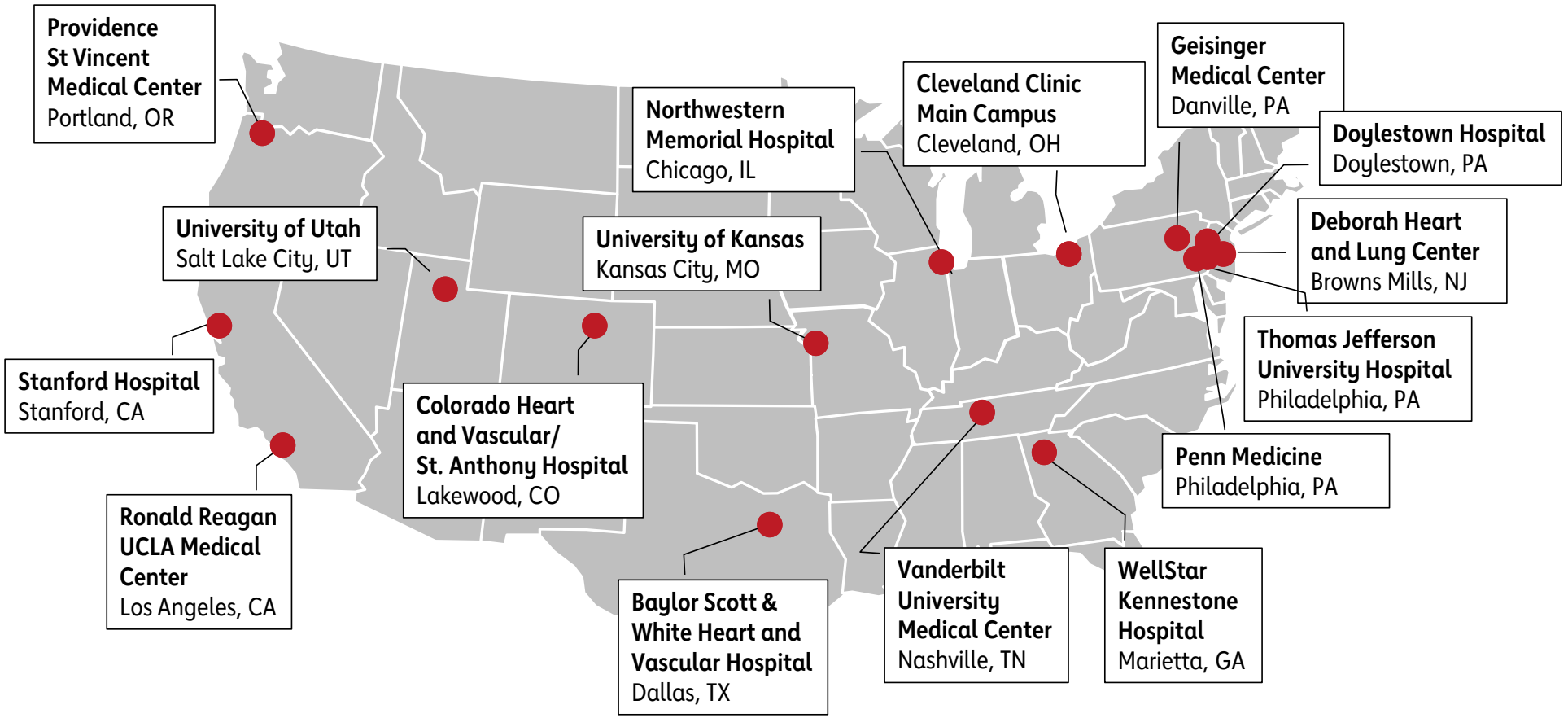
American Heart Association®
Target: Aortic Stenosis™

Indications for aortic valve replacement and TAVI (surgical or transcatheter)

