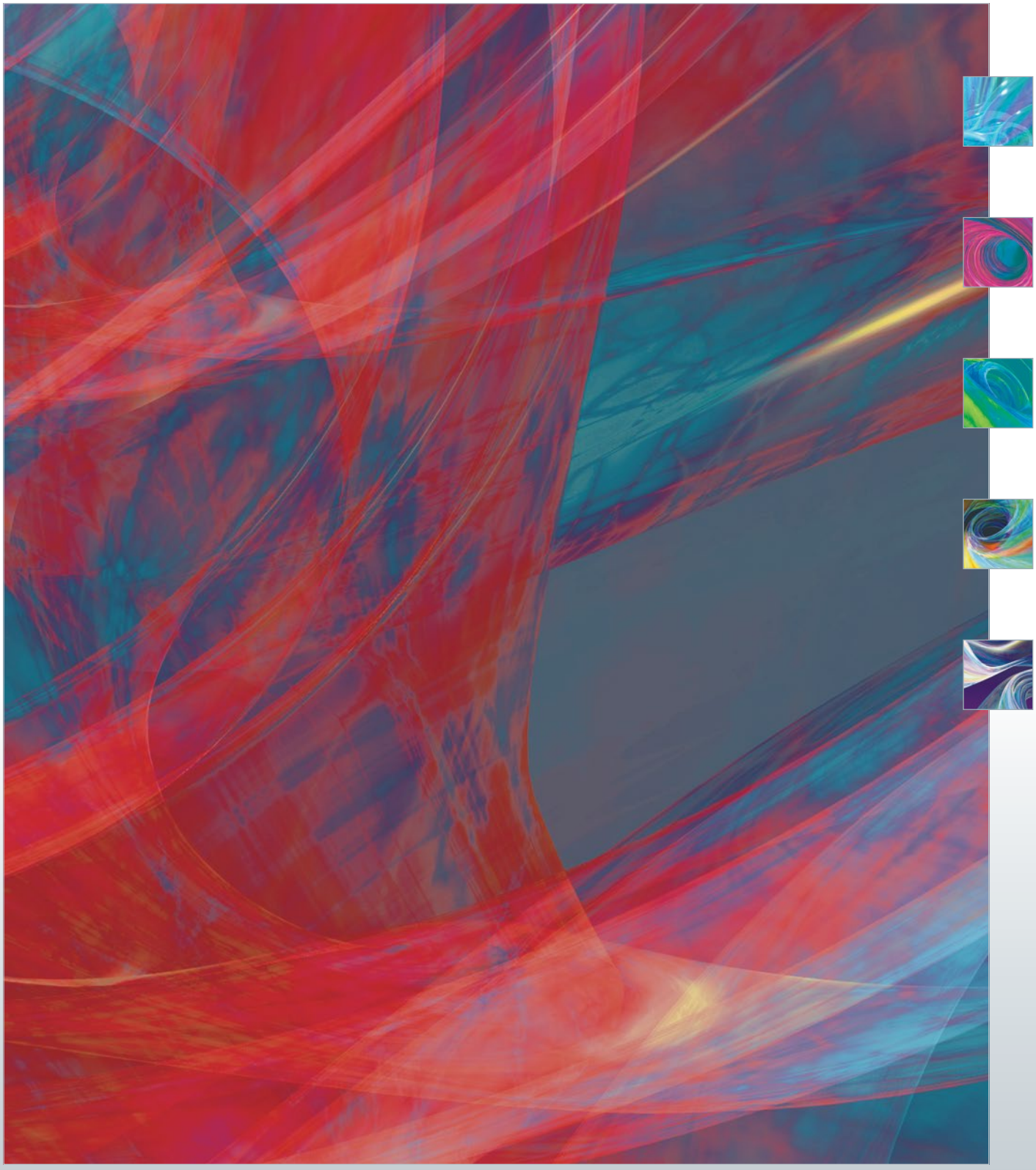
Alliance FOR AGING RESEARCH

Chronic Disease and Medical Innovation in an Aging Nation

The Silver Book®: Valve Disease



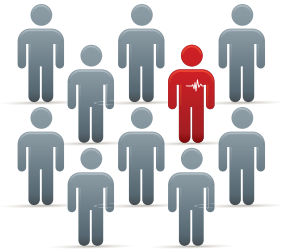
The Silver Book®: Valve Disease

As many as 11.6 million Americans in the U.S. have heart valve disease (HVD), and more than 1 in 10 adults ages 75 and older have HVD. Thankfully, the HVD field has experienced tremendous advances in improving survival, recovery, and quality of life for patients.

