Addressing Disparities In Aortic Stenosis Management: Have We Made Progress?

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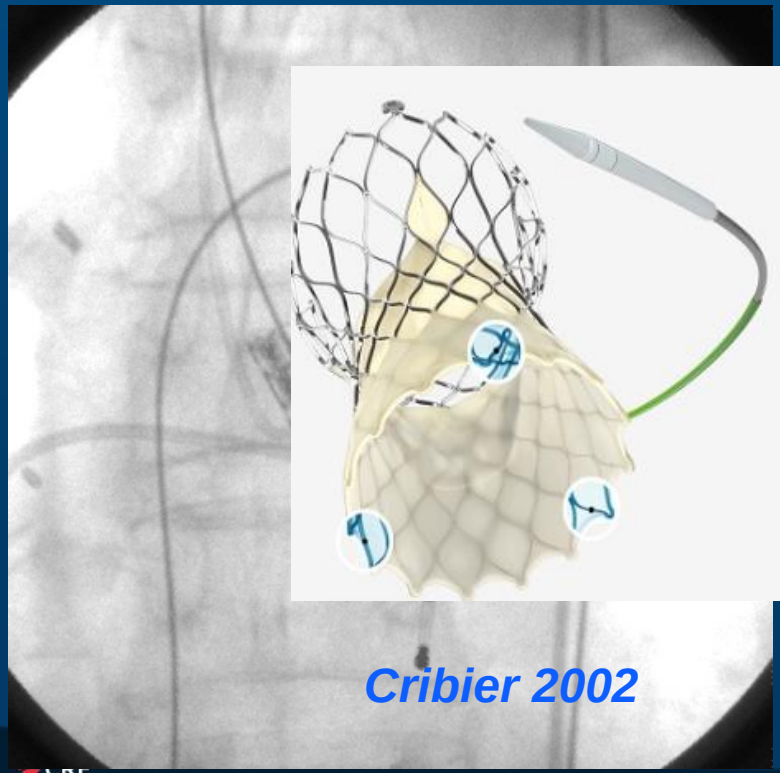
Within the prior 24 months, I have had a relevant financial relationship with a company producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients:

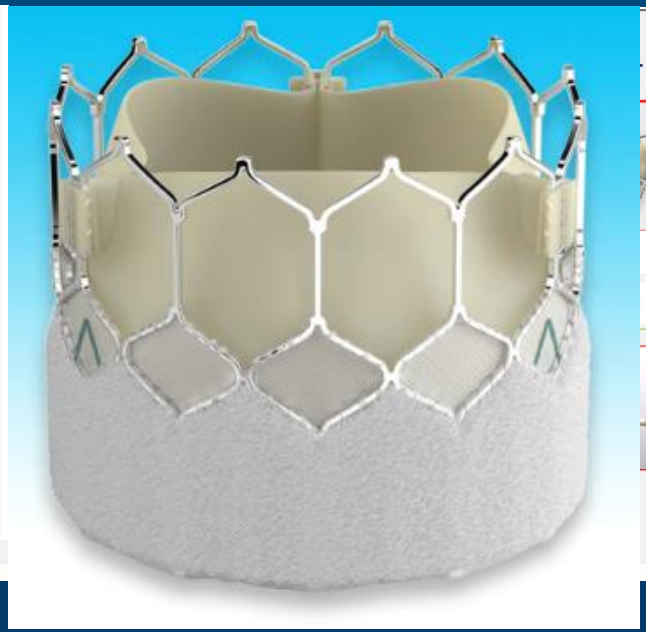
Nature of Financial Relationship	Ineligible Company
Grant/Research Support	Boston Scientific, Abbott
Consultant Fees/Honoraria	Edwards, Medtronic, Boston Scientific, Abbott

All Relevant Financial Relationships have been mitigated.
Faculty disclosure information can be found on the app

