

Racial Disparities in Chronic Kidney Disease: Tragedy, Opportunity, or Both?

Keith Norris* and Allen Nissenson[†]

*Department of Medicine, Charles Drew University, and [†]Department of Medicine, Geffen School of Medicine, University of California at Los Angeles, Los Angeles, California

Clin J Am Soc Nephrol 3: 314-316, 2008. doi: 10.2215/CJN.00370108

“Of all of the forms of inequality, injustice in health is the most shocking and inhumane.”

—Dr. Martin Luther King, Jr.

In the United States, the recognized world leader in health technology and medical care, racial and ethnic inequalities remain an indictment of the moral compass of our society juxtaposed alongside hidden opportunities for improving the health of the nation. The tragedy is grounded in the continuing disparities as a result of limited access to quality care for the poor and disadvantaged (often minority) and/or increased rates of suboptimal health care recommendations for women, racial and ethnic minorities, socioeconomically deprived, and geographically segmented communities, often based on institutionalized societal biases (1,2). Simultaneously, the recognition of racial and ethnic disparities in health outcomes may provide unique opportunities to advance our understanding of biologic mediators; environmental, psychosocial, and cultural factors; and health risk behaviors that ultimately influence clinical outcomes (3,4). In this issue of *CJASN*, Gao *et al.* (5) examine select indicators of quality care for stages 3 and 4 chronic kidney disease (CKD) in a clinical database of more than 13,000 Department of Defense beneficiaries. They assessed whether race (white, black, or other) was independently associated with provider compliance with selected Kidney Disease Outcomes Quality Initiative (KDOQI) CKD recommended targets during a 12-mo period. Their analysis is one of the first to assess CKD care indicators across a diverse group of patients in a uniform health care system that emulates universal care for its beneficiaries. Of note, they found similar rates of provider compliance with selected stages 3 and 4 CKD targets for black and white beneficiaries in this uniform health care system, supporting the ability of quality uniform health care to attenuate racial and ethnic health disparities. By contrast, they found that patients who were classified as “other” race were generally less likely to achieve targets than white patients, a finding that was unexpected and needs further evaluation. The main limitation of the study was that the au-

tomated estimated GFR reporting during the study period did not automatically correct for black race. The laboratory report suggested multiplying the reported estimated GFR by a constant (1.18), but provider compliance with this extra step was not assessed. Thus CKD referral and additional process measures may have been driven by inaccuracies in GFR values.

The one area in which CKD targets were lower for black than white patients was for LDL cholesterol monitoring. For unexplained reasons, cholesterol monitoring and treatment has been reported to be low for black patients in several other settings. An analysis of more than 15,000 adults in the Third National Health and Nutrition Examination Survey (NHANES III) revealed that both black and Mexican American individuals were less likely to be screened for cholesterol levels and less likely to be taking cholesterol-lowering medications in the setting of elevated cholesterol levels, even after adjustment for insurance and other socioeconomic factors (6). Trivedi *et al.* (7) analyzed nearly 2 million individual-level observations for nine Healthcare Effectiveness Data and Information Set measures from 183 Medicare managed health plans from 1997 to 2003 and found improved clinical performance measures for all nine Healthcare Effectiveness Data and Information Set measures for both white and black enrollees and a reduction in black–white differences in seven of the nine measures, with the two for which control worsened being glucose and cholesterol. On balance, their findings also supported the inference that improving quality care with structured performance measures can reduce and/or eliminate many health care disparities.

The importance of specifically assessing the issue of uniform health care on CKD-related measures cannot be overstated, because many studies suggested that CKD-related outcomes do not always mirror that of many other commonly measured health parameters. Karter *et al.* (8) examined select complications such as myocardial infarction, stroke, lower extremity amputation, congestive heart failure, and ESRD in more than 62,000 ethnically diverse patients with diabetes and uniform health care coverage during a 3-yr period. They found lower rates of diabetic complications in a minority patients for all conditions except for ESRD, suggesting that even in a uniform health care environment, CKD outcomes may be unique in this regard compared with other medical conditions. Indeed, ESRD is one of the most striking and complex medical conditions, beset by race and ethnic disparities, with minority ESRD rates

Published online ahead of print. Publication date available at www.cjasn.org.