- Severe high-gradient AS with symptoms (class 1 recommendation, level A evidence)
- Asymptomatic patients with severe AS and LVEF < 50 (class 1 recommendation, level B-NR evidence)
- Severe AS when undergoing other cardiac surgery (class 1 recommendation, level B-NR evidence)
- Asymptomatic severe AS and low surgical risk (class 2a recommendation, level B-R evidence)
- Symptomatic with low-flow/low-gradient severe AS (class 1 recommendation, level B-NR evidence)
- Moderate AS and undergoing other cardiac surgery (class 2b recommendation, level C-EO evidence)
- TAVI is preferred among symptomatic patients of any age with high or prohibitive surgical risk, if predicted survival after intervention is >12 months with an acceptable quality of life (class 1 recommendation, level A evidence)

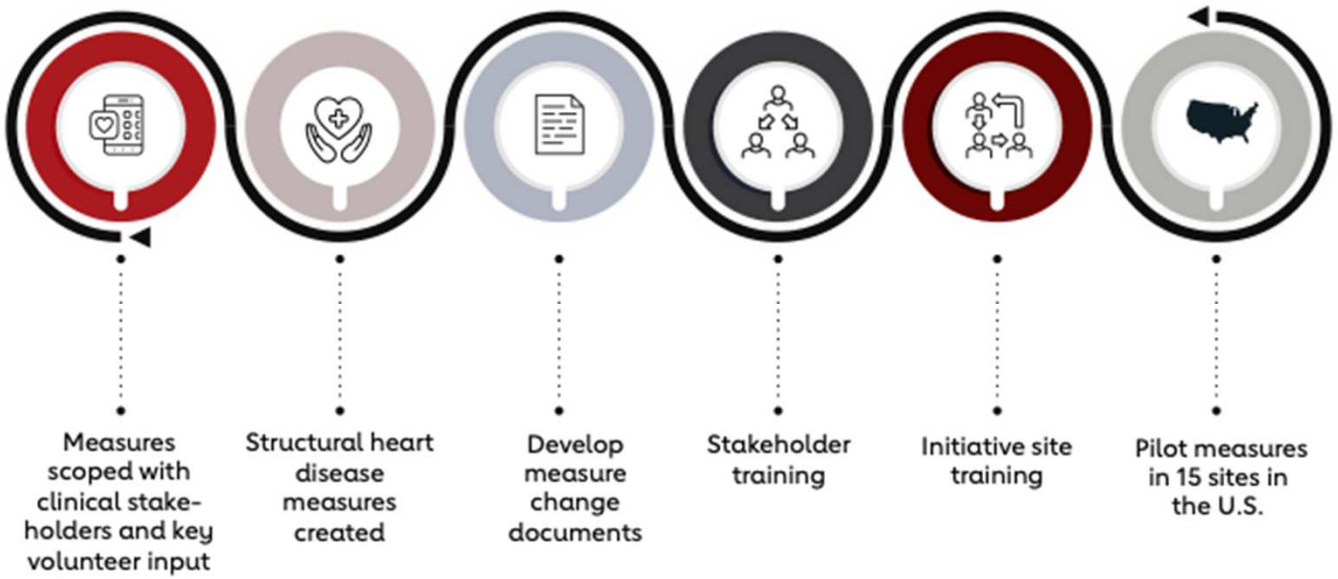
American Heart Association®
Target: Aortic Stenosis™