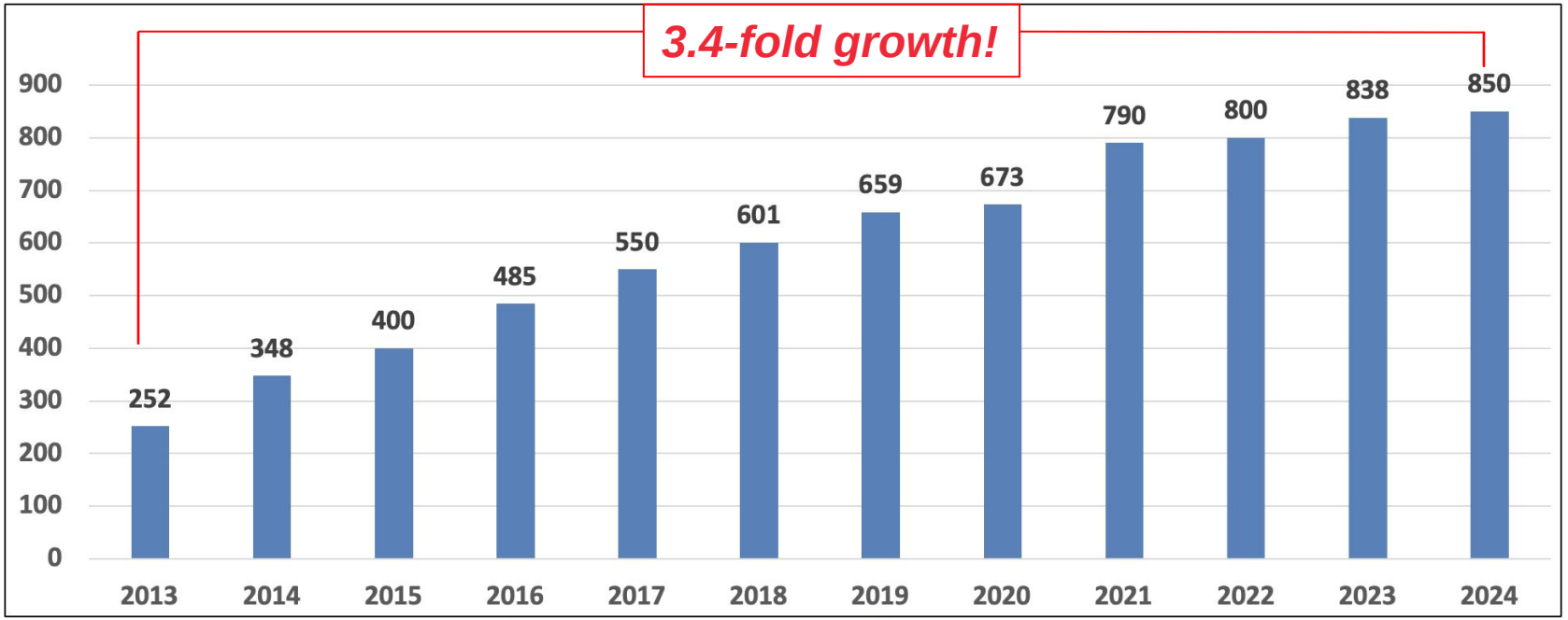
TAVR Advances: 2002-Present



Cribier 2002



TAVR Sites



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Source: STS/ACC TVT Registry Database

TAVR Volume

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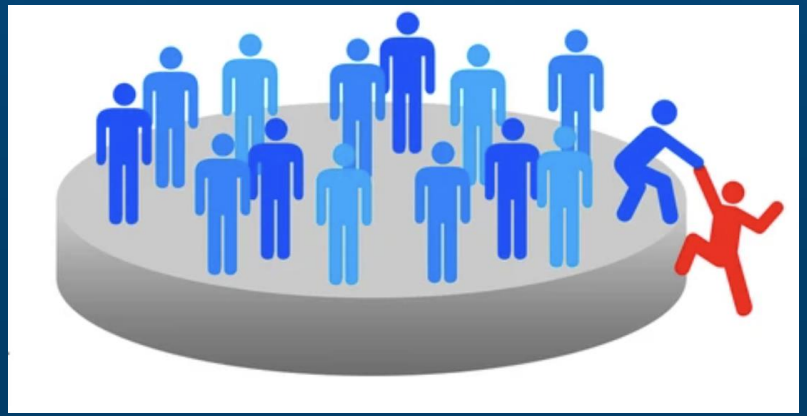
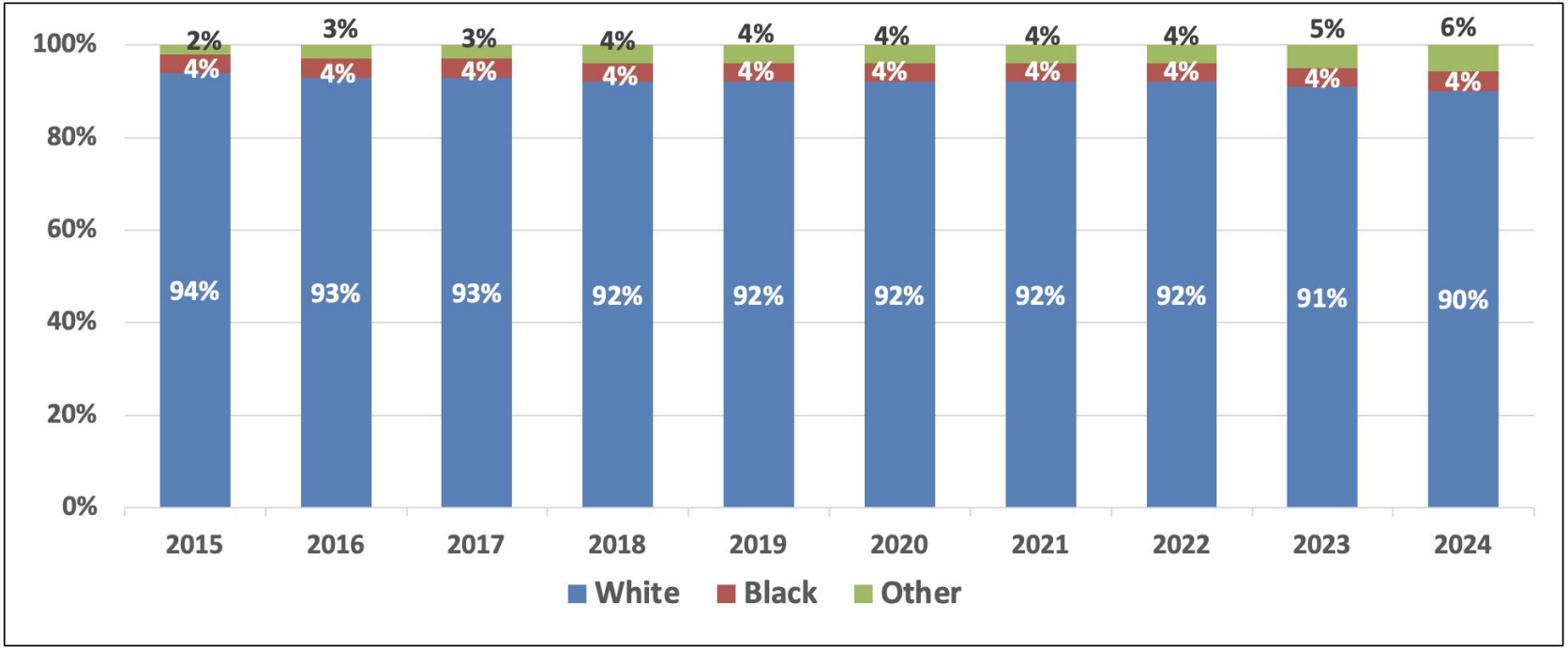
All good, but some are being left behind…



