



**Does Your Hospital
Target: Aortic Stenosis?
Learn How to Get
Involved**



American Heart Association®

Target: Aortic Stenosis™

Welcome & Agenda

- **Introduction**- Kayli Saathoff
- **Why Target: Aortic Stenosis?**- Dr. Brian Lindman
- **The Initial Obstacle**- Kayli Saathoff
- **Model Sharing**-
 - Shawna Verburg: Providence Medical Center
 - Lucia Gordon: Geisinger Hospital
 - Karrie Davis: WellStar Kennestone
- **Next Steps**- Aaron Leesch
- **Questions?**



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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





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Statement of the Problem

Trends in Utilization of Aortic Valve Replacement for Severe Aortic Stenosis

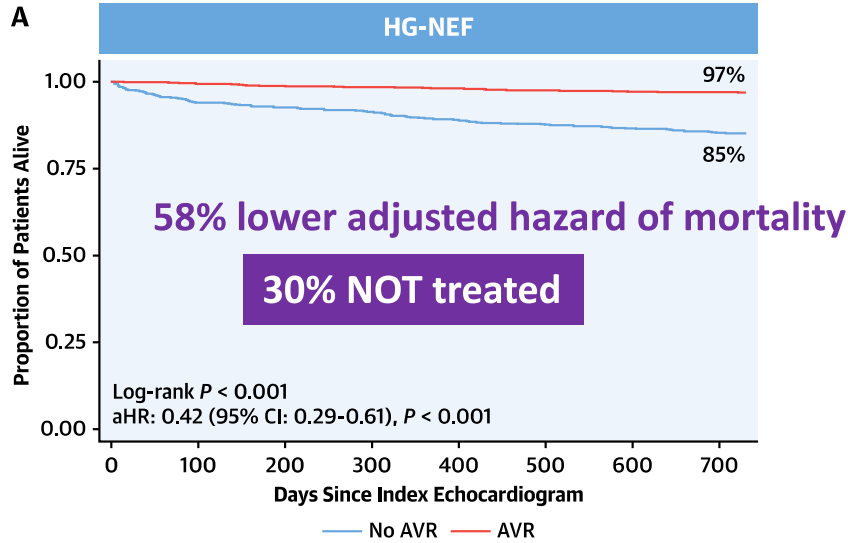
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JACC 2022