SAS = symptomatic aortic stenosis
sSAS = severe symptomatic aortic stenosis
MR = mitral regurgitation
SAVR = surgical aortic valve replacement
TAVR = transcatheter aortic valve replacement

Prevalence & Incidence

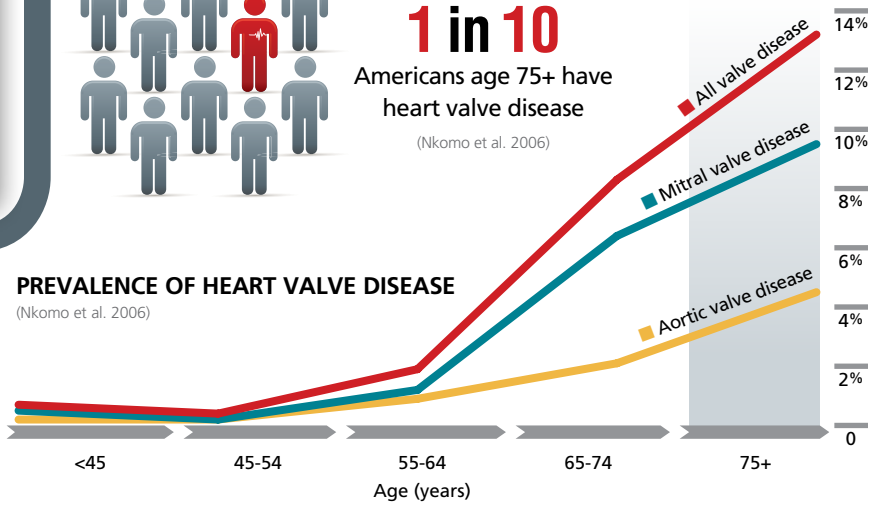
~8.7 TO 11.6 MILLION PEOPLE IN THE U.S.
have HEART VALVE DISEASE
(Alliance for Aging Research generated statistics, based on year 2000 percentage prevalence estimates by Nkomo et al. 2006 AND Bach et al. 2007 AND U.S. Census 2016)



More than
1 in 10
Americans age 75+ have heart valve disease
(Nkomo et al. 2006)

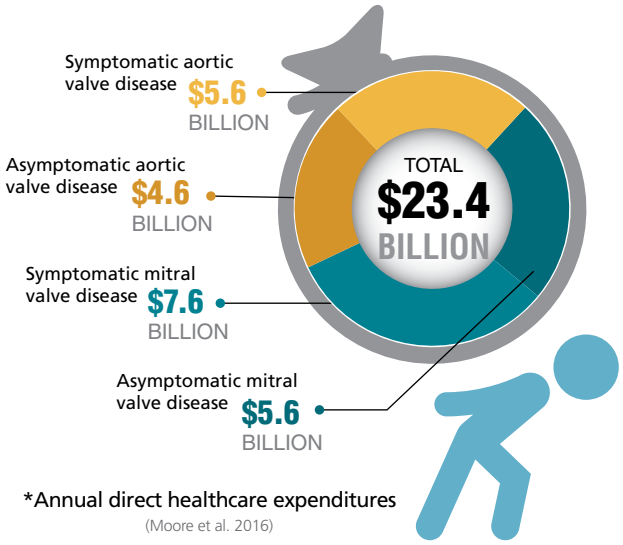
~2.5%
of the U.S. population has
HEART VALVE DISEASE
(Nkomo et al. 2006)

PREVALENCE OF HEART VALVE DISEASE
(Nkomo et al. 2006)