1. Race/ethnicity

TAVR: Racial Demographics



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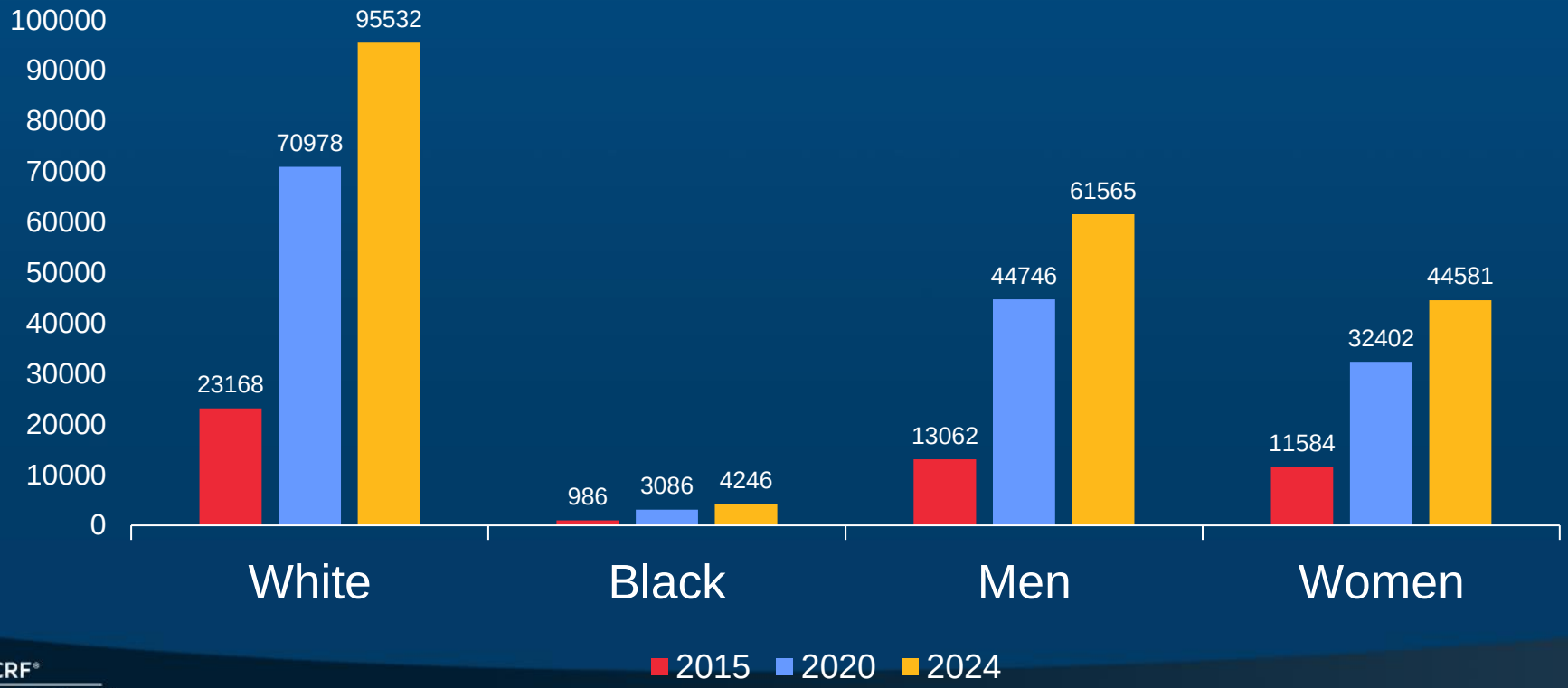
STS/ACC TVT-R
TAVR Volume by Race and Gender



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TAVR Disparities are Multifactorial

JACC COUNCIL PERSPECTIVES

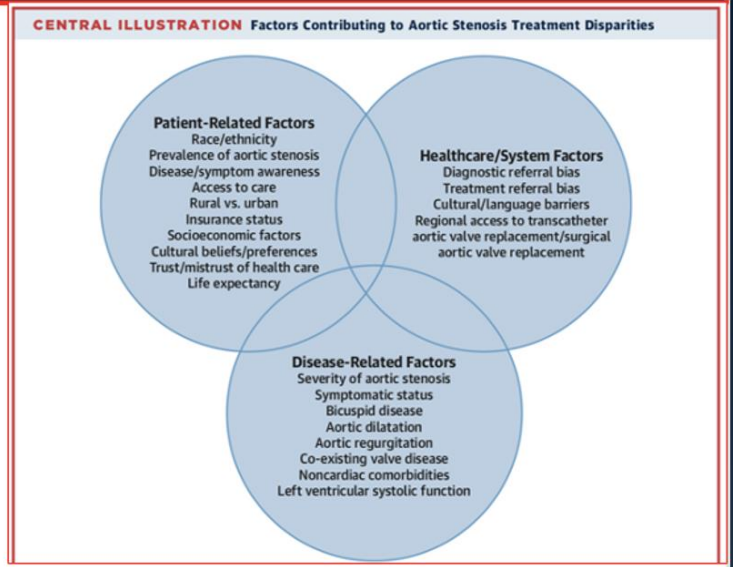
Aortic Valve Stenosis Treatment Disparities in the Underserved