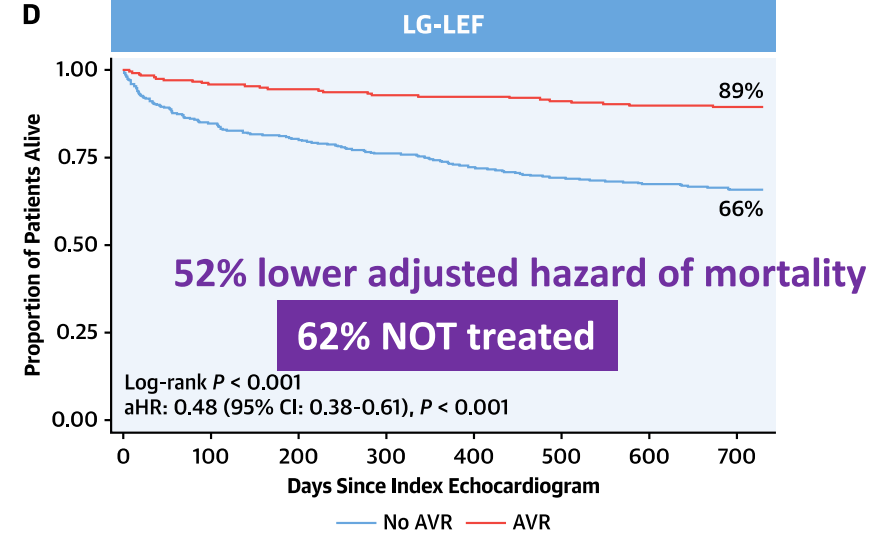
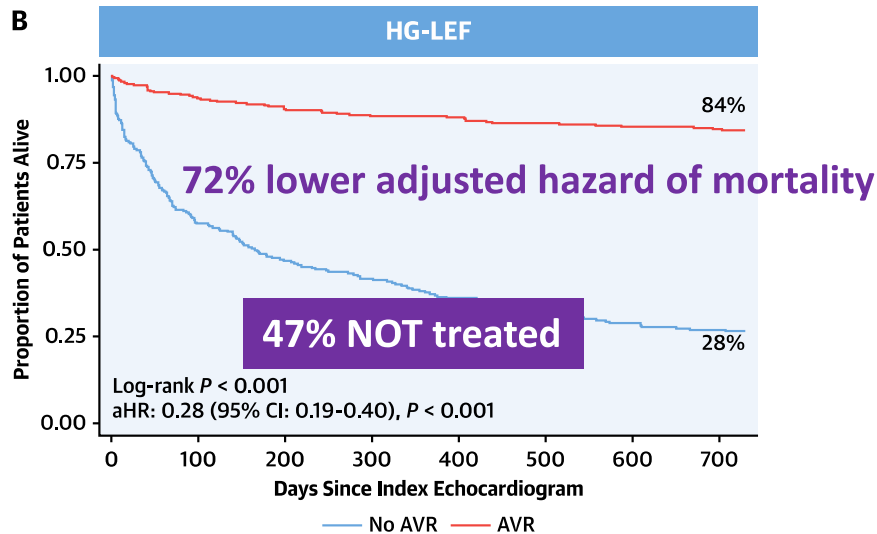
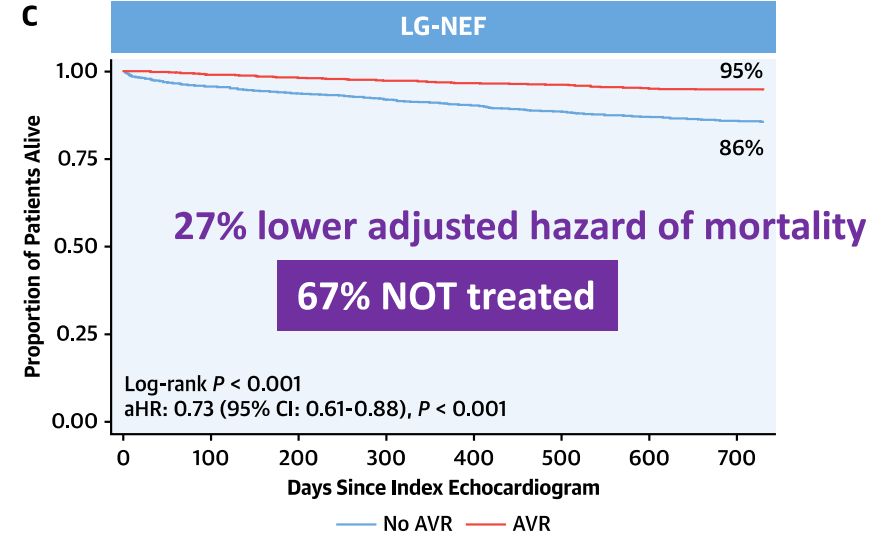


Statement of the Problem

Class I Indication for AVR



Class IIa Indication for AVR





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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



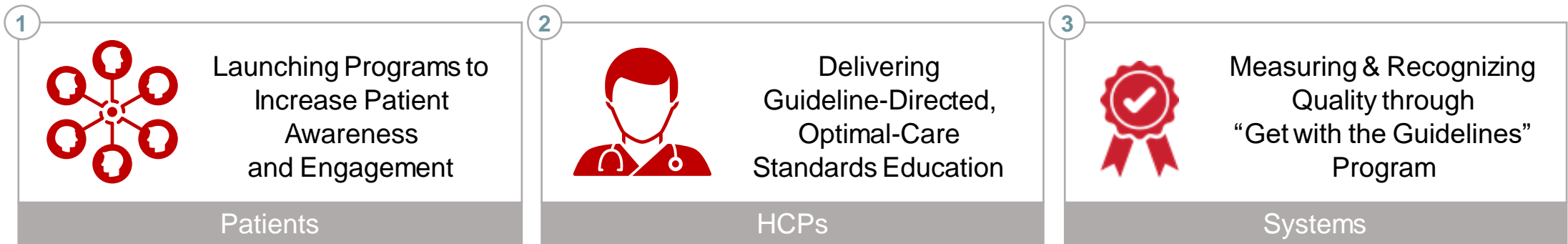
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Executive Summary

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”

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



Phase I Initiative announced at AHA Scientific Sessions 2019

Phase II announced at AHA Scientific Sessions 2022



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Goals of the Program

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



 American Heart Association. Target: Aortic Stenosis™	✓	✓	✓	✓	✓	✓
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

