No “I” in Heart Team
Incentivizing Multidisciplinary Care in Cardiovascular Medicine

Brahmajee K. Nallamothu, MD, MPH; David J. Cohen, MD, MSc

The landmark Synergy between PCI with Taxus and Cardiac Surgery (SYNTAX) trial, comparing drug-eluting stents with coronary bypass surgery in patients with complex coronary artery disease, was published in 2009.1 Although the trial continues to provide valuable insights regarding selection of coronary revascularization procedures, a particular aspect of its protocol has also generated considerable attention: the “Heart Team.” Although not the first to suggest it, the Heart Team concept was recently popularized by the SYNTAX investigators in their attempt to accommodate an “all-comers” design, streamlining the process for patient selection that had burdened coronary revascularization trials in the past. Instead of using an exhaustive list of explicit inclusion and exclusion criteria, the study protocol simply required that, for the most part, a cardiac surgeon and an interventional cardiologist came together in consensus about the appropriateness of enrolling a patient.

Although the idea of using Heart Teams in this manner did not originate with the SYNTAX trial, the special emphasis placed on it by the investigators was unique and identified as such, even early on, by editorialists and prominent clinicians.2,3 As a result, the notion of encouraging multidisciplinary care in cardiovascular medicine, exemplified by the Heart Team concept, has gained increasing traction in the context of a broad range of procedures that encompass coronary revascularization, transcatheter aortic valve replacement (TAVR), and other complex endovascular interventions. It is widely discussed in the published literature, highlighted at scientific conferences, and, most prominently, incorporated into professional society guidelines. In recent guidelines for coronary revascularization, for example, use of a Heart Team is a class I recommendation during the decision-making process for patients with complex coronary artery disease.4,5

So, what exactly is a Heart Team? In the SYNTAX trial, the idea simply referred to the requirement that, at each local site, both an interventional cardiologist and a cardiac surgeon were in agreement about the suitability of patient enrollment. This was meant to prevent the potential of “cherry-picking” patients that might favor one revascularization approach over the other, and to promote fair and broad patient selection. In recent guidelines and discussions, however, the concept of a Heart Team has gone further. It implies integrated, active decision making between groups of physicians with diverse expertise. For example, guidelines recommend formal reviews of coronary anatomic features, explicit discussion between physicians about options for coronary revascularization, and communication with the patient before a treatment is selected.4,5 The European guidelines also support inclusion of noninvasive cardiologists in the decision-making process and, in certain instances, other providers, such as primary care physicians, intensivists, and anesthesiologists.6

The Heart Team concept has obvious, intuitive appeal (Table). Many people working together in a multidisciplinary manner may reach better decisions by consensus than any individual alone, especially when it involves weighing complicated treatments, such as coronary revascularization, with various risks and benefits. Furthermore, using a Heart Team provides a way to improve our current system of “fragmented” decision making, which often already involves several physicians, albeit inconsistently and unevenly. Other benefits also are likely: (1) facilitating shared decision making with patients when both coronary revascularization procedures are appropriate, (2) improving the timeliness and consistency of decisions when multiple providers are likely to be involved, (3) allowing more intricate and better-coordinated treatment plans to be developed (eg, “hybrid” revascularization procedures), (4) minimizing concerns related to physician self-referral, (5) enhancing patient enrollment in research protocols, and (6) increasing educational opportunities. In theory, these benefits would lead to greater physician and patient satisfaction, better clinical care, improvements in health status, and increased survival. Moreover, allowing for a Heart Team to discuss a case might naturally insert “a pause” into decision making around coronary revascularization, which would allow for the institution of better medical therapy in nonemergent settings.7

Yet, enormous barriers also exist to implementing a Heart Team (Table). These relate largely to its practical incorporation into clinical processes within “real-life” practice, which raise fundamental questions that have been inadequately discussed. For example, what type of patients should a Heart

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Table. Potential Benefits of and Barriers to Heart Teams