JACC Council Perspectives

Wayne Batchelor, MD, MHS,[a,b] Saif Anwaruddin, MD,[a,c] Laura Ross, PA-C,[a,d] Oluseun Alli, MD, MHA,[e] Michael N. Young, MD,[a,f] Aaron Horne, MD, MBA, MHS,[g] Abby Cestoni, BBA,[a] Frederick Welt, MD,[a,h] Roxana Mehran, MD[a,i]

ABSTRACT

Underserved minorities make up a disproportionately small subset of patients in the United States undergoing transcatheter and surgical aortic valve replacement for aortic stenosis. The reasons for these treatment gaps include differences in disease prevalence and patient, health care system, and disease-related factors. This has major implications not only for minority patients, but also for other groups who face similar challenges in accessing state-of-the-art care for structural heart disease. The authors propose the following key strategies to address these treatment disparities: 1) implementation of measure-based quality improvement programs; 2) effective culturally competent communication and team-based care; 3) improving patient health care access, education, and effective diagnosis; and 4) changing the research paradigm that creates an innovation pipeline for patients. Only a concerted effort from all stakeholders will achieve equitable and broad application of this and other novel structural heart disease treatment modalities in the future. (J Am Coll Cardiol 2019;74:2313–21) © 2019 by the American College of Cardiology Foundation.



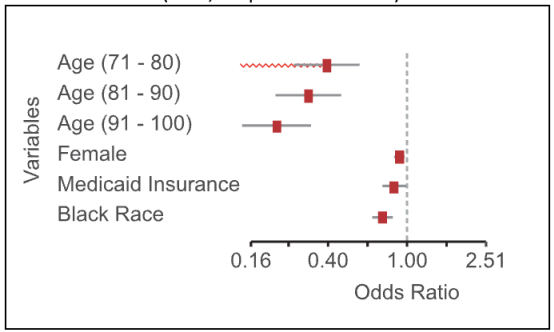
Batchelor JACC 2019

Biases Related to Race/ethnicity

Surveillance Bias

Blacks, women, older patients and Medicaid recipients with AS: less likely to receive appropriate echo surveillance of VHD

Odds Ratio of Appropriate Echo FUP
(n=42,289 patients with VHD)

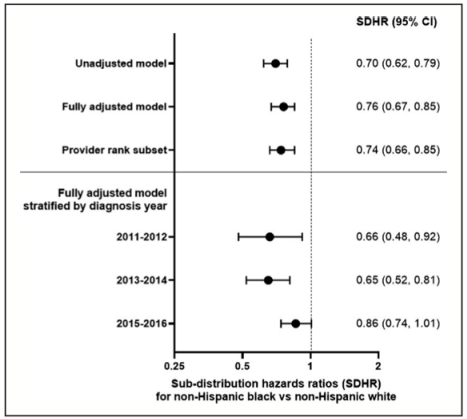


Tanguturi JACC Imaging 2019

Treatment Bias

Blacks are ~25% less likely to get TAVR

Likelihood of TAVR: Blacks vs NH White
n=32,853 (2007-2017)

