Cardiovascular Disparities—Bridging Cardiovascular Health Promotion

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Abstract
Disparities in the quality of health and healthcare delivery across racial, ethnic, gender, and socioeconomic groups have been documented, specifically when evaluating cardiovascular diseases. As the US population has diversified, the elimination of these disparities has become the focus of a national initiative. In this regard, the promotion of patient-centered care and cultural competency in healthcare delivery has been proposed using approaches such as: the development and integration of culturally appropriate educational curricula for training future care providers, the promotion of underrepresented racial and ethnic minorities among healthcare professionals, the recruitment of community healthcare workers to promote health within their cultural communities, the establishment of culturally tailored interventions for delivering quality care to racial and ethnic minorities, the improvement of patient and provider communication by eliminating language barriers, and the education of minorities about access to healthcare and participation in clinical decision making. This article discusses initiatives aimed at achieving equitable access and delivery of cardiac health in minorities.

Keywords
Disparities, cardiovascular, cultural competence, cultural competency models, rehabilitation, community health workers

The changing population landscape in the US has impacted the many levels of the US healthcare system. It is estimated that, by 2050, minority populations together will comprise approximately 50% of the total population.1 This demographic shift has prompted policy makers, scientists, researchers, educators, and healthcare providers to draft a series of national health initiatives to define, identify, and analyze healthcare disparities and inequities in order to restructure the healthcare system to meet the challenges of such a culturally diverse. Current disparities among different racial and ethnic groups have highlighted the barriers to healthcare access and utilization of services and these have captured the attention of the federal government, regulatory authorities, healthcare providers, and community-based organizations. National concern about social determinants, social injustice, and healthcare disparities have raised awareness of the need to understand the challenge of delivering culturally competent care in the US healthcare system.2 In this article, initiatives to address this challenge will be discussed in the context of cardiac risk prevention and care. A review of the literature on disparities and cultural competency in the continuum of care in coronary heart disease, from primary prevention to rehabilitation, will be analyzed and synthesized.

Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare3 was a revealing report that documented differences in, and structural and systemic barriers to, health and healthcare for racial and ethnic minorities compared with Caucasians. The report documented the plethora of disparities in the access to care and the quality of care provided to racial and ethnic minority patients that exists in the US. The major obstacles illustrated were access to care, cultural barriers, poor communication, perceived racism, and lack of provider parity with patients. The report summarized the conclusions of the Institute of Medicine’s (IOM’s) findings that biases and prejudices among healthcare providers could contribute to these disparities among minorities. The IOM committee strongly recommended that cross-cultural education and cultural competency be included in all healthcare provider programs to address these biases and prejudices. It also stressed the need for healthcare providers from minorities to provide care in underserved communities, and for more interpreters to resolve the language barriers that affect the patient safety and quality of care. The committee recommended initiatives to increase awareness of health and healthcare disparities among the general public, healthcare providers, academic institutions, insurance companies, and policy makers in order to align equity in all industries and organizations involved in the delivery of healthcare services.2

In 2004, the Sullivan Commission further prioritized the need for increased numbers of members of minorities in the healthcare workforce, and the need for standards in cultural competence.4 The US Department of Health and Human Services’ Office of Minority Health and

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...the joint Commission on Accreditation of Healthcare Organizations have mandated the development of policies that hold providers of care accountable for adequately training the workforce.'44

The elimination of health disparities, specifically in the area of cardiovascular diseases, by 2010 became one of two overarching goals of a national public health agenda with a focus on healthcare delivery.' The precedent for this national focus on cardiovascular disease were statistics that showed that between 1985 and 1996, age-adjusted mortality rates for heart disease declined by 29% among Caucasian men, but by smaller proportions in all gender and race/ethnicity groups. In their analysis, Pearcy and Keppel compared differences in age-adjusted mortality from cardiovascular disease between 1989 and 1998. They found that disparities by gender declined, but disparities by racial/ethnic group increased or remained essentially unchanged.' A 2005 review of Blankton and colleagues’ study revealed that, despite a significant improvement in the nation’s health, health disparities persisted and had changed only minimally.

The Disproportionate Burden of Coronary Artery Disease Among Minorities

Racial and ethnic variations in cardiovascular outcomes have been observed and studied. Individuals in specific subgroups defined by race, ethnicity, socioeconomic status and geography (zip codes) have a disproportionate burden of risk for myocardial infarction, heart failure, stroke and other cardiovascular events. These individuals also have worse outcomes, including higher mortality rates, in part due to unrecognized and untreated risk factors that increase their risk burden. Researchers have consistently demonstrated the under-utilization of medical therapy, diagnostics, and revascularization procedures in women and different racial and/or ethnic groups. For example, African-Americans and women are less likely to receive life-saving procedures, and minorities and women are less likely to have follow-up revascularization procedures after cardiac catheterization than Caucasians and men.'