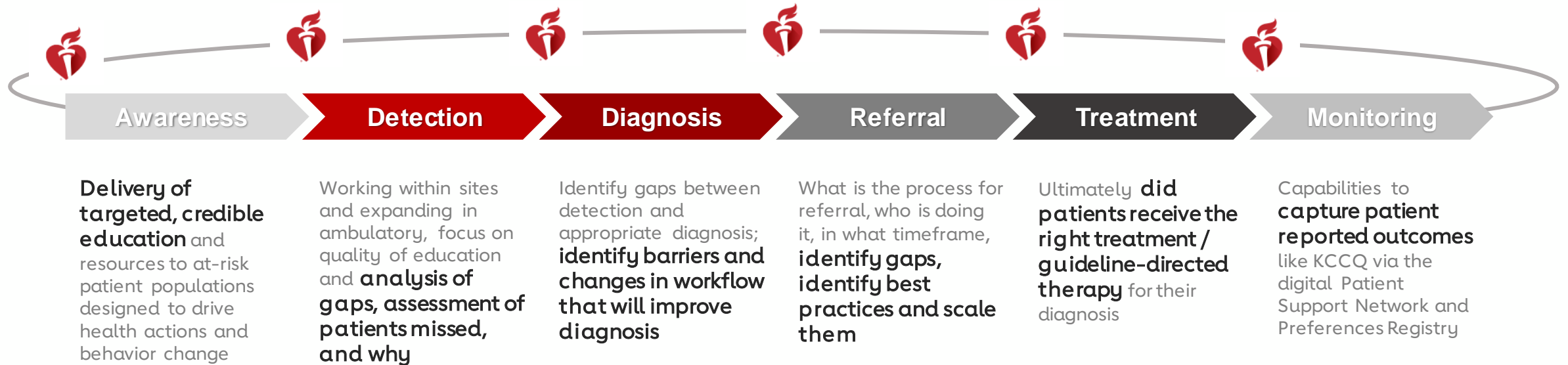


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Establish and advance a new standard of care for patients with aortic stenosis

Structural Heart Disease Patient Care Pathway



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

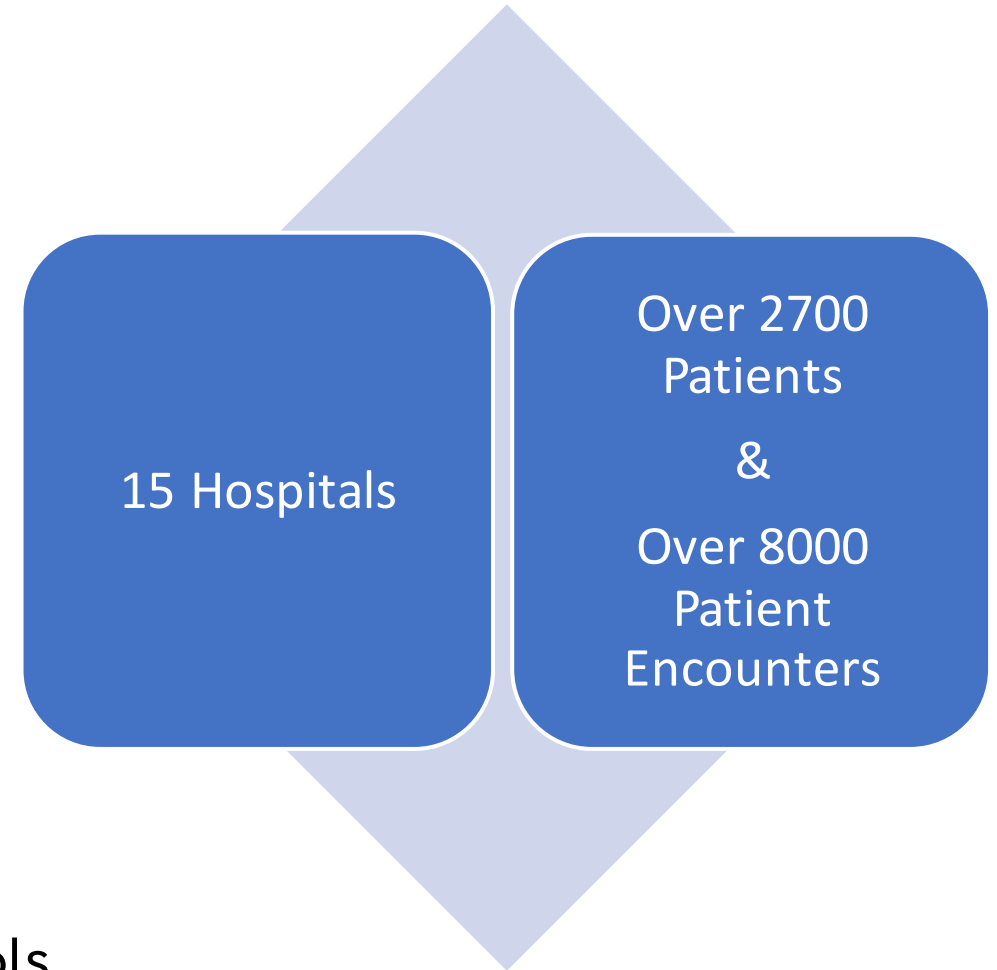
Continuous data evaluation

Individual site assessments and process mapping

15 site Learning Collaborative cohort

National Model Sharing

Creation of Provider and Patient Education and Tools



Phase II - Measure and Improve Quality via the *Target: Aortic Stenosis (AS)* Initiative

