



## Society for Cardiovascular Angiography & Interventions Think Tank Proceedings

# Disparities in Utilization of Advanced Structural Heart Cardiovascular Therapies



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Each year, at the Society for Cardiovascular Angiography & Interventions (SCAI) Annual Scientific Sessions meeting, collaborative think tanks involving interventional cardiologists, administrative partners, and members of industry are convened for each SCAI clinical practice area to discuss topics of particular interest to the group. This document presents the proceeding of the 2022 Structural session, which focused on disparities in care.

### Identifying and addressing disparities in structural heart disease care

The Structural Heart Disease (SHD) section brought together interventional cardiology leaders and industry partners to identify and seek to address health care disparities in the utilization of advanced structural heart (SH) therapies. These disparities, based on the definition from the Agency for Healthcare, Research and Quality, relate to variable access to health care services and differences in prevalence of SH conditions and severity by demographic characteristics such as age, sex, race, ethnicity, socioeconomic status, and geography.

The Think Tank group began by acknowledging that significant disparities exist in receipt of SH therapies, reflective of broader health care disparities in the United States.<sup>1</sup> For example, even after adjusting for clinical and hospital factors, Black patients are less likely than White patients to undergo transcatheter aortic valve replacement in the context of comparable disease prevalence of aortic stenosis.<sup>2</sup> Strategies to address disparities in SHD care must take the broader context into account, and

indeed, the success of interventions designed to mitigate disparities in SHD care is impacted by systemic inequities. Overall, the group believed that a meaningful change is still possible. Although SHD care, particularly valvular heart disease, often begins with upstream recognition of disease presence and diagnostic echocardiography, the group identified that SCAI is best positioned to influence the interventional cardiology team. To organize recommendations, the group focused on 3 principal areas:

- Awareness: raising awareness of SHD and related treatment options among clinicians, interventionalists, patients and communities.
- Access: increasing meaningful access to care, including identifying and addressing facilitators and barriers defined by the population groups affected.
- Accountability: holding key stakeholders accountable for transparent metrics to document the health care disparities in SHD care and the SH workforce and to track and report on initiatives designed to improve equity.

#### Awareness

The panel identified a lack of awareness as a potential contributor to disparities, beginning with disparate knowledge of the signs, symptoms, and imaging tools to diagnose and stage SHD conditions depending on where patients seek care. This, along with a lack of familiarity with contemporary SHD procedures and their indications in smaller, community-based health systems, results in differences in referral rates by clinicians and in consideration by patients.

Abbreviations: SH, structural heart; SHD, structural heart disease.

Keywords: aortic stenosis; diversity, equity, and inclusion; structural heart disease; think tank; transcatheter aortic valve replacement.

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**Disease education.** To improve awareness, there is an opportunity for innovation in how and where information about SHD therapies is distributed. As examples, professional societies and several industry partners have supported community-based cardiovascular health education initiatives and ongoing projects partner industry sponsors with hospital systems to leverage alerts with the electronic medical record to change referral behavior. Building on the success of its “Seconds Count” campaign, SCAI is well positioned to disseminate information about SHD to its broad membership using a multiplicity of tools, including encouraging the implementation of successful initiatives. Prior large-scale initiatives to raise awareness of SH therapies have not yet demonstrated an impact on referral patterns for underserved populations, and further research is needed to identify best practices. Successful strategies in 1 procedural area (eg, valvular heart disease) can be replicated in other areas (eg, left atrial appendage occlusion). Importantly, patient and practicing clinician engagement is needed to utilize local experts to guide initiatives that are a best fit for each community.

**Procedure and diversity, equity, and inclusion education.** SCAI and industry partners may sponsor and facilitate peer-to-peer training in an exchange program between expert interventional cardiologists: high-volume SH proceduralists share skillsets to safely perform focused SHD interventions, and expert interventional cardiologists with diversity, equity, and inclusion training and experience raise awareness at large institutions to best practices in addressing systemic biases. It was acknowledged that awareness is not only needed in smaller hospitals regarding SHD therapies but also in high-volume SH programs that have the opportunity to reach a more diverse patient population. SCAI, in partnership with the industry, can combine expertise in direct-to-consumer advertising and through clinician education to ensure that existing health care disparities data in SHD is made transparent.

#### Access

The panel identified several barriers to SH care, potentially contributing to populations being underserved, including trust between patients and hospitals and conduct of SH clinical trials.

**Trust.** Centers of SHD care are not uniformly distributed geographically, instead clustering in large cities in academic medical centers often serving affluent populations, resulting in geographic disparities in care. For example, underrepresented racial and ethnic groups may seek care at smaller, community-based hospitals without SHD therapies because of long-standing relationships with familiar clinicians, rather than large academic centers, meaning that geographic disparities may not equate to actual distance traveled. It is well documented that African American patients have a demonstrated loss of trust in academic medical centers and researchers because of unethical trials focused on communities of color in the past, further impacting access to hospitals with SHD therapies.<sup>3,4</sup> Importantly, there are also striking sex and racial disparities in the SH workforce: women, African American and Latino physicians are markedly underrepresented as SH operators. Racial and cultural discordance between health care providers and patients results in barriers in communication and relationship building.<sup>5</sup>

**Clinical trials of SH therapies.** New devices and cutting-edge trials in SH are offered to large hospitals and academic centers, with invited investigators made up almost exclusively of men from overrepresented racial groups; this is then reflected in the SH workforce and the patient population included in trials.