The disparities not only lie in access to healthcare and quality of care, but also in awareness of and access to knowledge about leading a cardioprotective lifestyle. The incidence of hypertension is several times as high among African-Americans. The incidence of obesity, metabolic syndrome and diabetes is higher among African-Americans and Hispanics than among Caucasians. In the cardiovascular spectrum of care, disparities consistently have been reported in primary and secondary prevention measures. In primary cardiovascular risk prevention, African-Americans and Hispanics are less likely to be screened, to receive treatment, or to reach target therapeutic goals for hypertension, dyslipidemia, and obesity.'

The downstream complications of this less aggressive risk factor management in minority populations means that Hispanics and African-Americans have three to five times more hospital admissions for uncontrolled diabetes than Caucasians. African-American patients with hypertension are several times as likely as Caucasians to have a stroke or end-stage renal disease. Costly invasive procedures—such as cardiac catheterizations, percutaneous coronary interventions, coronary artery bypasses, cardiac transplantations, and the implantation of defibrillators or cardiac resynchronization devices—are offered less frequently to minorities than to Caucasians.' This point was further illustrated by Bibbins-Domingo et al. in their study of racial differences in the incidence of heart failure among adults.' In their large cohort of Caucasian and African-American young adults, the incidence of heart failure was substantially more common among African-Americans. Heart failure occurred in African-Americans when they were on average 39 years of age, and was predicted by the presence of hypertension, obesity, chronic kidney disease and depressed systolic function 10–15 years earlier. At baseline, hypertension was untreated or poorly controlled in 84% of African-American patients. Follow-up after 10 years showed that the number of African-American patients with poorly controlled hypertension remained high (76%). The study also showed that heart failure before 50 years of age is substantially more common among African-Americans than Caucasian. In addition, the presence of cardiovascular risk factors such as hypertension and obesity before 35 years of age—mandatory targets for the prevention of heart failure—were noted in this population.'

Two studies have shown how culturally tailored lifestyle interventions can have positive outcomes in minority populations. The Centers for Disease Control and Prevention’s Racial and Ethnic Approaches to Community Health (REACH) 2010 project aims to eliminate racial and ethnic disparities in six priority areas, including diabetes. In the Supporting healthy activity and eating right everyday (SHARE) study, African-American participants receive culturally salient social support from family or friends in a lifestyle modification program for weight loss. These two studies illustrate the potential for reducing morbidity and mortality rates due to cardiovascular disease in African-American communities.

REACH 2010

In this study, a culturally tailored diabetes lifestyle intervention delivered by trained community residents produced significant improvements in the health of minorities with cardiovascular risk burden. In relation to how cultural diversity and competency can play a role impacting coronary risk prevention and care in minorities, recent data from The REACH Detroit partnership used a community-based participatory approach (CBPR) to address and reduce risk factors for type 2 diabetes among African-Americans and Hispanics with history of diabetes. Family health advocates—representatives from the community—were trained by research staff and experts in patient empowerment approaches to deliver the curriculum interventions to their community. African-American and African-American REACH Detroit program participants achieved statistically significantly greater improvements in control of HbA1c levels (p<.0001) than a similar group of non-participant patients with diabetes in the same healthcare system.'

SHARE

In this two-year study, the investigators evaluated the effect on weight loss outcomes in one cohort of patients who participated independently and another who had the social support of family and friends.' The patients who had the most successful weight loss were partnered with others who were also successful in their weight loss.

Patient-Centered Care and Cultural Competency

In the past two decades, patient-centered care, with additional focus on healthcare disparities, and cultural competency have become central...
themes in healthcare education, research practice, clinical care, and health policy, as exemplified in the IOM’s landmark study *Crossing the Quality Chasm*. This study called for increased attention to patient-centered care, which was defined as ‘providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions’. In response to the theme of health disparities, the delivery of culturally-competent care has become a driving force, a movement, and a goal of educational, professional, and health services.

Cultural competence is both a process (observed as a series of events) and an outcome (observed as a synthesis of different perspectives). Boyle and Springer found that hundreds of conceptual definitions of cultural competence, and related constructs—such as cross-cultural competency, ethnic sensitive practice, cultural sensitivity, and multicultural counseling—exist. Other terms such as ‘cultural proficiency’ and ‘cultural humility’ are constructs that express the concepts of more effective cross-cultural capabilities.

