Health Disparities in Advanced Heart Failure Treatment
The Intersection of Race and Sex
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Heart failure is a costly, morbid condition that is estimated to affect approximately 6.2 million individuals in the United States at a cost of $30.7 billion, which is estimated to increase to $69.8 billion by 2030. African American individuals are disproportionately diagnosed with heart failure compared with white individuals. Overall, the incidence typically starts several decades earlier and is associated with greater morbidity and mortality in African American than white individuals. African American men have the highest age-adjusted death rate for heart failure (118.2 per 100,000), followed by non-Hispanic white men (111.3 per 100,000), African American women (86.0 per 100,000), and white women (80.4 per 100,000). After medical management is no longer effective, advanced therapies for heart failure, such as ventricular assist devices (VAD), improve quality of life and survival and can be used as terminal treatment or as a bridge to heart transplantation.

Heart transplantation is lifesaving therapy associated with 5 years of additional life per patient. However, after receiving a transplantation, African American patients have a 1.4-fold greater risk of graft failure and a 1.3-fold greater risk of death compared with white patients. They are more likely than white patients to be treated at centers with higher than expected mortality rates, even after adjusting for insurance and education level. Analyzing data from the United Network of Organ Sharing (UNOS), Lui et al found that among patients bridged to heart transplantation using VAD, African American individuals were more likely to have increased odds of graft failure and death compared with white patients. Conversely, a multicenter trial that used a specific VAD to bridge to transplantation found no differences in survival by race or sex. Differences in graft rejection and survival have been attributed to socioeconomic status, insurance status, and race/ethnicity, although controversy exists. Less is known regarding the clinical decision-making process for transplantation allocation and the potential effect of bias on the decision-making process, particularly for women.

In this issue of *JAMA Network Open*, Breathett and colleagues assessed potential bias in clinicians’ decision-making process for allocation of advanced heart therapies, such as VAD and heart transplantation, using a mixed-methods qualitative approach. Analogous to the groundbreaking and disturbing 1999 study by Schulman and colleagues that assessed physician recommendations for cardiac catheterization referral and showed that both women and African American patients with the same clinical history were much less likely than men and white patients, respectively, to be referred for cardiac catheterization, Breathett and colleagues evaluated whether patient gender and race were associated with clinician decision-making regarding the allocation of heart transplantation using clinical vignettes (ie, clinical histories) of patients with terminal heart failure. Similar to a 2019 study that evaluated racial disparities in access to advanced cardiac therapies for heart failure in men, in this study, Breathett et al evaluated whether bias was involved in recommendations for or against advanced heart therapies for women compared with men and for African American patients compared with white patients. Participants included US health care professionals attending an international cardiac transplantation meeting, who were asked to describe their decision-making processes. Participants were randomized to receive vignettes with a photo of an African American woman or man or a white woman or man. The study found that many of the participants did not want to look at the photos; however, when they did, some had negative impressions of the patients, which may have subsequently affected their judgments for recommendations of advanced therapies. Themes from the study included the following: given the same clinical histories for patients, clinicians...
critiqued women more harshly than men, there was greater concern about the appropriateness of care before presentation for African American women, there was more concern about the adequacy
of social support for women compared with men, and children were perceived as liabilities for women more than for men. At the end of the study, participants recommended VAD over transplantation for all groups, regardless of race or gender. The qualitative study was followed by a survey that, although underpowered, appeared to confirm the themes found in the interviews.

Sex/gender and race bias in evaluation and assessment for cardiovascular disease has been a longstanding issue in medicine. Women are less likely to undergo heart transplantation compared with men and are 20% more likely to die waiting for a heart transplant compared with men.10 The current study8 adds to the literature on gender and race bias in heart transplantation allocation and showed that women, particularly African American women, may be judged more harshly than men, which may lead to a delay in referral for heart transplantation. In addition, male partners were perceived as providing inadequate supports for women, and children were considered liabilities for women but not for men. Additional research regarding which biases exist against women is needed to decrease disparities in heart transplantation, given that women are more likely to donate an organ but less likely to undergo transplantation than men, despite having similar survival after transplantation.10

Qualitative studies are useful for illuminating opinions regarding thought processes in decision-making and for showing potential biases that can affect decision-making. In that regard, the study achieved what it set out to do; it evaluated decision-making processes using a think-aloud technique to try to understand potential biases in the decision-making process. These biases were apparent in some of the quotes from the participants. It is also interesting that some biases appeared to be present in participants from both majority and minority groups, implying that clinicians may be taught certain biases that are internalized, whether they are from majority or minority populations.

Potential limitations of the study included the vignettes, which presented women who were older with children and seemed slightly implausible. Also, the survey in this study appeared to be underpowered, such that no definitive conclusion could be reached regarding gender or race differences. The study did generate a hypothesis regarding potential bias in allocation of transplantation that will need further verification and evaluation in a well-developed randomized clinical trial of potential interventions aimed at making the transplantation evaluation process more objective and standardized.

What can our medical system do about these findings? When dialysis was first instituted, the group known as the God squad or the Admissions and Policy Committee for the Seattle Artificial Kidney Center chose who would go on dialysis and who would die. This committee included 7 anonymous members—a lawyer, a businessman, a woman known as a homemaker, a labor leader, and 2 physicians. This committee decided who would live or die, given that dialysis was such a limited resource at that time.11 Similarly, cardiac transplants today are a very limited resource. Lack of referral for cardiac transplantation may in fact be a death sentence for those with terminal heart failure. Solid organ transplantation might benefit from considering a patient-centered approach to evaluation and allocation of listing for VAD and organ transplantation.11 Lay personnel could be added to the transplantation evaluation panel, similar to the approach that the Patient-Centered Outcomes Research Institute takes with evaluation of grants. Additionally, transplantation review teams should be well versed in implicit bias and be required to take the Implicit Association Test12 as well as undergo implicit bias and antiracist training. Implicit bias workshops and trainings have been shown to be associated with a decrease in gender bias in other scenarios and an increase in hiring of female faculty in academic institutions.13 Additionally, other potential studies could include use of patient navigators or community health workers who could identify patients earlier in the disease process so that effective heart failure treatment could be instituted earlier, possibly avoiding the need for advanced therapies. Furthermore, it has been shown that specialized comprehensive care may address disparities in cardiac transplant mortality.14 Perhaps this should be the norm as opposed to the specialized case.
Much can be done to decrease potential bias that occurs when assessing patients for heart transplantation. Social determinants of health play a key role in the assessment of candidates before placement on a waiting listing for a transplantation and should be taken into account to develop an active framework to minimize health disparities in cardiovascular health. Expanding access to care has increased the availability of heart transplantation for African American patients with Medicaid insurance, findings that were not uniform for patients from other minority groups. Understanding biases that may contribute to the allocation process are important and will allow for the standardization of that process, improvement in access to advanced heart failure therapies for women and patients from minority groups, and development of interventions aimed at decreasing health disparities in the assessment process.

ARTICLE INFORMATION
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REFERENCES