Participating Pilot Sites



American Heart Association®
Target: Aortic Stenosis™

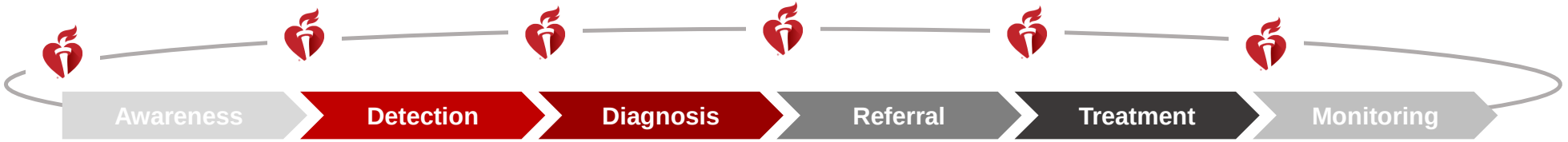
Measure Development and Integration



American Heart Association.
Target: Aortic Stenosis™

Establish and advance a new standard of care for patients with aortic stenosis

Structural Heart Disease Patient Care Pathway



Delivery of targeted, credible education and resources to at-risk patient populations designed to drive health actions and behavior change

Working within sites and expanding in ambulatory, focus on quality of education and **analysis of gaps, assessment of patients missed, and why**

Identify gaps between detection and appropriate diagnosis; **identify barriers and changes in workflow that will improve diagnosis**

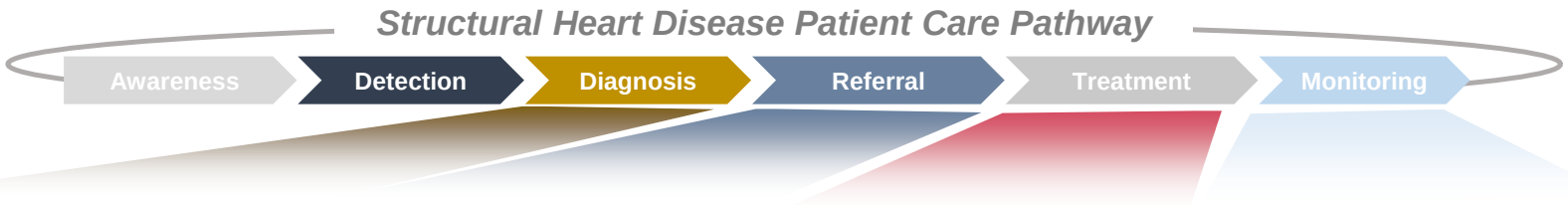
What is the process for referral, who is doing it, in what timeframe, **identify gaps, identify best practices and scale them**

Ultimately **did patients receive the right treatment / guideline-directed therapy** for their diagnosis

Capabilities to **capture patient reported outcomes** like KCCQ via the digital Patient Support Network and Preferences Registry

American Heart Association®
Target: Aortic Stenosis™

Pilot Measures to Improve the Patient Care Pathway



Diagnosis	Referral	Treatment	Monitoring / QoL Management
• Percentage of moderate aortic stenosis patients receiving a follow-up echocardiogram during the measurement period (index echo) that is within 24 months of prior echocardiogram. • Percentage of echocardiogram reports performed within a health system with aortic velocity >= 4 m/s that include the severity of aortic stenosis and a clinical recommendation for further evaluation/referral of patients • Percentage of patients with low flow, low gradient severe aortic stenosis who receive a dobutamine stress test during the measurement period • Percentage of patients with asymptomatic severe aortic stenosis who receive either an exercise stress test or an assessment of activity tolerance to confirm symptom status within 6 months of diagnosis	• Percentage of patients diagnosed with severe aortic stenosis during the measurement period who were evaluated by the Multidisciplinary Heart Valve Team within 14 days of initial diagnosis	• Percentage of patients who receive definitive treatment (SAVR, TAVI or Palliative Care) within 30 days of initial evaluation by the Multidisciplinary Heart Valve Team	• Percentage of patients who completed a Kansas City Cardiomyopathy Questionnaire (KCCQ-12) prior to and within 30 days after TAVI • Percentage of patients who completed a Kansas City Cardiomyopathy Questionnaire (KCCQ-12) prior to and within 90 days after SAVR • Percent of patients who had improvement of at least 10 points in their KCCQ-12 score or had a total KCCQ-12 score of >= 60 at 30 day after TAVI

