Does Your Hospital Target: Aortic Stenosis?
Learn How to Get Involved
Welcome & Agenda

• Introduction - Kayli Saathoff

• Why Target: Aortic Stenosis? - Dr. Brian Lindman

• The Initial Obstacle - Kayli Saathoff

• Model Sharing -
  • Shawnna Verburg: Providence Medical Center
  • Lucia Gordon: Geisinger Hospital
  • Karrie Davis: WellStar Kennestone

• Next Steps - Aaron Leesch

• Questions?
Brian R. Lindman, MD, MSc
Medical Director, Structural Heart and Valve Center
Associate Professor of Medicine
Vanderbilt University Medical Center

Member – Target: Aortic Stenosis Scientific Advisory Group
Trends in Utilization of Aortic Valve Replacement for Severe Aortic Stenosis

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Statement of the Problem

Class I Indication for AVR

A

HG-NEF

58% lower adjusted hazard of mortality
30% NOT treated

Log-rank P < 0.001
aHR: 0.42 (95% CI: 0.29-0.61), \( P < 0.001 \)

Proportion of Patients Alive

B

HG-LEF

72% lower adjusted hazard of mortality
47% NOT treated

Log-rank P < 0.001
aHR: 0.28 (95% CI: 0.19-0.40), \( P < 0.001 \)

Class IIa Indication for AVR

C

LG-NEF

27% lower adjusted hazard of mortality
67% NOT treated

Log-rank P < 0.001
aHR: 0.73 (95% CI: 0.61-0.88), \( P < 0.001 \)

Proportion of Patients Alive

D

LG-LEF

52% lower adjusted hazard of mortality
62% NOT treated

Log-rank P < 0.001
aHR: 0.48 (95% CI: 0.38-0.61), \( P < 0.001 \)
Statement of the Problem

EDITORIAL COMMENT

The Alarm Blares for Undertreatment of Aortic Stenosis
How Will We Respond?*

Brian R. Lindman, MD, MSc, Angela Lowenstern, MD, MHS

JACC 2022
AHA and Edwards have a shared vision of lowering cardiovascular mortality, specifically by “establishing and advancing a new standard of care in structural heart disease”

**Executive Summary**

AHA and Edwards partnering on a Structural Heart Disease- Aortic Stenosis Initiative

1. **Launching Programs to Increase Patient Awareness and Engagement**
   - Patients

2. **Delivering Guideline-Directed, Optimal-Care Standards Education**
   - HCPs

3. **Measuring & Recognizing Quality through “Get with the Guidelines” Program**
   - Systems

**Phase I Initiative announced at AHA Scientific Sessions 2019**

**Phase II announced at AHA Scientific Sessions 2022**
The goal of this initiative is to identify, measure, and report on processes that occur from the initial echocardiographic diagnosis of aortic stenosis, with the long-term goal of improving patient outcomes.
The American Heart Association’s Goal: Lower Cardiovascular Mortality, Specifically by “Establishing and Advancing a New Standard of Care in Structural Heart Disease”

Aortic Stenosis (AS) Patient Care Pathway

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<tr>
<th>Awareness</th>
<th>Detection</th>
<th>Diagnosis</th>
<th>Referral</th>
<th>Treatment</th>
<th>Monitoring</th>
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Current Procedural Registries

For Systems
- Implementation of quality measures based on updated guidelines

For Health Care Providers
- Delivery of guideline-directed, optimal-care standards education

For Patients
- Increasing patient awareness and engagement
Establish and advance a new standard of care for patients with aortic stenosis

Structural Heart Disease Patient Care Pathway

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

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

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

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

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

**Monitoring**
- Capabilities to capture patient reported outcomes like KCCQ via the digital Patient Support Network and Preferences Registry
TARGET AORTIC STENOSIS PHASE 1

Measure and Improve Quality via the Target: Aortic Stenosis (AS) Initiative

Create Target: Aortic Stenosis pilot registry

15 pilot sites testing new measures and data entry

Continuous data evaluation

Individual site assessments and process mapping

15 site Learning Collaborative cohort

National Model Sharing

Creation of Provider and Patient Education and Tools

15 Hospitals

Over 2700 Patients
&
Over 8000 Patient Encounters
# Phase II - Measure and Improve Quality via the Target: Aortic Stenosis (AS) Initiative

<table>
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<th>HCPs</th>
<th>Patients</th>
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<td>Increase patient awareness and engagement</td>
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- **Systems**:  
  - Recruit 80 sites to Target: Aortic Stenosis Registry  
  - Continued evolution of registry and measures  
  - Data evaluation for establishing quality performance thresholds

- **HCPs**:  
  - New webinars, podcast, and other educational materials on initiative & Guidelines from clinical leaders from across the nation.  
  - Targeted reach via AHA Journals, AHA Sessions, AHA Quality media channels, and Target: AS website  
  - AHA participation in other valvular heart disease specific channels

