

Improving Echocardiogram Documentation Phase 1: Model Share

Baylor Scott & White Heart and Vascular Hospital – Dallas in Dallas, TX

Background & Rationale

The primary focus of the American Heart Association's Target Aortic Stenosis (Target AS) initiative is *Timely Treatment for Severe Aortic Stenosis*. The overarching goal is to identify patients with Aortic Stenosis, evaluating them for treatment strategies, and carrying out said treatment. A shorter “time to treatment” period has demonstrated improvement in patient outcomes. A Class I indication for Aortic Valve Replacement (AVR) is part of the inclusion criteria for this metric. Key echocardiogram (echo) measurements needed to properly diagnose Class I indications for AVR include Peak Velocity (PV), Mean Gradient (MG), Aortic Valve Area (AVA), Stroke Volume (SV), and Stroke Volume Index (SVI).

At Baylor Scott & White Heart and Vascular Hospital – Dallas (BHVH Dallas), it was discovered that echo reports were consistently missing SV and SVI measurements, which are key findings required by the AHA initiative. This hindered the ability to diagnose Class I indication for AVR, negatively impacted the AHA quality measures, and created the potential for lengthier “time to treatment”.

The percentage of patients with AS and possible Class I indication for AVR that were unable to be properly identified due to missing echo data helps quantify this metric. While PV, MG, and AVA were standard measurements included in echo reports, SV and SVI were consistently not captured. At baseline, the compliance rate for capturing all required measurements was 23.1%.



Methods

Through a partnership between the AHA and BHVH, the hospital was able to garner support and implement the tools necessary to improve documentation. First, BHVH Dallas established a multidisciplinary team that included a cardiac-imaging physician specialist, non-invasive staff, and the data abstraction team. This multidisciplinary team joined the Echo Sub-Committee formed by the AHA. The sub-committee concluded that in order to meet Class I indication for AVR, all echo measurements must be documented. Without all pertinent echo data, there is a potential for a patient to be at risk of not being identified as needing treatment.

After the “why” was discovered, it was agreeable to bring the AHA initiative to the leadership teams needed to approve these changes. The initiative was first brought to the Non-Invasive Leadership team, followed by the System-Wide Cardiovascular Governance councils. Throughout this process, the team leveraged Target AS resources to support the business case for change. After approval from Operational Governance councils, the initiative was brought to our System-Wide Medical Imaging Leaders for final approval. Finally, the team submitted an Informatics System (IS) change request to update the physician’s report to include necessary variables automatically.

Results

After the implementation period, SV and SVI were consistently documented on the echo reports, which in turn improved registry documentation. Additionally, the Structural Heart Team could run reports through Slicer-Dicer and Caboodle Data Models (EPIC Electronic Health Record reporting tools) to identify “missed” patient referrals. Further, proper identification of these patients can likely lead to shorter “time to treatment”.

While BHVH - Dallas is still in the initial stages of this development, with these measures, the hospital anticipates the compliance rate for capturing all required echo measurements to improve from 23.1% to 100%.

Conclusion & Peer Suggestions

The AHA Learning Collaborative and the Echo-Sub Committee were instrumental in partnering with BHVH – Dallas to instill hospital-wide change. The addition of SV and SVI on all echocardiograms brought more precision to the reports and established a foundation for future metric development within both systems. These implementations enhanced the hospital’s ability to accurately capture patient data and ensure timely treatment. Additionally, it lays the groundwork for optimizing the reporting processes, which in turn contributes to the improvement of high-quality patient care.

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