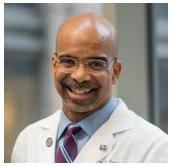
American Heart Association®
Target: Aortic Stenosis™

Pilot Measure Development Process

1. Environmental Scan: Reviewed relevant guidelines and other literature related to key processes of care for patients with Aortic Stenosis.
2. Measure Concept Development: Proposed potential measure concepts based on literature review and initial input from SAG and industry partners
3. Measure Selection: In collaboration with the SAG, selected measure concepts for further development and specification based on level of supporting evidence, importance and feasibility.
4. Measure Development: With guidance from the SAG, identified target population (denominator), exclusions and exceptions and patients to include in numerator for each measure and method of reporting (e.g., rate or distribution)
5. Approval: Final review and approval by the full SAG.
6. Specification: Identified required data elements and created detailed measure logic for implementation in the AHA GWTG - CORE registry.
7. Elaboration and Implementation: Worked with IT vendor to ensure that programming and implementation are consistent with the intent of the measures.
8. Post-Pilot Refinement: Based on feedback from the sites, findings related to availability of data and an understanding of site workflow, we will add, refine or retire measures, as needed.

American Heart Association®
Target: Aortic Stenosis™

Aortic Stenosis Science Advisory Group Members



Clyde W. Yancy MD, MSc, MACC, FAHA, MACP, FHFSA
Vice Dean, Diversity & Inclusion

Magerstadt Professor of Medicine, Professor of Medical Social Sciences

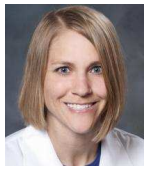
Chief, Division of Cardiology Northwestern University, Feinberg School of Medicine

Associate Director, Bluhm Cardiovascular Institute Northwestern Memorial Hospital

Gregg C Fonarow MD, FACC, FAHA, FHFSA
Elliot Corday Professor of Cardiovascular Medicine, UCLA Division of Cardiology

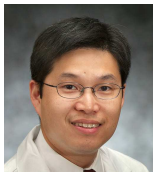
Director, Ahmanson–UCLA Cardiomyopathy Center

Co-Chief, UCLA Division of Cardiology



Suzanne V. Arnold, MD
Clinical Scholar and Cardiologist

Research Assistant Professor, University of Missouri–Kansas City School of Medicine, Department of Biomedical and Health Informatics



Wilson Y. Szeto, MD
Chief of Cardiovascular Surgery at Penn Presbyterian Medical Center

Surgical Director, Transcatheter Cardio-Aortic Therapies

Vice Chief of Clinical Operations and Quality, Division of Cardiovascular Surgery

Professor of Surgery at the Hospital of the University of Pennsylvania and the Presbyterian Medical Center of Philadelphia

Catherine M. Otto, MD, FACC, FACP, FAHA
Editor-in-Chief, *Heart*

Professor, Medicine

J. Ward Kennedy-Hamilton Endowed Chair in Cardiology

Director, Heart Valve Clinic

Attending Physician, University of Washington Medical Center

Pinak Bipin Shah, MD
Director of Cardiac Catheterization Lab

Assistant Professor, Harvard Medical School
Cardiovascular Medicine

American Heart Association.
Target: Aortic Stenosis™

A Focus on Quality

Get With The Guidelines - Stroke

Get With The Guidelines - Heart Failure

Get With The Guidelines - Resuscitation

Get With The Guidelines - AFIB

Get With The Guidelines - Coronary Artery Disease

Hospital Certification

Mission: Lifeline

Target: Heart Failure

Target: Stroke

American Heart Association.
Target: Aortic Stenosis™

The Creation and Testing Target: Aortic Stenosis Tool

Leveraging the Get With The Guidelines-CORE environment, we **rapidly created and deployed a new stand-alone data collection tool specifically for Aortic Stenosis.**