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<tr>
<th>Benefits of Heart Teams</th>
<th>Barriers to Heart Teams</th>
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<tbody>
<tr>
<td>Broader input by different physicians into a complex decision-making process</td>
<td>Engaging different physicians from a broad range of specialties into a complex decision-making process</td>
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<tr>
<td>Minimize fragmented decision making and improve coordination of care</td>
<td>Ensuring a streamlined process for integrating and summarizing input from multiple viewpoints in a Heart Team in a systematic manner</td>
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<tr>
<td>Facilitate shared decision making with patients and families</td>
<td>Including active participation by patients and families into the decision-making process by Heart Teams while maintaining efficiencies</td>
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<tr>
<td>Improve timeliness and consistency of decisions when multiple providers are likely to be involved, increasing satisfaction for both patients and physicians</td>
<td>Ensuring accurate communication of discussions held by Heart Teams to patients and their families</td>
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<tr>
<td>Minimizing concerns related to physician self-referral</td>
<td>Improving mechanisms for fair and equitable remuneration of services provided by physicians and health systems, particularly across specialists and between cognitive and procedural services</td>
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<tr>
<td>Allow more intricate and patient-centered treatment plans to be developed (eg, “hybrid” revascularization)</td>
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<td>Enhance patient enrollment in research protocols</td>
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<tr>
<td>Increase educational opportunities by incorporating continuing medical education and trainee programs</td>
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Team consider? Should it be required for all patients who are eligible for coronary revascularization or just those with complex coronary artery disease? Even limiting Heart Teams to the latter group would be no small task. Complex coronary artery disease (eg, multivessel or left main disease) is found in as many as 1 in 10 patients undergoing diagnostic cardiac catheterization in the United States,8 which translates into several hundred thousand patients each year who would be eligible to be reviewed by Heart Teams. Moreover, an additional argument could be made that Heart Teams should be involved in decision making for stable patients with less severe coronary artery disease (eg, single-vessel disease) so that medical therapy could be properly weighed as a treatment option. Will there be enough administrative and logistical support for such endeavors by hospitals and health systems? Even if questions are settled about what types of patients are best suited for these discussions, other issues remain. What types of physicians and allied health professionals should compose a Heart Team? Will patients see each physician individually or in a group? If individually, will it happen on different days, in the same setting, or even “virtually,” using advanced information technology systems? And, finally and most important, how will all this detailed and complex information be synthesized and communicated to patients efficiently and effectively? Communicating this information in an efficient manner is critical because growing use of ad hoc percutaneous coronary intervention may be creating expectations for immediate decision making, such that even modest delays could worsen patients’ satisfaction with their care.

Although these questions raise tough challenges, they are fortunately addressable. Anecdotally, certain institutions have reported successful models that overcome barriers and engage physicians. For Heart Teams to make larger inroads, however, major structural changes are needed in how we deliver multidisciplinary care. Payers and policy makers, in particular, must find a way to incentivize use of Heart Teams. It is highly inefficient for physicians to participate in such programs based on existing payment mechanisms. This comes down to a critical issue: time spent on procedures continues to be rewarded much more generously than cognitive efforts. Although participation in Heart Teams could be framed as an opportunity for enlarging a referral base, it is difficult to see how cardiac surgeons and interventional cardiologists would justify time away from the catheterization laboratory or operating room in the absence of specific reimbursement. If the decision is made to supplement pay for these individuals to promote their participation, involvement by others may be endangered unless they are similarly compensated (eg, noninvasive cardiologists or primary care physicians) and limit its multidisciplinary value. Without tackling reimbursement head-on, however, the use of a Heart Team risks becoming a perfunctory process without true, integrated decision making. In the long run, this is likely to lead to poor engagement and dissatisfaction from physicians.

A recent innovation in reimbursement mechanisms that may be of great relevance to Heart Teams is bundled payments. Most payers make separate payments to physicians for the treatments that they provide, leading to few incentives for coordinating care across specialties or within a system. Under bundled payment initiatives, payments for multiple services that a patient receives during an “episode of care,” such as coronary revascularization procedures, would be provided either retrospectively or prospectively.9 For example, instead of coronary bypass grafting generating multiple claims from different providers, the entire Heart Team would be compensated with a “bundled” payment. This could incentivize models that use multidisciplinary care teams more efficiently while maintaining or improving quality. Moreover, Medicare has targeted several cardiovascular procedures in its Acute Care Episode Demonstration project on bundled payments, launched in 2009, and the Centers for Medicare & Medicaid Innovation Center is actively exploring this area.10 Through bundled payments, physicians would have flexibility in developing the structure of Heart Teams around these procedures. Yet, bundled payments alone are
unlikely to solve these issues entirely, because there would still be a need to determine how such payments would be allocated across specialists, and between cognitive and procedural services.