- **Patients**:  
  - Continued development of patient center tools  
  - Distribution and tactics to participating hospitals
Aortic Stenosis Science Advisory Group Members

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<td><strong>Timely Treatment for Severe Aortic Stenosis (Primary metric)</strong></td>
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<td><strong>Missing Data to Determine Class 1 Indication for AVR Due to Missing Data</strong></td>
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<td><strong>Key Findings in Echo Report Summary/Conclusion</strong></td>
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<td><strong>Follow-up Echocardiogram</strong></td>
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Target Aortic Stenosis: A National Initiative to Improve Quality of Care and Outcomes for Patients With Aortic Stenosis

Brian R. Lindman, MD, MSc; Gregg C. Fonarow, MD; Gary Myers, MS; Heather M. Alger, PhD, MPH; Christine Rutan, CPHQ; Katie Troll, CPHQ; Angeline Aringo, MS; Melanie Shahriary, RN, BSN; Mariell Jessup, MD; Suzanne V. Arnold, MD, MHA; Pinak B. Shah, MD; Wilson Y. Szeto, MD; Clyde W. Yancy, MD, MSc; Catherine M. Otto, MD

Target Aortic Stenosis: A National Initiative to Improve Quality of Care and Outcomes for Patients With Aortic Stenosis | Circulation: Cardiovascular Quality and Outcomes (ahajournals.org)
Thank you!
Phase 1: Key Insight Areas

Areas along the patient journey where barriers to care have been identified:

- Identification of patients diagnosed with moderate or severe aortic stenosis.
- Once identified, urgently moving the patient through the journey to appropriate definitive treatment.
- Multidisciplinary and shared decision-making process.
Phase 1: Key Insight Areas

Areas along the patient journey where barriers to care have been identified:

- Lack of surveillance tools
- Limited abstraction resources
- Institutional buy-in is critical
- Clinical recommendations in echo report
- Time of MDT to AVR not prioritized before project
- Difficult/impossible to impact patients not in system
- SAVR patients are often not part of multidisciplinary team (MDT) process
- How to document and track patients that don’t continue in system for unknown reason
- Time of MDT meeting may not always be time of decision
Today’s Panelists

Shawnna Verburg
RN Manager, Clinical Registries
CARDS - Center for Cardiovascular Analytics, Research + Data Science
Providence Heart Institute
Providence Research Network
Target: Aortic Stenosis

Shawnna Verburg, RN Manager, Clinical Registries
CARDS - Center for Cardiovascular Analytics, Research + Data Science
Providence Heart Institute
Providence Research Network
Portland, Oregon
Providence St. Vincent Medical Center (PSVMC)

- A 523-bed acute care teaching hospital in Portland, Oregon
- Largest cardiac care provider in the region
  - 108,000+ outpatient visits/year
  - >40,000 echocardiograms/year
  - ≈350 TAVRs/year
  - >1000 cardiac surgeries/year
- Regional Referral Center for valve services in the northwest
Primary Goal

Develop best practices related to diagnosis, treatment, and follow-up of patients with moderate or greater degrees of aortic stenosis.

Process

- Identifying Participants
- Sampling
- Abstraction
- Data Review
- Process Improvement
Today’s Panelists

Lucia Gordon

PA-C MBA
Advanced Practitioner Coordinator Quality Data
Geisinger Medical Center
Danville, PA
Target: Aortic Stenosis

Phase I Patient Sampling Plans

Lucia Gordon PA-C MBA
Geisinger Medical Center
Danville, PA
Geisinger Medical Center
Danville, PA
2020 Sampling – Baseline Data

20% or 60 patients minimal of moderate and severe AS patients (10% SAVR or TAVI, 10% medically managed)

- Moderate and Severe Echos were pulled by Clinical Systems Data Analyst Lead of the Echo Lab for the 2020 year (via Xcelera program)
- Resulted in 472 echos
- Manual chart evaluation of each patient to determine each patient had an encounter
- Manual data abstraction and entry
2021 Sampling

20% of moderate and severe AS patients

• Working with Sr. Business Intelligence Analyst to integrate our own electronic abstraction program using UDA

• The analyst once again used Xcelera along with Lumedx to determine patient load
  • Reviewed entire year of 2020 again
  • The analyst was able to electronically separate which patients had an office/admission encounter linked to AS

• Each quarter all patients were entered via developed abstraction program using Xcelera, Clarity, and Epic
2022 Sampling

- 20% or 30 patients minimum of moderate or severe AS patients per quarter
  - Graduation criteria
    - Death
    - Patients who have had a TAVI, beyond 30 days post-procedure
    - Patients who have had a SAVR, beyond 90 days post-op
    - Patients whose treatment plan is palliative care

- Pulled from Quarter 1 of 2022 – which determined entire year load – 40 patients
  - Analyst once again used Xcelera and Lumedx to determine patient load