Get With The Guidelines - CORE

- Rapid deployment of data elements and measures.
- CORE environment is standard platform that can be quickly customized.
- Allows for pilot environment, still under data use agreements, to enter patient data

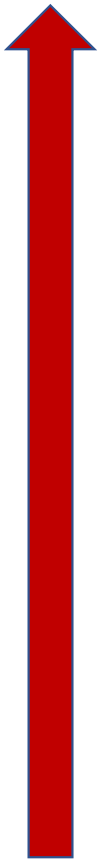
Aortic Stenosis Tool Pilot

- Patient form: one-time entry for each patient
- Event form: added to patient for each event or visit
- 68 data elements
- Reports for all measures, and specialized reports to monitor progress throughout year.
- Robust reporting, both for the hospital and comparison against the aggregate.

American Heart Association®
Target: Aortic Stenosis™

Learning Collaborative Model

Changing Behavior Through Improving Process



- Spread best practices nationally through education, model sharing, developed tools and resources, and abstracts
- Identify consensus best practices among collaborative hospitals, bridging gaps within the patient journey to treatment
- Engage all hospitals in learning collaborative model to share practices (barriers and achievements) to identify opportunities for improvement along the journey
- Analysis of individual hospital patient journey from identification, diagnostics, treatment and referral process

American Heart Association.
Target: Aortic Stenosis™

National Target: Aortic Stenosis Learning Collaborative

Partnering pilot hospitals are testing:

- Data entry and data migration into a new tool
- Reporting capabilities
- Third party vendor applications
- Pilot measures and delivering feedback

Partnering pilot hospitals will be developing:

- Best practices impacting the Aortic Stenosis patient journey
- Tools and education that will be shared nationally

American Heart Association®
Target: Aortic Stenosis™

Patient Engagement

- Patient/Provider toolkit
- Online/download patient education tools
- Webinar/podcast series content

- Owned, earned, paid social media
- Dedicated forum within Support Network
- Patient stories on Support Network
- Initiative promotion on AHA owned email channels

American Heart Association®
Target: Aortic Stenosis™

Who We're Talking To

Target Audience

Diagnosed and Undiagnosed AS patients 65+ experiencing symptoms and their loved ones

Insights:

- Age-related aortic stenosis usually begins after age 60
- Patients may not fully recognize disease progression and risks
- Abnormal heart murmurs may be missed, or doctors may fail to associate the symptoms with the disease

American Heart Association®
Target: Aortic Stenosis™

Patient Tools and Resources

Find out more about managing aortic stenosis:

Newly Diagnosed

If you were recently diagnosed with aortic stenosis, you probably have questions. Find out about symptoms, risk factors and treatments.

Learn more about AS >

Track Your Symptoms

It's important to track your symptom progression to determine if it is getting better or worse. You may not experience noticeable symptoms until the narrowed valve greatly reduces blood flow .

Download the AS symptom tracker >

Treatment Options

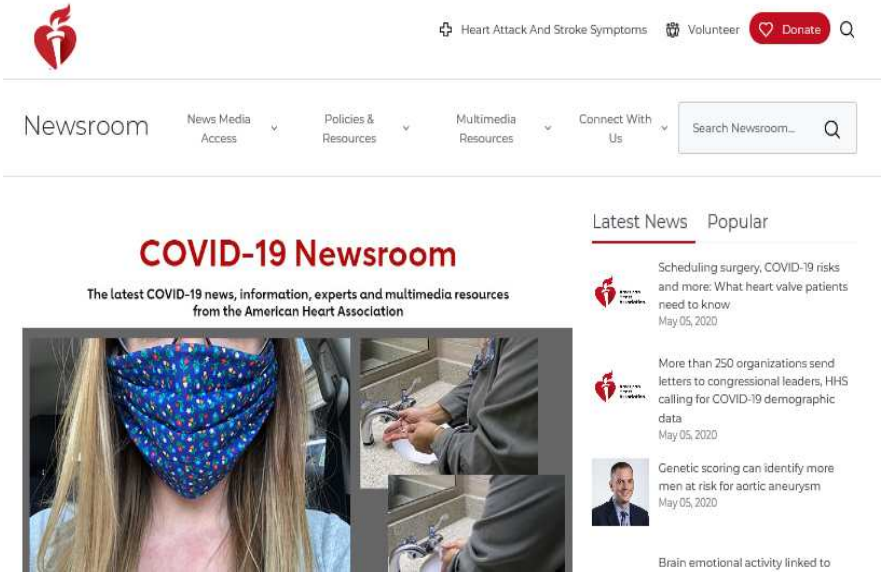
AS can be treated and managing it appropriately can reduce the negative impact on your quality of life. If you notice a decline in routine physical activities or significant fatigue, it's worth a visit to your health care professional.