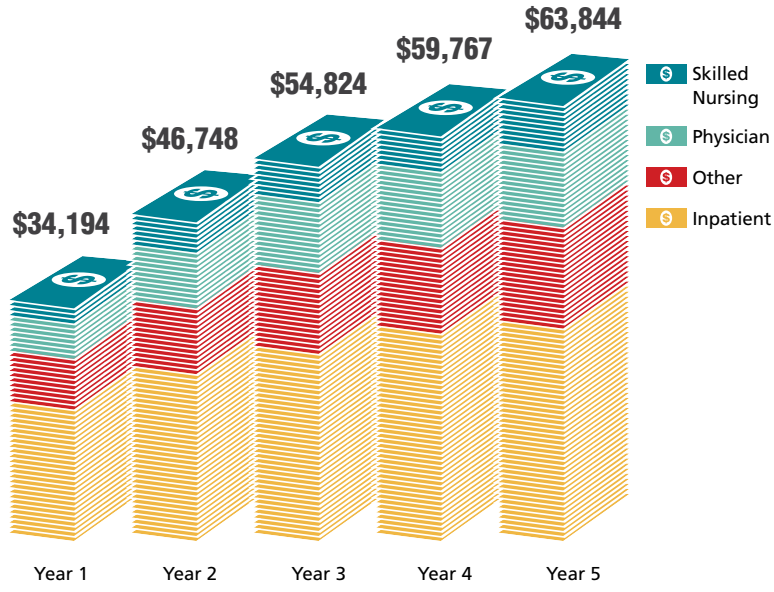
Economic Burden

TOTAL COST* OF HEART VALVE DISEASE IN THE U.S.



*Annual direct healthcare expenditures
(Moore et al. 2016)

Total Medical Costs Per Patient with Medically Managed SAS
(Clark, Arnold et al. 2012)



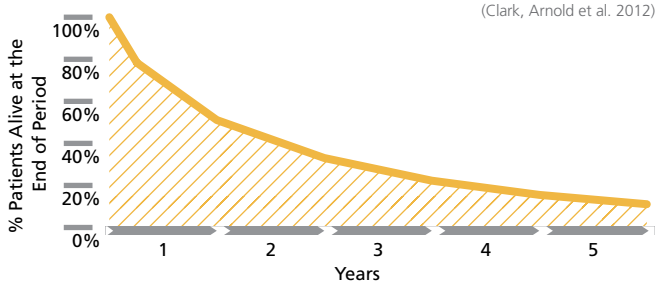
Human Burden

For patients with sSAS without repair or replacement (Otto 2000)

Medicare patients with sSAS have an **average lifespan of 1.8 years** without repair or replacement (Goel et al. 2014)

SURVIVAL RATES FOR SAS PATIENTS WITHOUT TREATMENT

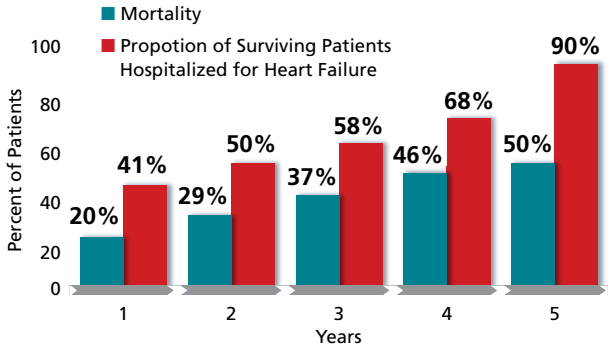
(Clark, Arnold et al. 2012)



EVERY YEAR,
MORE THAN 25,000
AMERICANS DIE
of heart valve disease (Benjamin et al. 2017)

Patients with severe MR who don't have surgery have **mortality rates** of **20%** after 1-year and **50%** after 5-years (Goel et al. 2014)

Mortality and Hospitalization Rates for Heart Failure in Unoperated Severe MR Patients (Goel et al. 2014)



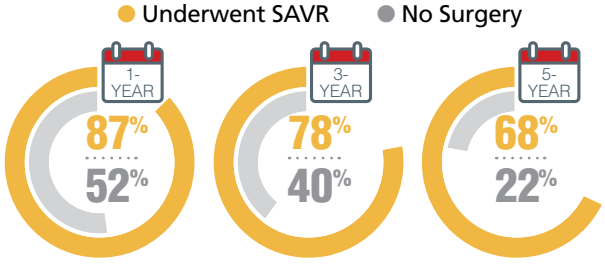
Value of Innovation

Treated heart valve patients are **96%** FULLY SATISFIED and **78%** VERY SATISFIED **with their treatment** (BRS 2016)

In 2010, **~67,500 SAVRs** WERE PERFORMED in the U.S.