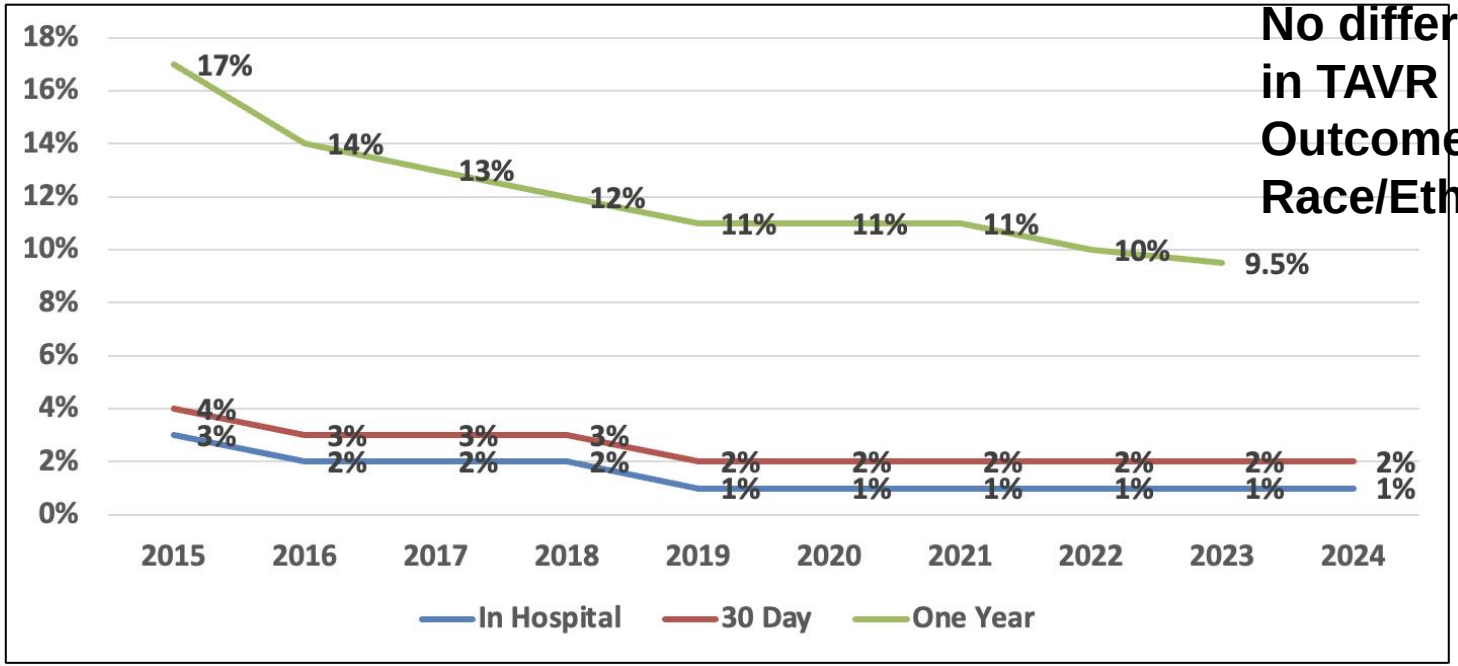


Brennan JAHA 2020

White Black Asian Hispanic

SDOH

TAVR Mortality



No differences in TAVR Outcomes by Race/Ethnicity

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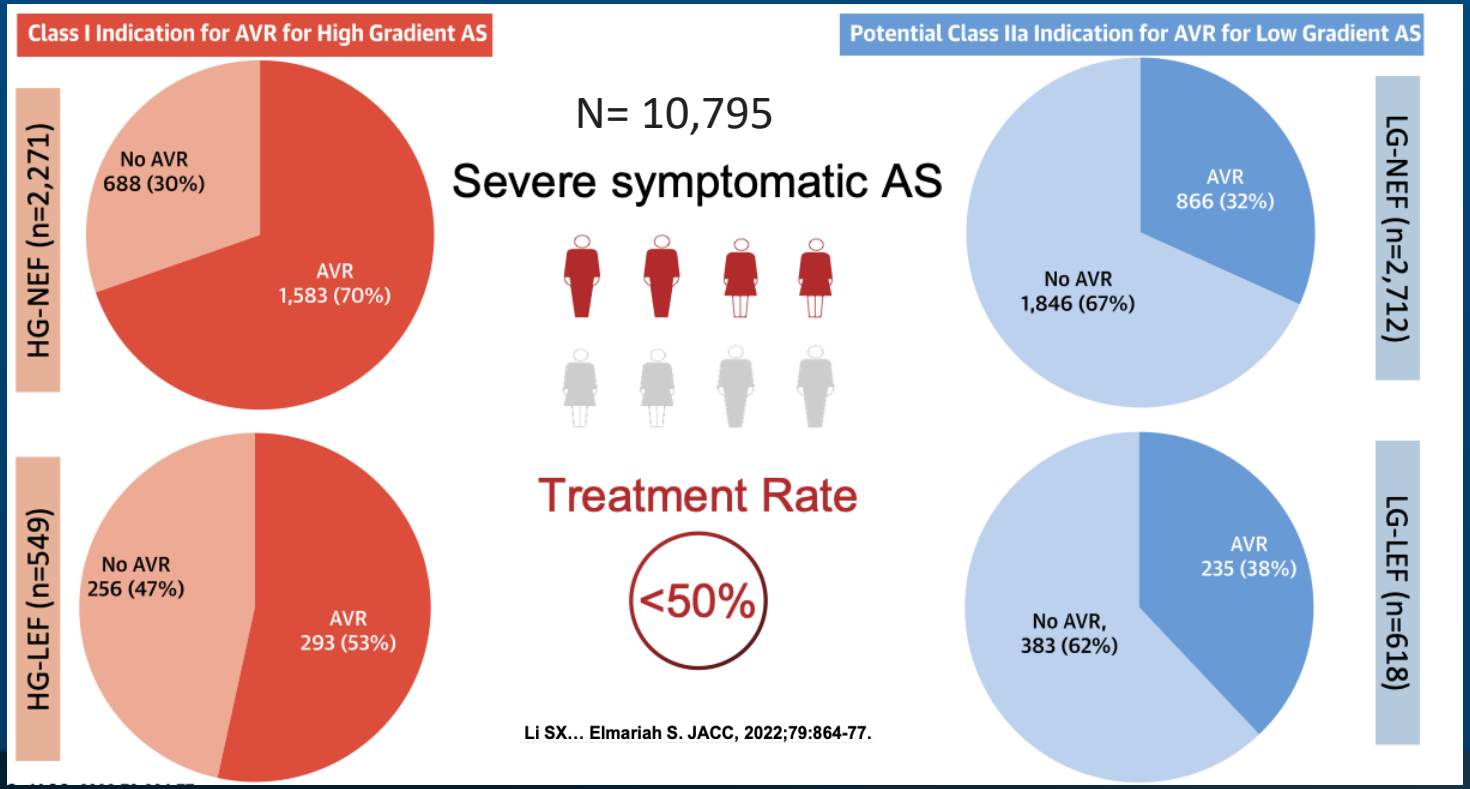
2. Hemodynamic subtypes