Learn about the AS care team >

American Heart Association.
Target: Aortic Stenosis™

COVID-19 and AS Response

Newsroom Release



Categories: COVID-19, Heart News, Program News | Published: May 05, 2020

Scheduling surgery, COVID-19 risks and more: What heart valve patients need to know

DALLAS, May 5, 2020 — An estimated five million patients in the United States live with heart valve disease, and many have had upcoming valve repair surgery rescheduled due to the COVID-19 pandemic. The American Heart Association, along with 14 North American cardiovascular societies, recently issued a framework for safely resuming cardiovascular treatment, such as heart valve surgery, during the COVID-19 pandemic. People with heart valve disease live with symptoms that include shortness of breath, chest tightness and fatigue daily and must be especially cautious to avoid contracting COVID-19, due to the increased risk for complications.

"The most important thing for people with heart valve disease is to stay healthy and stay as active as possible," said Suzanne Arnold, cardiologist, St. Luke's Health System, Kansas City, Missouri in a video by the American Heart Association, the world's leading voluntary health organization dedicated to a world of longer, healthier lives. "Generally, heart valve patients whose condition can't wait a few months are continuing to have the procedures done; whereas it may be safer for patients with less urgent valve problems to wait until things settle out a bit at the hospitals."

For those who have an upcoming procedure, Arnold advises patients to also maintain good nutrition and physical activity and follow public health protocols for COVID-19 prevention. "The healthier you are going into the surgery, the quicker the recovery, which means fewer complications, shorter length of stay at the hospital and faster recovery after returning home" she said.

Arnold also advises people with heart valve disease to be diligent when it comes to social distancing and coronavirus prevention. "While COVID-19 could attack anyone, people with underlying medical conditions are at greater risk of developing serious illness with COVID-19. This is likely the bigger concern - not that COVID-19 makes the [heart valve disease] worse, but that the valve disease may make COVID-19 harder to beat," she said.

Learn more about heart valve disease and how to manage symptoms at home at heart.org/heartvalves.

Get the latest American Heart Association information and recommendation on COVID-19 here.

Related Images

American Heart Association.

American Heart Association logo

Large Heart and Torch with American Heart Association text.