- Quarter one – all patients were entered via developed abstraction program using Xcelera, Clarity, and Epic

- Each quarter “graduated” patients were replaced to keep the total patient quarterly load at 40
Today’s Panelists

Karrie Davis

MSN, FNP-BC
Director
Center for Cardiovascular Care
Cardiac Surgery, Comprehensive Aortic & Structural Heart
WellStar Center for Cardiac Care
Target: Aortic Stenosis

- Identifying your Patient Population
- Sampling Plan
- Data Abstraction

Karrie Davis, MSN, FNP-BC
Director, Cardiac Surgery & Structural Heart
Wellstar Health System
Marietta, Georgia
• One of the largest health systems in Georgia
• One of four health systems in the Atlanta metro area
• 9 hospital system
• 800–850 Cardiac Surgeries annually
• 200–250 TAVRs annually
Identifying our Aortic Stenosis Patient Population

EPIC Registry Report

**Process:**
- Submitted new Registry Report request to the EPIC team
- Assigned IT Data Analyst
- Compiled list of metrics for inclusion in report
  - Most metrics were pulled from discrete fields in the Echo structured reporting
- Report built and exported in Excel spreadsheet
- Validation of registry report data for accuracy

**Registry Report Metrics:**
- Patient First & Last Name
- MRN
- Date Echo Performed
- AS Severity Grading, only included moderate and severe
- LVEF
- Peak velocity*
- Aortic Valve Area (cm2)*
- Mean aortic valve gradient
- Peak aortic valve gradient

* Echo measurements required for Phase II
Sampling Plan

Phase I Sampling Plan:
- Registry report ran for the first quarter to determine number of patients with moderate and severe AS.
- Sampled 20% to establish my “quarterly” patient base load.
- For subsequent quarters, I ran the report specific to those dates. Depending on how many patients needed to backfill the “graduated” patients, then I would evenly sample from the list to maintain my base load.

Phase II Sampling Plan:
- Key changes:
  - Sampling 15% for Severe AS
  - Sampling 5% for Moderate AS
Data Abstraction

• We enlisted assistance in data abstraction from third party vendor, Qcentrix, as our internal cardiac data abstraction team did not have the bandwidth.

• The sampled list was uploaded onto a SharePoint site for the Qcentrix abstractors.

• Early lessons learned:
  • Perform quality check on some of the abstracted patients to ensure all data is being identified and entered in the AS Tool.
  • Provide education to the abstraction team on where to find data in EMR.
  • Identify the Encounter (cardiology, SH cardiologist, cardiac surgeon, MDT) visits and provide date of encounter in the sampled list to ensure this data is not inadvertently excluded.
Thank you!
Target: AS Phase II

- Abstraction of Moderate and Severe AS Patients
  - Sampling plan in place
- Learning Collaborative Activities
  - LC all-site meetings
  - Super User calls
  - Site 1:1 meetings (program and registry teams)
  - Clinician Roundtable calls
  - Echo Group
  - Research Group
- Model Sharing and National Education
  - Podcast Series
  - Webinars
  - Others

Expand to 25 “Core” Hospitals
Current Opportunities to Participate

• We are seeking a limited number of additional hospitals to join the Core site group.

• Participate in Learning Collaborative with other Core sites
  • Help shape the program by providing insight and feedback
  • Opportunities to share barriers and solutions on a national scale
  • Opportunities to participate in research and scientific presentations

• Abstract and enter data into the registry on moderate and severe AS patients as identified by echo. This includes demographic information on the patient and the patient’s relevant visit(s)/procedure(s). A sampling strategy is used for the T:AS registry tool.

• Implement quality program within your hospital using what is learned from data and Learning Collaborative activities.

• Participation in the Target: Aortic Stenosis™ registry is currently offered at no cost.

• Participating sites will be eligible for a participation incentive for the three years of this phase of the initiative, primarily intended to help offset the cost of data abstraction but can be used fully at the discretion of the site.

• National Recognition based on defined achievement measures.
Coming Soon... Future Opportunities to Participate

• Once Core sites opportunities are filled, we will open to an additional 55 sites join the registry and quality program.

• Abstract and enter data into the registry on moderate and severe AS patients as identified by echo. This includes demographic information on the patient and the patient’s relevant visit(s)/procedure(s). A sampling strategy is used for the T:AS registry tool.

• Participation in the Target: Aortic Stenosis™ registry will still be offered at no cost at this time.

• Participating sites will be eligible for a participation incentive during the initiative, primarily intended to help offset the cost of data abstraction but can be used fully at the discretion of the site.

• National Recognition based on defined achievement measures.

• These sites will not participate in the Learning Collaborative activities.
For more information on Target: Aortic Stenosis visit: www.heart.org/TargetAS

Edwards Lifesciences is the national sponsor of American Heart Association's Target: Aortic Stenosis