(Clark, Duhay et al. 2012)

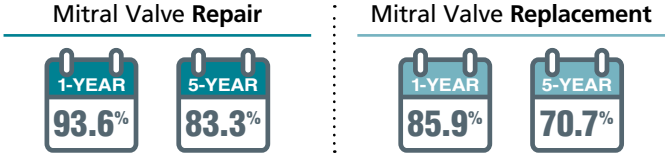
SURVIVAL RATES OF SAS PATIENTS AGES 80+



(Clark, Duhay et al. 2012)

From approval in 2011 through 2015
>54,000 TAVRs
WERE PERFORMED
in **418** centers in **48** states (Grover et al. 2017)

SURVIVAL RATES OF PATIENTS AGES 65-75 UNDERGOING

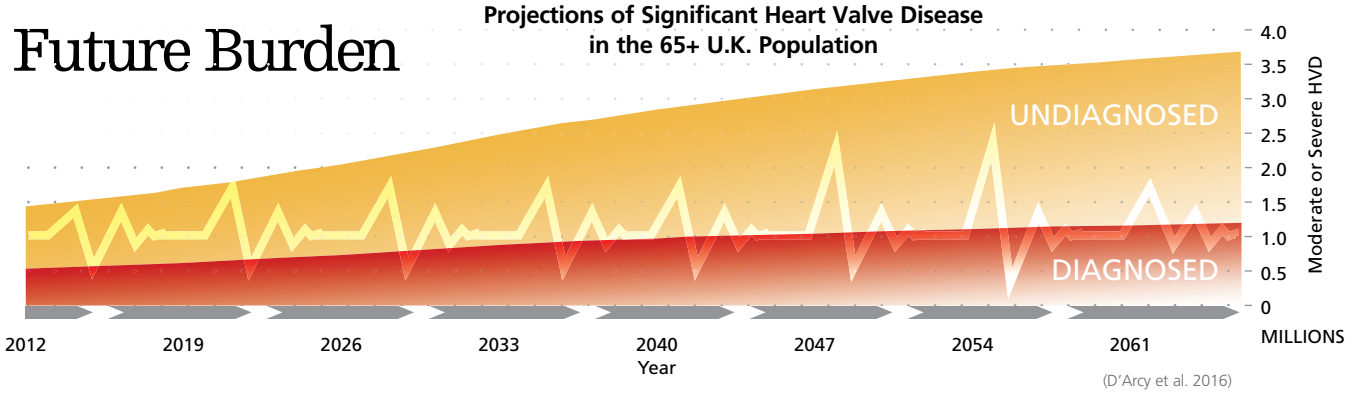


(Vassileva et al. 2013)

TAVR IMPROVED
quality of life in
SAS patients from **5.3 at baseline to 7.4** at four years (on a 10-point scale) (Kovac 2016)

Future Burden

Projections of Significant Heart Valve Disease in the 65+ U.K. Population



(D'Arcy et al. 2016)

Fill the Research Gaps

Addressing the significant gaps in our understanding of HVD will allow for advocates, government agencies, policymakers, and providers to better address existing barriers to treatment and care. Identified areas for research should include:

- Updated prevalence and incidence estimates to recognize the current scope and burden of this disease, including specific minority subgroups
- Exploration of differences among the undiagnosed population to inform and guide discussions on disease detection efforts
- Analysis of the causes of lower detection and referral, barriers to accessing treatment, and treatment refusal among minorities
- Study of primary care physician detection rates of valvular murmurs to improve training, and ultimately detection and referral rates
- Comparison of patient outcomes at various timeframes during watchful waiting between diagnosis and treatment
- Evaluation of whether systematic detection efforts among high risk populations would uncover previously undetected disease, and inform future quality measures and practice guidelines
- A GAO-led analysis to understand the economic burden of heart valve disease and the value of new treatments
- An AHRQ-generated evidence map that explores detection and care, and leads to future research agendas and guideline recommendations

Valve Disease Awareness

3 out of 4 Americans KNOW LITTLE TO NOTHING **about HVD** (BRS 2016, National Survey)

30% **of AMERICANS AGE 65+ know nothing about heart valve disease**
(BRS 2016, National Survey)

>2/3 of heart valve disease patients **knew little to nothing about it BEFORE their diagnosis**
(BRS 2016, Opinion Research)

6 in 10 heart valve patients **didn't have or recognize their symptoms**, and were only diagnosed after a regular check-up or unrelated doctor visit (BRS 2016, Opinion Research)

>40% of **heart murmurs** — detected with a stethoscope and sometimes the first sign of HVD — **are missed by family practitioners**
(Vukanovic-Criley et al. 2006)

Aortic stenosis is often undertreated — one study found **56%** of sSAS patients referred to a surgeon **weren't operated on**
(Bach 2011)

NATIONAL HEART VALVE DISEASE AWARENESS DAY
FEB. 22

www.ValveDiseaseDay.org

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