Undertreatment of AS Hemodynamic Subtypes



3. Rurality

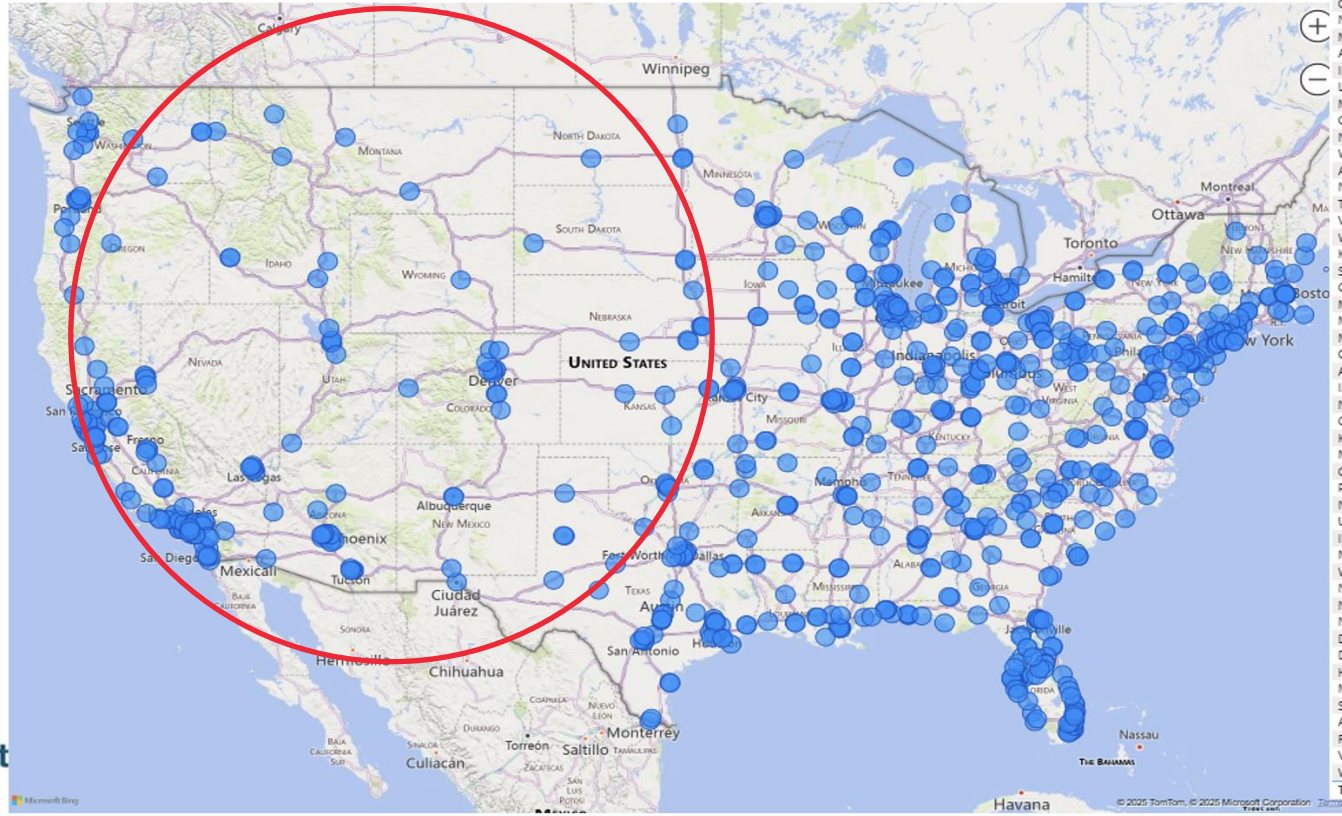
TVT Registry Site Participants

852 Site Participants | July 2025

NCDR
AMERICAN COLLEGE of CARDIOLOGY

50 States

2 US Territories*



State	#
CA	88
FL	72
TX	69
PA	44
IL	37
OH	36
NY	35
MI	31
AZ	21
IN	21
LA	21
MO	19
GA	18
NC	18
WI	18
AL	17
NJ	17
TN	17
VA	17
WA	15
KY	14
SC	14
CO	13
MA	13
MN	13
MD	11
OR	11
AR	10
IA	10
NV	10
CT	9
KS	9
MS	9
OK	9
PR	7
NE	6
UT	6
ID	5
MT	5
WV	5
ND	4
NH	4
NM	4
DC	3
DE	3
HI	3
ME	3
SD	3
AK	2
RI	1
VT	1
WY	1
Total	852

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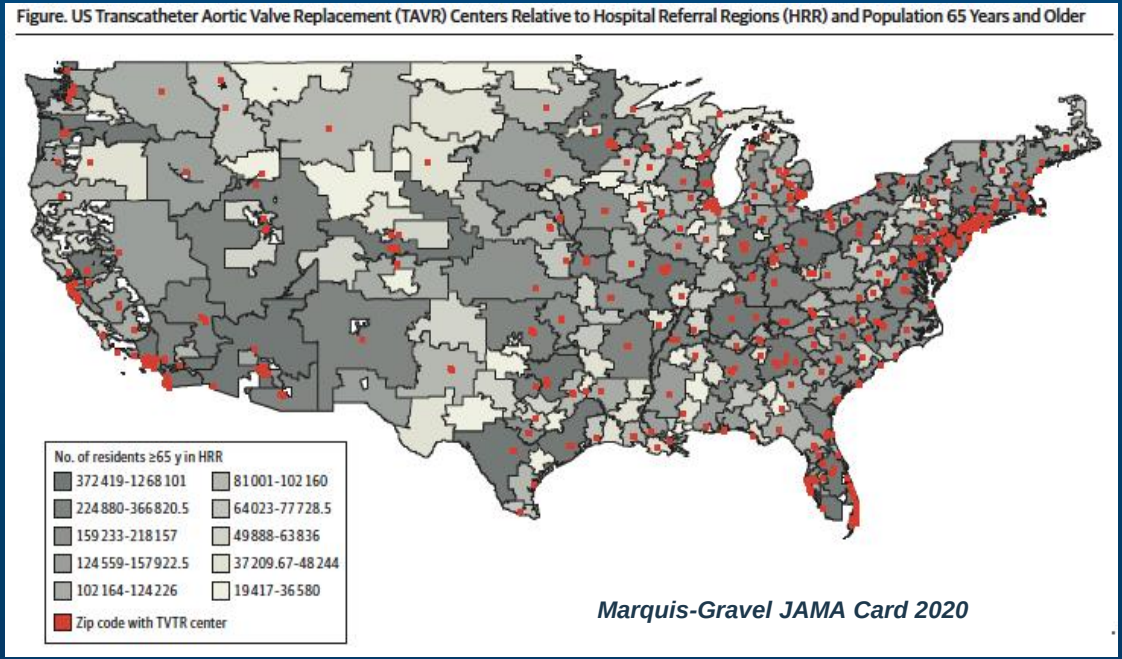
* US Territories plus DC