https://www.heart.org/en

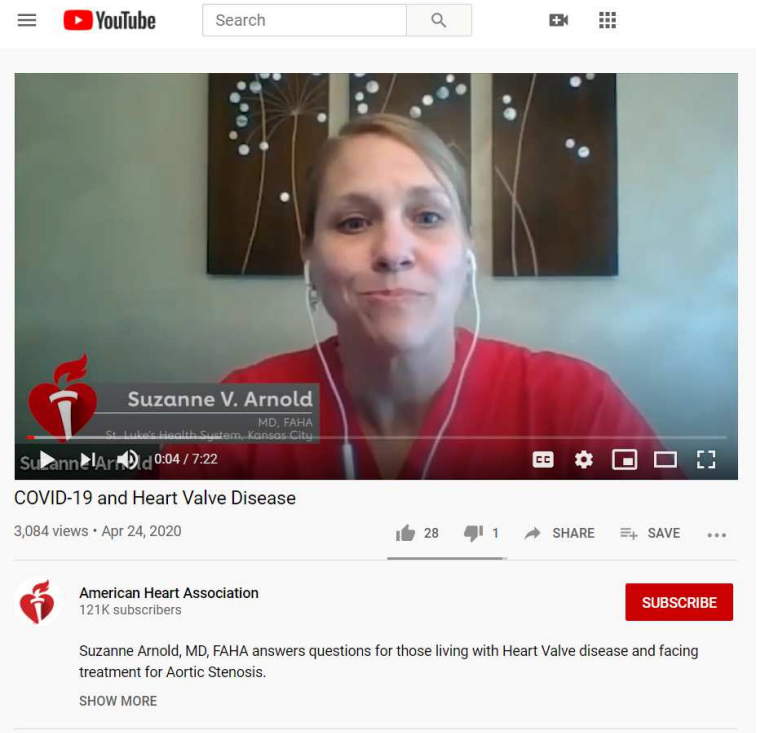
copyright American Heart Association

Download (98.4 kB)

newsroom.heart.org/news/scheduling-surgery-covid-19-risks-and-more-what-heart-valve-patients-need-to-know

American Heart Association®
Target: Aortic Stenosis™

COVID-19 and AS Response

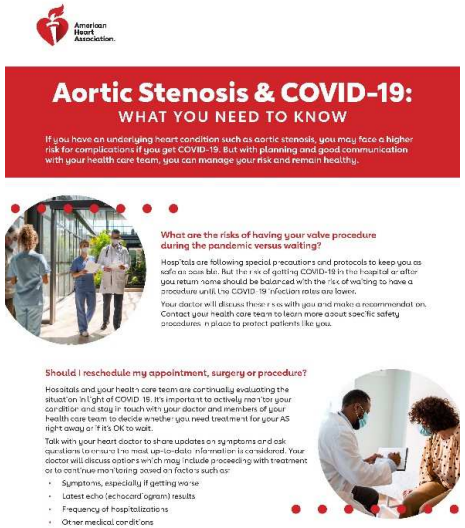


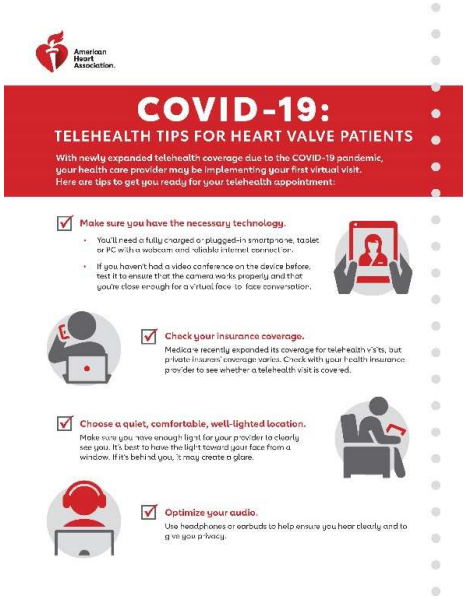
AHA YouTube channel:
youtube.com/watch?v=WXyyoi1shxU

Dr. Arnold & AHA collaborate to address AS patient concerns during COVID-19

OBJECTIVE

Develop content for aortic stenosis patients, addressing concerns related to their condition and how it's impacted by COVID-19