Barriers to performing clinical trials at community-based hospitals and seeking out diverse principal investigators include a lack of research infrastructure, including funding for the research staff and support for physician investigators; concerns about the quality of data collection; and

**Table 1.** Recommendations for SCAI and industry partners to address health care disparities in SHD care and the SHD workforce.

Domain	SCAI recommendation	Industry recommendation
Therapy awareness	<ul style="list-style-type: none"> <li>Facilitate peer-to-peer training of referring and implanting clinicians in underserved communities</li> <li>Package multiple SHD informational tools targeting different communities</li> </ul>	<ul style="list-style-type: none"> <li>Sponsor peer-to-peer training in underserved communities</li> <li>Help disseminate SCAI's SHD informational tools to different communities</li> </ul>
Access to care	<ul style="list-style-type: none"> <li>Develop procedural standards based upon quality, not just volumes</li> <li>Increase representation of women and minorities in clinical trial leadership</li> </ul>	<ul style="list-style-type: none"> <li>Provide clinical, research and training support to smaller SHD programs in less affluent areas</li> </ul>
Accountability for progress	<ul style="list-style-type: none"> <li>Undertake therapy awareness and access to care initiatives</li> <li>Measure temporal trends in geography, sex, race, and outcomes of SHD procedural patients</li> <li>Report on impact of interventions to increase workforce diversity</li> </ul>	<ul style="list-style-type: none"> <li>Support SCAI in therapy awareness and access to care initiatives</li> <li>Share best practices in promoting and increasing workforce diversity</li> </ul>

SCAI, Society for Cardiovascular Angiography & Interventions; SHD, structural heart disease.

valuing speed of study start up and enrollment over other factors. An informal network and process of selecting investigators and institutions, dependent upon reputation, has perpetuated a lack of diverse investigators. Strategies to increase diversity in research leaders and community hospital participation in SHD clinical trials should be explored and may include the provision of increased resources to underrepresented sites, including resources for patients who are underinsured or uninsured (eg, copay reimbursement), as well as novel trial design considerations (eg, prespecified enrollment criteria in the United States by race and ethnicity) and statistical analysis incorporating varying quality of data. Social and demographic concordance may be particularly important in clinical research, and it is well documented that more women in clinical trial leadership leads to greater diversity among patients.<sup>6</sup>

The panel proposed several strategies to improve access to SH therapies:

- To overcome barriers to access of specific hospitals, either due to travel distance or perceived trust, SCAI can facilitate initiatives to address patient populations currently lacking SH care. In particular, the group explored the potential of SCAI and industry aiding in the development of care networks with funding to create systems to facilitate travel to regional centers.
- Industry partners and SCAI alike were encouraged to commit to clinical and training support to smaller SH programs in hospitals serving underserved populations, shifting the focus to access and quality measures over volume, with SCAI facilitating peer-to-peer mentoring.
- An emphasis on initiatives that seek to diversify the SHD workforce as well as industry employees was made. Both SCAI and industry have the ability to impact the underrepresentation and lack of visibility of women and Underrepresented in Medicine physicians through deliberate initiatives to increase involvement and leadership at scientific sessions, as site principal investigators in research studies, and as coinvestigators and coauthors in clinical trials.

Ultimately, it is inadequate for SH teams to simply wait for patients to be referred and travel to them—using the same process for each

patient; without a change in systems of care, we are unlikely to succeed at reducing disparities. Instead, to provide appropriate care to a diverse society, clinicians and industry partners must be flexible to meet different communities where they are—geographically, educationally, and demographically.

### Accountability

Having identified disparities and approaches to address their causes, the panel calls upon SCAI to set measurable goals for disparity reduction. The Think Tank panel can help SCAI to define concrete steps to combat disparities such as those described in these Proceedings (Table 1). First, SCAI, in concert with industry partners, should select from awareness and access to care initiatives described above. Second, industry partners are encouraged to increase transparency in their partnerships with physicians in research and proctoring roles, examining disparities in sex and race among physicians invited to serve as thought leaders. Using best practices in diversity and inclusion, including open calls for leadership opportunities with industry, are suggested as early steps. Third, partnering with industry, regulatory, and data registry partners, SCAI can serve as a resource to quantify temporal trends in the geographic distribution, sex, and race of patients undergoing SH procedures and in their procedural outcomes, leading to greater accountability as new initiatives are tested to decrease disparities.

The SH Think Tank group acknowledged the challenge of addressing health care disparities as a whole, and an intent to focus on areas that are actionable within the reach of SCAI, industry, and their unique partnership. By measuring and reporting on the effectiveness of initiatives to improve awareness and access to SH therapies for all patients, with a deliberate focus and investment to address disparities among underserved racial and ethnic groups, SCAI continues its leadership role for interventional cardiologists and their patients.

### Peer Review Statement

Given his role as Associate Editor, Andrew M. Goldsweig had no involvement in the peer review of this article and has no access to

information regarding its peer review. Full responsibility for the editorial process for this article was delegated to Alexandra J. Lansky.

### Declaration of competing interest

Andrew Goldsweig, Megan Coylewright, Ramesh Daggubati, James Hermiller, Howard Herrmann, Aaron Horne, Mazen Khalil, Binita Shah, Triston Smith, and Molly Szerlip reported no financial interests. Terri Buehler and Jenny Cotton are employees at Medtronic. Joe Evans is an employee at LiveNova. Jason Rudy is an employee at Philips Healthcare. Timothy Stivland is an employee at Boston Scientific.

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### Ethics statement

This manuscript has adhered to the relevant ethical guidelines.

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