Of course, the concept of multidisciplinary care is not entirely unknown to cardiovascular medicine. Heart transplantation and ventricular assist device programs include both cardiac surgeons and cardiologists in complex decision making. Pediatric and adult cardiologists have also relied on team-based approaches to patients with congenital heart disease. However, these programs are typically limited to highly specialized centers and deal with narrow populations. Their ability to serve as models may be limited. On the other hand, other specialties have made greater inroads toward implementing multidisciplinary care for diseases with a greater burden in the general population. Cardiovascular medicine could learn much from these efforts, with the most visible examples in oncology, where multidisciplinary care teams evolved from early “Tumor Boards.”11 Historically, Tumor Boards focused on presentations of newly diagnosed, complex cancers. They were often discussed in retrospect and primarily with an educational purpose (analogous to “Cath Conferences” in cardiovascular medicine). Although Tumor Boards frequently involved many different specialists, they provided only consultative services and relinquished ultimate treatment decisions to the patient’s personal physician. This original model has changed dramatically over the years. In oncology, multidisciplinary care teams of providers aim for true, integrated decision making. Collaborative treatment and care management plans are reached by consensus, and no patient is the responsibility of a single physician. This model of care is encouraged by guidelines and applied to both rare and common cancers.12,13 However, what constitutes the ideal multidisciplinary care team continues to be debated, and empirical data on their impact remain scarce.14 Creative methods for incentivizing participation by physicians have been described to a limited extent in the published literature, including consideration of various financial incentives for encouraging physicians to participate.15 As will certainly be the case for cardiovascular medicine, adoption of individual strategies for implementing multidisciplinary care in oncology appears to depend on a hospital’s needs and resources.

What is clear is that ultimately the Heart Team concept will involve more than just coronary revascularization. Interest in the treatment of structural heart disease and other complex endovascular interventions that cut across multiple specialties is only likely to grow. This will create even further demand for multidisciplinary care in the future. For TAVR, in particular, there are convincing arguments that a Heart Team should play a role in decision making about treatment options and is integral to the performance of the procedure itself.16 To perform TAVR requires an assortment of technical and cognitive skills, including surgical expertise for vascular access, catheter-based skills for device delivery and placement, and imaging expertise for device positioning and follow-up assessments. Given that few (if any) physicians have a mastery of all these skills, performing the procedure as a team has important benefits for patients. The high-risk nature of elderly patients undergoing TAVR (who are frequently turned down for conventional surgery) also means that clinical and auxiliary specialists are needed after the procedure and to ensure successful recovery and rehabilitation. Similar claims for multidisciplinary care teams could be made for other therapies in which decision making involves complex clinical tradeoffs, value judgments, and integration of multiple sources of data, such as carotid revascularization, percutaneous mitral valve repair, and endovascular stent grafts for aortic aneurysms. Indeed, a growing need for multidisciplinary care may be inevitable as procedures become increasingly complex and outstrip the skill sets of any individual physician.

In this context, we believe it is critical for cardiovascular medicine to develop a research agenda to complement the push toward multidisciplinary care. In addition to designing and implementing innovative organizational models for incorporating Heart Teams into care pathways for coronary revascularization and other services, we need to develop an evidence base for understanding how these approaches improve care and what specific structural and operational factors are most central to this success. This includes a need to develop better metrics for measuring the timeliness and appropriateness of decisions (eg, the Appropriateness Use Criteria framework) and outcome measures related to mortality, quality of life, and patient and physician satisfaction. Only by improving the evidence base will patients, physicians, payers, and policy makers understand how best to move forward with Heart Teams in the coming years. With more firm data to support their use, the next steps of integrating Heart Teams into formal guidelines, performance measures, and payment incentives may be more easily accomplished within “real-life” practice settings.

Disclosures

None.

References


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