Correspondence: Dr. Keith C. Norris, Charles Drew University, 11705 Deputy Yamamoto Place, Suite B, Lynwood, CA 90262. Phone: 323-249-5705; Fax: 323-357-3701; E-mail: keithnorris@cdrewu.edu

ranging from 1.5 to 4 times those of age-adjusted white counterparts (9). The relentless path to ESRD among minorities continues despite having rates for the early stages of CKD that are similar to or even lower than those for white patients (10). For ESRD, Daumit and Powe (11) showed that marked disparities in rates of cardiovascular procedure use for patients who eventually required renal replacement therapy normalized after the initiation of dialysis and the transition of the cohort to a single-payer system. Keith *et al.* (12) reported that for patients who had CKD and were awaiting cadaveric donor renal transplantation between January 2001 and December 2004, access to placement on the waiting list was markedly worse for patients with Medicare, racial/ethnic minorities, and those with a low level of educational attainment. Adjusted subgroup analyses revealed that for patients who were older than 64 yr, Medicare was no longer a risk for low access to placement on the waiting list, likely because this is the cutoff point when Medicare eligibility restrictions are lifted; however, the large disparity in access to placement on the waiting list for racial/ethnic minorities and those with a low level of educational attainment persisted, suggesting that even for dialysis patients, universal coverage can improve disparities in many but not all clinical outcomes.

For many physicians, researchers, and policy makers who are not directly affected, the issue of health disparities seems nothing more than an academic discussion. For others, the impact of health disparities is an enduring battle for social justice and a requisite issue to overcome for America to achieve its full potential. The report by Gao *et al.* should also be seen as yet another wake-up call as to how we as a medical community need to lead the health agenda for the nation, including the reduction and/or elimination of health disparities. For many, the issue of racial and ethnic health disparities in America was identified in the 1984 Secretary of Health Task Force Report on "Black and Minority Health," citing a disproportionately high rate of excess deaths among racial/ethnic minorities for cardiovascular and related disease, diabetes, cancer, and others (13). Unfortunately, many of these issues of racial and ethnic inequalities including excess deaths as a result of socioeconomic issues and preventable health conditions have been well documented for more than 100 yr (14). The ongoing level of apathy is echoed in the lament of Du Bois, who wrote in 1899, "There have been few other cases in the history of civilized peoples where human suffering has been viewed with such peculiar indifference" (15). Former Surgeon General David Satcher and colleagues not only reported that there was no significant change in the black-white standardized mortality rate gap from 1960 to 2000 but also estimated that improvements to lower the black mortality rate to that of white patients would prevent more than 80,000 deaths each year, highlighting the impact of disparities at a personal level (16). Recently, the September 20, 2007, *New England Journal of Medicine* Shattuck Lecture by Dr. Steven A. Schroeder focused on improving the health of American people (17). Dr. Schroeder stated "that since all of the actionable determinants of health—personal behavior, social factors, health care, and the environment—disproportionately affect the poor, strategies to improve national health rankings

must focus on this population." Dr. Schroeder's article presents a compelling case for concentrating on the less fortunate, a strategy that should attenuate health disparities.

Our inability to reduce the high rates of ESRD in minority communities has led to a nearly 33% excess in the number of patients who receive renal replacement therapy (in comparison with the number were the ESRD rate of all minorities equal to that of white patients in the United State), increasing the cost of ESRD care to more than \$32 billion, an additional cost of more than \$10 billion a year were we able to eliminate excess ESRD among minority populations. This figure is still insufficient to override our overall apathy about health disparities in CKD, and although we usually see our role as limited to processes of care, the nation awaits us to weigh in on how best to address the other ecologic determinants that affect health and well-being. The "low-hanging fruit" in the efforts to address disparities seems to lie in (1) improving access to care and (2) providing uniform quality of care within the health care system. The report by Gao *et al.* indicates that we can make advances in CKD care with a broader restructuring of the health care system.

A high-level view of the challenges to delivering CKD care outside of the Department of Defense system is helpful to put this report into context. In 2003, a stakeholder group was convened to identify the barriers to optimizing CKD care in the United States. As reported by Parker *et al.* (18), there were 19 key barriers defined, key ones included the lack of adequate reimbursement, difficulty of providing care coordination and nonphysician services, and lack of availability of primary care and specialty physicians. A more recent survey of nephrology practices throughout the country that are struggling to provide high-quality CKD care also identified economic reality/reimbursement and the difficulty in delivering multidisciplinary care as impeding attempts to improve quality for patients with CKD (R. Rettig, RAND Corporation, Washington, DC, personal communication, January 2008).

What, then, are the take-home messages for clinicians, researchers, and even policy makers? Access to and quality of health care have an important impact on health disparities and are factors that are most substantively under the purview of physicians, including nephrologists; however, to eliminate racial disparities, physicians must understand the breadth of barriers to health and health care that disproportionately affect many minority communities, many of which occur outside the immediate medical care environment (*e.g.*, lack of availability of healthy food, high exposure rates to particulate matter in certain neighborhoods). Unlike many countries, in the United States, disadvantaged individuals are less well represented in politics than in most other developed countries, reinforcing the need for an active role of the medical community to increase its advocacy and support to improve health for all Americans. The Renal Physicians Association, American Society of Nephrology, National Kidney Foundation, and American Society of Pediatric Nephrology are collaborating on a legislative agenda to improve care for patients with CKD focusing on appropriate funding for CKD care, including that delivered in a CKD clinic or office setting, as well as Medicare coverage that would be

used for educational efforts regarding CKD, including transplantation and dialysis options. In addition, these groups are advocating for increased basic and health services research to advance knowledge about CKD and its treatment (A. Kliger, Yale University School of Medicine, New Haven, CT, personal communication, January 2008). Gao *et al.* have opened a door for the nephrology community to step through and take the opportunity as health leaders to ensure uniform health care to all citizens and move closer to eliminating the tragedy of health inequities and the unacceptable morbidity and mortality associated with CKD.