Geographic Access to TAVR



N= 47,527,537 Medicare Patients

- *2.6% live in Zip code with TAVR*
- *92% live in HRR with TAVR*

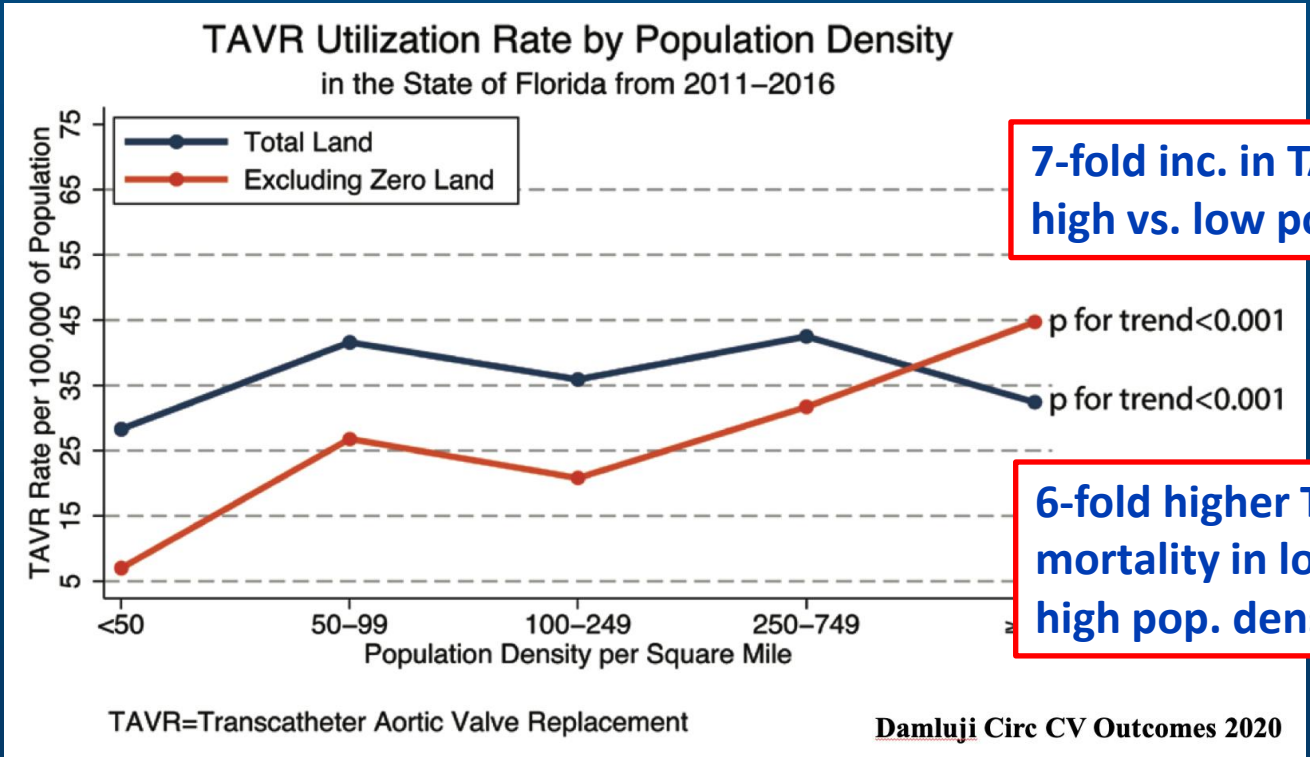
N= 31,098 TAVRs

- *24% rural*
- *Median driving time: 35 min*

Range: 2min – 18 hours

Impact of Rurality on TAVR: Florida

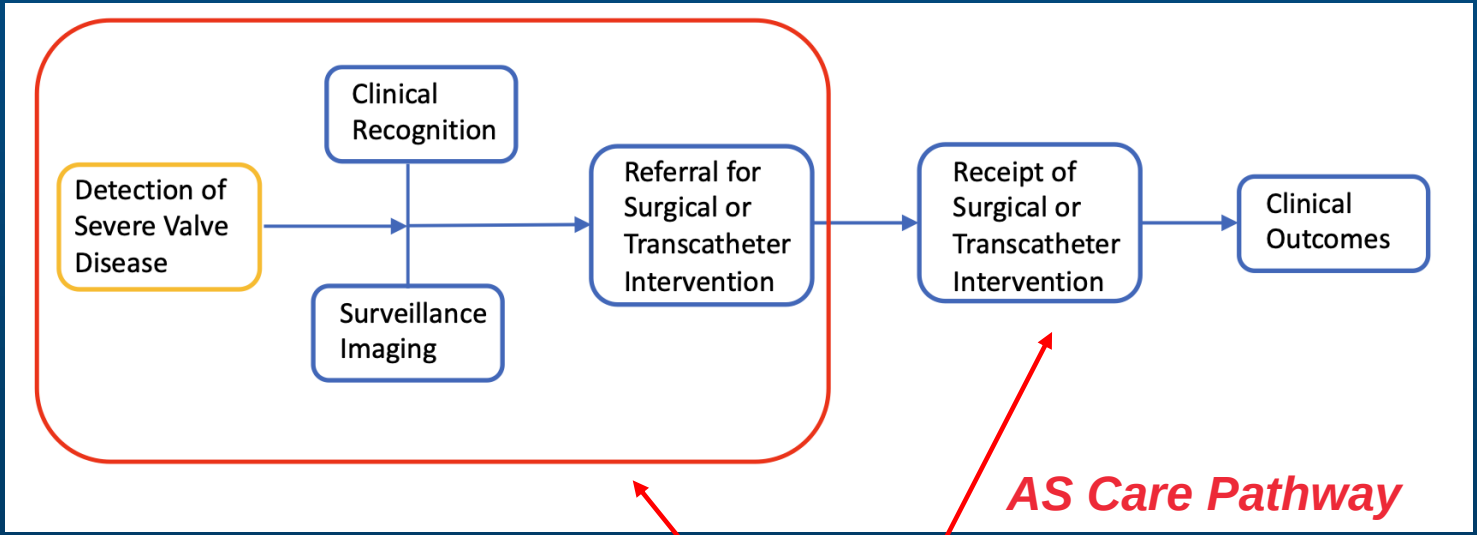
N= 6,531
2011-2016



7-fold inc. in TAVR rate in high vs. low pop. density

6-fold higher TAVR mortality in low vs. high pop. density

Conclusions



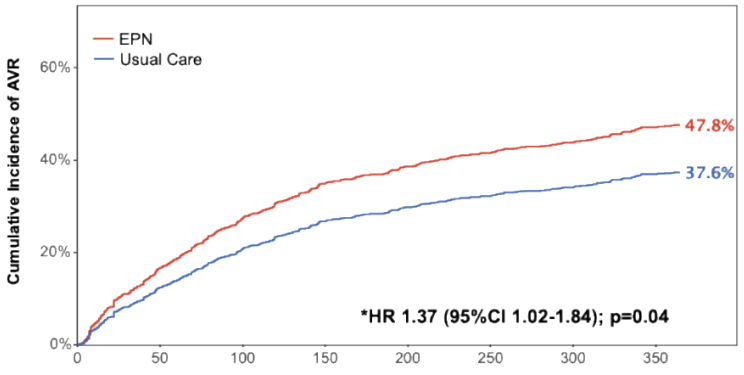
Race/ethnicity, HD Subtype, Rurality

Electronic Provider Notifications increase AVR Rates

Primary Trial Results

DETECT AS Trial

In the management of severe AS, EPN resulting in higher rates of AVR at 1-year, prolonged survival time, and reduced gender and age disparities in AVR delivery.

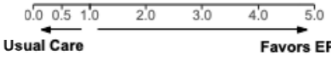


Number at risk

EPN	496	403	338	298	274	255	235	216
Usual Care	443	362	322	287	267	254	242	227

Subgroup	Patients	AVR rate (EPN vs. Control)	*Odds ratio [95%CI]	P-Value	P-Value Interaction
Sex					0.006
female	437	46.8% vs. 25.9%	2.78 [1.69, 4.57]	<0.001	
male	500	49.8% vs. 45.5%	1.16 [0.73, 1.83]	0.53	

*Mixed effects logistic regression models providers as a random effect.



