EDITORIAL COMMENT
Care Disparities
Moving From Gray to Black and White*
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Equity in the delivery of health care is one of the principal domains of health care quality as defined by the Institute of Medicine (IOM) (1). Despite this, more than 100 studies have demonstrated racial differences in cardiovascular care in the U.S. These pervasive findings have prompted the IOM, the Agency for Healthcare Research and Quality (AHRQ), and the major cardiovascular societies to launch national campaigns designed to increase awareness of racial disparities in care as well as to stimulate efforts to overcome care inequities (2,3).

In this issue of the Journal, Groeneveld et al. (4) add to our understanding of racial differences in cardiovascular care through their investigation of the use of implantable cardiac defibrillators (ICDs). Studying a national sample, the investigators found that African American patients hospitalized with ventricular tachycardia, ventricular fibrillation, or cardiac arrest were only about half as likely as Caucasians to receive an ICD. Examining these differences over a 10-year period, however, the investigators noted a significant narrowing of the "racial gap" in ICD use, due in part to regional diffusion of the technology. More specifically, areas of the country with a higher proportion of African Americans (e.g., the South) tended to be slower at adopting ICD use among sudden cardiac death survivors. Over time, however, there was some "geographic equalization" of ICD availability, resulting in greater use of the technology among African Americans. In particular, expanded use of ICDs at non-academic hospitals was associated with a narrowing of racial differences at these types of hospitals. Despite this, African Americans remained 30% less likely than Caucasians to receive an ICD. Examining these differences over a 10-year period, however, the investigators noted a significant narrowing of the "racial gap" in ICD use, due in part to regional diffusion of the technology. More specifically, areas of the country with a higher proportion of African Americans (e.g., the South) tended to be slower at adopting ICD use among sudden cardiac death survivors. Over time, however, there was some "geographic equalization" of ICD availability, resulting in greater use of the technology among African Americans. In particular, expanded use of ICDs at non-academic hospitals was associated with a narrowing of racial differences at these types of hospitals. Despite this, African Americans remained 30% less likely than Caucasians to receive an ICD.

This study, or more generally, any report of care disparity, should trigger three questions in readers' minds. First, are the observed differences in care real (i.e., not due to confounding clinical factors)? Second, are these differences important (i.e., do they measurably affect patients' health and well being)? And third, if the disparities are real and important, what can be done to minimize or eliminate them?

The short answer to whether racial disparities exist in ICD implantation is "probably." Certainly, the study by Groeneveld et al. (4) demonstrates that the rate of ICD implantation differs between African Americans and Caucasians. However, the study, based on administrative claims data, lacks potentially important clinical details that could contribute to observed treatment patterns. Without such data, it remains possible to challenge the notion that lower use in African Americans constitutes "underuse." For example, African-American patients were more likely to have electrolyte disturbances, a potentially reversible cause of ventricular dysrhythmias not mandating ICD implantation. African Americans were also more likely to suffer anoxic brain injury with cardiac arrest, and it is possible that ICD implantation was not deemed appropriate for patients with significant impairment. Although these possibilities exist, it is difficult to imagine that they fully explain the marked racial variability in implantation found in this study.

The next question is whether the observed differences in ICD implantation affect patient outcomes. Unfortunately, the current study did not include downstream patient event or survival rates. However, there is strong evidence from randomized trials that patients surviving sudden cardiac death live significantly longer with ICD implantation compared with patients without ICDs (5). Given the high risk of the study population, it is certainly possible that racial disparities in implantation could translate into higher mortality for African Americans.

Under the reasonable assumption that racial disparities in ICD implantation exist and can affect patient outcomes, the key issue becomes how to eliminate these differences. The study by Groeneveld et al. (4) provides one interesting lead—the diffusion of technology. By highlighting significant geographic and institutional variation in the diffusion of ICD devices into routine clinical practice, this study suggests that reducing this variation may reduce racial disparity.

In this regard, it is helpful to place the issue of racial disparity in cardiac care within a more general model of the adoption of evidence-based care in clinical practice (6). Adoption of new treatment should ideally be initiated after well-executed clinical trials and observational studies define which patient populations benefit from the therapy. These findings should then be rapidly summarized into clear practice guideline recommendations. Finally, quality assessment and performance improvement initiatives should be utilized to promote broad-based adoption of these new recommendations in general clinical practice. Because this approach emphasizes the standardization of care where evidence supports that a given therapy be provided to all...
eligible patients, one byproduct may be the reduction of racial disparities.