1

Systems



Implement quality measures based on updated guidelines

- Recruit 80 sites to Target: Aortic Stenosis Registry
- Continued evolution of registry and measures
- Data evaluation for establishing quality performance thresholds

2

HCPs



Deliver guideline-directed, optimal-care standards education

- 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

3

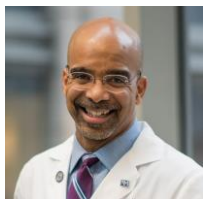
Patients



Increase patient awareness and engagement

- Continued development of patient center tools
- Distribution and tactics to participating hospitals

Aortic Stenosis Science Advisory Group Members



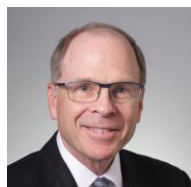
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Target: Aortic Stenosis Phase II Measures

Timely Treatment for Severe Aortic Stenosis (Primary metric)

Percentage of patients with a class I indication for Aortic Valve Replacement who receive definitive treatment (SAVR or TAVI) within 90 days of initial diagnosis

Missing Data to Determine Class 1 Indication for AVR Due to Missing Data

Percentage of patients with AS and a possible Class 1 indication for aortic valve replacement that has not been determined because severity has not been assessed with multimodal testing, stroke volume index was not documented, or symptoms were not assessed. (**lower score = better quality**)

Evaluation by Multidisciplinary Valve Team

Percentage of patients with severe AS treated with TAVI or SAVR who were evaluated by the multidisciplinary heart valve team (surgeon + MDT cardiologist) prior to the procedure

Key Findings in Echo Report

Percentage of echo reports with $AVA \leq 1.5 \text{ cm}^2$ that include essential information relevant to AS (LVEF, peak velocity or peak gradient, mean gradient, stroke volume index and aortic valve area) anywhere within the report

Key Findings in Echo Report Summary/Conclusion

Percentage of echo reports with $AVA \leq 1.5 \text{ cm}^2$ that include essential information relevant to AS (LVEF, peak velocity or peak gradient, mean gradient and aortic valve area) in the summary/conclusion

Clinical Recommendation in Echocardiogram Summary/Conclusion

Percentage of echo reports with aortic velocity $\leq 1.0 \text{ cm}^2$ that include a guideline reminder and/or clinical recommendation within the echo report summary/ conclusion

Follow-up Echocardiogram

Percentage of patients with aortic stenosis who receive a follow-up echocardiogram within 12 months of the prior echo for patients with severe AS or within 24 months of the prior echo for patients with moderate AS

Circulation: Cardiovascular Quality and Outcomes

CARE INNOVATIONS

Target Aortic Stenosis: A National Initiative to Improve Quality of Care and Outcomes for Patients With Aortic Stenosis

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[Target Aortic Stenosis: A National Initiative to Improve Quality of Care and Outcomes for Patients With Aortic Stenosis | Circulation: Cardiovascular Quality and Outcomes \(ahajournals.org\)](#)



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Thank you!



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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



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Today's Panelists



Shawna Verburg

RN Manager, Clinical Registries

CARDS - Center for Cardiovascular Analytics, Research + Data Science

Providence Heart Institute

Providence Research Network



Target: Aortic Stenosis

Shawna 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



CARDS

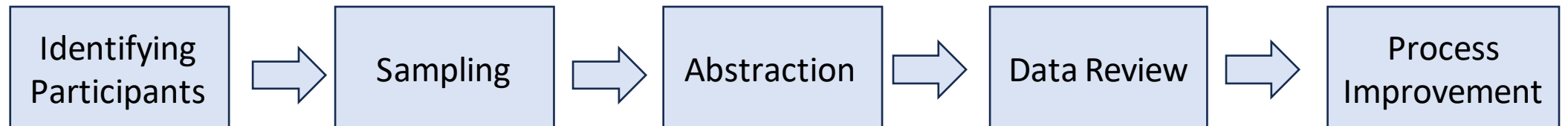
CENTER FOR CARDIOVASCULAR ANALYTICS,
RESEARCH • DATA SCIENCE



Primary Goal

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

Process





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Lucia Gordon

PA-C MBA

Advanced Practitioner Coordinator Quality Data

Geisinger Medical Center

Danville, PA



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Phase I Patient Sampling Plans

Lucia Gordon PA-C MBA
Geisinger Medical Center
Danville, PA



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Geisinger Medical Center Danville, PA





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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



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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



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- 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



Wellstar Kennestone Regional Medical Center



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



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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.



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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.



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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