Acknowledgments

K.N. is supported in part by the National Center for Research Resources, Research Centers in Minority Institutions (G12-RR03026 and U54 RR019234) and the DREW/UCLA Project EXPORT, National Institutes of Health, National Center on Minority Health and Health Disparities (P20-MD00182). A.N. is supported in part by the National Center for Research Resources, Research Centers in Minority Institutions (U54 RR019234), and the Richard Rosenthal Dialysis Fund.

Disclosures

None.

References

1. Smedley BD, Stith AY, Nelson AR, eds.: *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, Washington, DC: National Academy Press, 2003
2. Murray CJ, Kulkarni SC, Michaud C, Tomijima N, Bulzacchelli MT, Iandiorio TJ, Ezzati M: Eight Americas: Investigating mortality disparities across races, counties, and race-counties in the United States. *PLoS Med* 3: e260, 2006
3. Powe NR: To have and have not: Health and health care disparities in chronic kidney disease. *Kidney Int* 64: 763–772, 2003
4. Norris KC, Agodoa LY: Unraveling the racial disparities associated with kidney disease. *Kidney Int* 68: 914–924, 2005
5. Gao SW, Oliver DK, Das N, Hurst FP, Lentine KL, Agodoa LY, Abbott KC: Assessment of racial disparities in chronic kidney disease stage 3 and 4 care in the department of defense health system. *Clin J Am Soc Nephrol* 3: 442–449, 2008
6. Nelson K, Norris K, Mangione CM: Disparities in the diagnosis and treatment of high blood cholesterol by race and ethnicity: Data from NHANES III. *Arch Intern Med* 162: 929–935, 2002
7. Trivedi AN, Zaslavsky AM, Schneider EC, Ayanian JZ: Trends in the quality of care and racial disparities in Medicare managed care. *N Engl J Med* 353: 692–700, 2005
8. Karter AJ, Ferrara A, Liu JY, Moffet HH, Ackerson LM, Selby JV: Ethnic disparities in diabetic complications in an insured population. *JAMA* 287: 2519–2527, 2002 [erratum appears in *JAMA* 288: 46, 2002]
9. US Renal Data System: *USRDS 2007 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States*, Bethesda, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, 2007
10. Hsu CY, Lin F, Vittinghoff E, Shlipak MG: Racial differences in the progression from chronic renal insufficiency to end-stage renal disease in the United States. *J Am Soc Nephrol* 14: 2902–2907, 2003
11. Daumit GL, Powe NR: Factors influencing access to cardiovascular procedures in patients with chronic kidney disease: Race, sex, and insurance. *Semin Nephrol* 21: 367–376, 2001
12. Keith D, Ashby VB, Port FK, Leichtman AB: Insurance type and minority status associated with large disparities in prelisting dialysis among candidates for kidney transplantation. *Clin J Am Soc Nephrol* 3: 463–470, 2008
13. *Report of the Secretary's Task Force on Black and Minority Health*. Margaret M. Heckler, Secretary, Washington, DC, US Department of Health and Human Services, 1985
14. Mortality among negroes in cities. In: *Proceedings of the Conference for Investigation of City Problems*. Atlanta University Publications. No. 1, Atlanta, Atlanta University, 1896
15. Du Bois WEB: *The Philadelphia Negro: A Social Study*, Philadelphia, University of Pennsylvania Press, 1899 (reprinted 1996)
16. Satcher D, Fryer GE Jr, McCann J, Troutman A, Woolf SH, Rust G: What if we were equal? A comparison of the black-white mortality gap in 1960 and 2000. *Health Aff (Millwood)* 24: 459–464, 2005
17. Schroeder S: Shattuck lecture. We can do better: Improving the health of the American people. *N Engl J Med* 357: 1221–1228, 2007
18. Parker TF, Blantz R, Hostetter T, Himmelfarb J, Kliger A, Lazarus M, Nissenson AR, Pereira B, Weiss J: The chronic kidney disease initiative. *J Am Soc Nephrol* 15: 708–716, 2004

See related articles, "Insurance Type and Minority Status Associated with Large Disparities in Prelisting Dialysis among Candidates for Kidney Transplantation," on pages 463–470, and "Assessment of Racial Disparities in Chronic Kidney Disease Stage 3 and 4 Care in the Department of Defense Health System," on pages 442–449.