Although this model is well supported in theory, real medicine presents multiple challenges to its application. Strong evidence may not be available to guide a given treatment decision. Even when clinical trials have been done, key patient subgroups (co-morbid illness, advanced age, women, minorities) may be underrepresented (7). Thus, clinicians often are placed in a gray zone in which medical decisions are made without clinical certainty. These gray areas of medicine allow more subjective factors to enter the decision-making process and have the potential to lead to racial disparity.

Patients also face uncertainty when asked to consider medical treatments. In the case of ICD implantation, it takes a great deal of trust in one’s caregivers and in technologic science in general to permit implantation of a “shock-box” into one’s chest. This may be coupled with concern about the potential economic implications of implantation. The clinician–patient relationship therefore assumes a critical role. Clinicians should clearly convey to patients the potential risks, benefits, and alternative treatment options in a manner that will stimulate informed decision-making. However, surveys have found that racial minorities are more likely to report poor communication with their physicians, which may contribute to a reluctance to undergo cardiac procedures compared with Caucasian patients (8–10).

Finally, we have inadequate systems of care to support rapid and complete implementation in clinical practice even when the evidence is compelling (1). In the study by Groeneveld et al. (4), only about 10% of the overall sudden cardiac death survivors received an ICD, even after a decade or more of strong and expanding randomized trials. Thus, the “equality issue” is dwarfed by a more general failure to adopt evidence-based care in all patients.

To advance the model of adoption of evidence-based care as a means of reducing racial disparities, several things should be done:

- **Reduce the “grayness” of medicine through better evidence**: As evidence for the effectiveness of a given therapy mounts, care decisions become more clear-cut. In such “black and white” situations, the impact of patient’s skin color should be minimized. Ongoing support of both clinical research (emphasizing studies with more representative patient populations and ensuring the inclusion of minorities) and health services/outcomes research (emphasizing studies of the best methods to implement evidence-based care in practice) by government agencies and foundations are essential.

- **Promote a better patient–clinician interface**: Patient activation, whereby patients are empowered through education initiatives to have a better understanding of their disease and the treatments available to modify its course, can help patients be more proactive about the care they receive (11). Cultural sensitivity and communication training for health professionals may promote a better environment in which the need for invasive procedures such as ICD placement can be discussed (8).

- **Provide up-to-date and explicit clinical guidelines**: Because guidelines have, in many ways, replaced textbooks as the primary source of clinical reference, and because quality indicators and performance measures are derived from guidelines, it is essential that they stay up to date. The American College of Cardiology (ACC) and other major cardiovascular professional societies, as well as appropriate governmental and regulatory agencies, should maintain a commitment to the ongoing development, frequent updating, and dissemination of evidence-based guidelines.

- **Promote quality improvement programs**: Quality improvement programs should specifically promote the implementation of guideline-based care for all eligible patients, and thereby should help reduce inappropriate variation in care including racial disparities. Multidisciplinary collaborative care programs are most likely to promote highest quality of care, and advances in information technology (e.g., electronic medical record, clinical reminders, e-health solutions) are likely to bolster these efforts (12). National quality improvement programs, such as the ACC-National Cardiovascular Data Registry, can provide clinicians with comprehensive feedback on their care practices, benchmarked with their peers (13). Although controversial, programs that link payment incentives to quality initiatives (so called pay-for-quality programs) may serve to intensify interest in meeting quality-of-care standards.

- **Finally, ensure that performance measurement considers equity**: National efforts to measure and improve care should provide clinicians with feedback on care stratified by age, gender, race, and other historically underserved populations. As in public education, we may need a “no patient left behind” policy for evidence-based care.

By definition, the provision of high-quality care includes the delivery of equitable care. The study by Groeneveld et al. (4) helps us take a step forward in our understanding of racial disparities, not just by highlighting a gap in care between African American and Caucasian patients, but by calling attention to a potential avenue for resolution through improved diffusion of technology. Promoting the adoption of evidence-based care in practice, the cornerstone of quality improvement, may be the best avenue to reduce variation in the diffusion of technology. It is hoped that better evidence, timely guidelines, and both local and national quality initiatives will provide the “light” necessary to remove the grayness of medicine that has supported racial disparities to this point.

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