American Heart Association®
Target: Aortic Stenosis™

Strategic Alliance Objectives

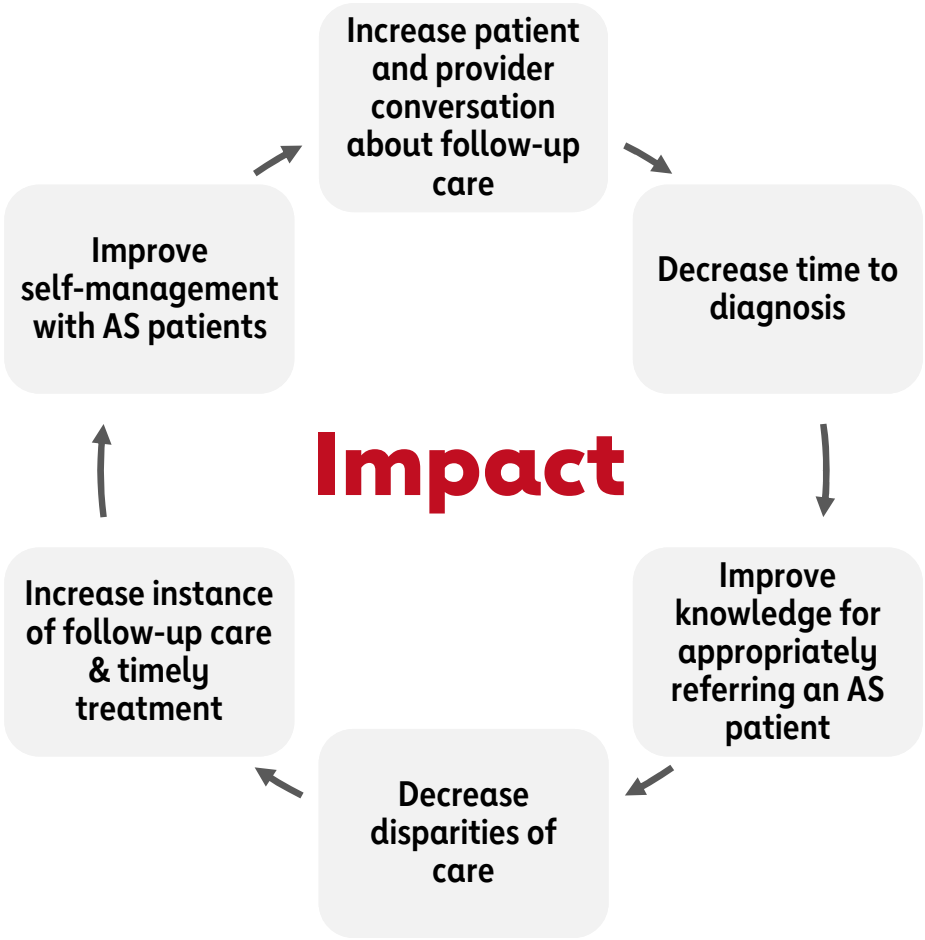
Amplify ***Target: Aortic Stenosis*** through communities or health care outreach efforts with partner organizations

Alliance organizations we've established a relationship with for year 1:

ABC
Association of Black Cardiologists, Inc.
Saving the Hearts and Minds of a Diverse America

Alliance FOR AGING RESEARCH

PCNA
PREVENTIVE CARDIOVASCULAR NURSES ASSOCIATION



FREE WEBINAR Key Messages for Clinicians in the 2020 AHA/ACC Guideline for the Management of Patients with Valvular Heart Disease

Hani Jneid, MD, FACC, FAHA, FSCAI
Associate Professor of Medicine
Director, Interventional Cardiology Fellowship Program
Director, Interventional Cardiology Research
Baylor College of Medicine
Director, Interventional Cardiology
The Michael E. DeBakey VA Medical Center

Vera Rigolin, MD
Professor of Cardiology
Northwestern Medicine
Feinberg School of Medicine

Thoralf M. Sundt, MD
Cardiac Surgeon | Thoracic Surgeon
Chief, Division of Cardiac Surgery
Director, Corrigan Minehan Heart Center
Co-director, Hypertrophic Cardiomyopathy Program

American Heart Association.
Lifelong Learning™

Visit learn.heart.org

Webinar Date and Details Coming Soon!

American Heart Association®
Target: Aortic Stenosis™

Questions – Please use Q/A section