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ALERT Trial

(Addressing undertreatment and heaLth Equity in aortic stenosis and mitral regurgitation using an integrated ehR platform)

N=1500, 600 providers, 5 Health systems

Hypothesis: automated notifications increase the proportion of patients receiving appropriate evaluation and treatment

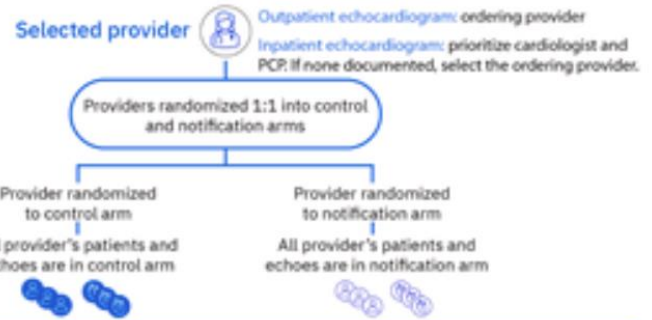
Study Design

Inclusion Criteria

1. Severe AS
2. Moderate-Severe or Severe MR

Exclusion Criteria

1. Age < 18 years
2. Evidence of prior transcatheter or surgical repair or replacement of target valve
3. Echocardiogram was ordered by a cardiologist on the MHT or a cardiac surgeon
4. Patient already has a scheduled clinic visit with a member of the MHT, or a recent clinic visit with the MHT, or a scheduled transcatheter or surgical valve intervention in the future



Primary endpoint: hierarchical composite of time to transcatheter or surgical valve intervention or MHT clinic visits from the date the notification goes out or would go out

Future Directions

TEMPUS

egnite

HeartSciences

AccurKardia

Other Interventions
TARGET AS
ALERT
AHA- SFRN

Thanks

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