Iterations of the concept and models of cultural competency began over two decades ago. In 1989, Cross et al. defined cultural competency as ‘a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or profession that enables that system, agency or profession to work effectively in cross-cultural situations’. In the 1990s, the concept was described in relation to population health and was expressed as an awareness and integration of three population specific issues; health related beliefs and cultural values; disease incidence and prevalence; and treatment efficacy. In 2003, Betancourt et al. talked about the need to encompass the capabilities of systems to provide care to patients with diverse values, beliefs and behaviors, including tailoring utility to meet patients’ social, cultural and linguistic needs. The cultural competency concept also has been described as a set of cognitive, affective, and psychomotor skills that enables one to examine and embrace diversity. In 2001, the National Alliance for Hispanic Health developed the term ‘cultural proficiency’ to describe a group of initiatives through which providers and systems to do more to deliver unbiased care by endorsing the positive role that culture can play in a person’s wellbeing.

**Provider–Patient Race and Gender Concordance**

There have been several studies that have analyzed patient–provider race and gender concordance in clinical preventive services. Spanish-speaking patients reported more satisfaction with care from providers who were Spanish-speaking than those who were not.

Rathore et al. demonstrated that racial differences remained the same regardless of the race and gender of the physician. Women underwent cardiac catheterizations post-myocardial infarction less frequently than men, regardless of the gender of the treating physicians.

Green et al. conducted a study among 287 physicians that tested whether they showed implicit race bias and whether the magnitude of such biases predicted thrombolysis recommendations for African-American and Caucasian patients with acute coronary syndromes. The majority (n=131) of the physicians were European-American Caucasian. The study used an internet-based tool comprising a clinical vignette of a patient presenting to the emergency room with acute coronary syndrome. The Implicit Association Test (IAT) was administered as the physicians were shown pictures of African-American or Caucasian patients. The physicians were asked about the patient’s attitude (‘good’ versus ‘bad’), as well as their impressions of the person’s general co-operativeness and medical co-operativeness. The physicians didn’t harbor any overt bias or prejudice. The results of the IAT showed that more physicians unciously attributed negative traits to African-Americans, thinking them ‘uncooperative’ or ‘bad’ than Caucasians. As physician’s pro-Caucasian implicit bias increased, their likelihood of treating Caucasian patients and not treating African-American patients with thrombolysis increased as well. The researchers recommend that future studies should examine actual patient–physician interactions, introducing such dimensions as communication, rapport and other non-verbal behaviors that are known to be related to implicit discriminations.

**Under-referral of Minorities for Cardiac Rehabilitation**

In the continuum of coronary care, cardiac rehabilitation has been modeled to provide effective secondary prevention. Evidence-based research has demonstrated that cardiac rehabilitation programs (CRPs) have been shown to reduce mortality, improve functional capacity and quality of life, and decrease rates of rehospitalization for cardiac complications as well as overall medical costs in both women and men. In the Cardiac Access Study, however, only 1,933 cardiac patients of a total of 9,275 patients who met the criteria of the ACC Guidelines for eligibility for cardiac rehabilitation were enrolled for the procedure. They were evaluated to determine factors associated with accessing cardiac rehabilitation programs. Whites were more likely to be referred for cardiac rehabilitation than African-Americans (odds ratio [OR]=2.52). Even after controlling for age, education, socioeconomic status, and insurance coverage, race was still independently associated with referral for cardiac rehabilitation (OR=1.81). Significantly, once patients are enrolled in a cardiac rehabilitation program, existing evidence indicates that participation results in similarly positive outcomes regardless of gender, race and ethnic minority. Reduced use of these services in this population will lead to further disparity in other cardiac health outcomes.

**System-wide Culturally Competent Education and Delivery of Healthcare Services**

The integration of culturally-competent education programs into the various academic healthcare disciplines has been widely adopted. The American Medical Association, the American Association of Medical Colleges, the American Academy of Nursing, the American Nurses Association, the American Association of Colleges of Nursing, and the National Association of Social Workers have all published statements promoting cultural competence in a culturally sensitive workforce.

Since 2002, the Liaison Committee on Medical Education’s cultural competence accreditation standard has required that all medical schools integrate cultural competence into their curricula in order to strengthen the physician–patient gender and race concordance. Furthermore, the Accreditation Council of Graduate Medical Education’s survey of close to 8,000 graduate medical educational programs in the US found that 50.7% offered cultural competence training in 2003–2004, up from 35.7% in 2000–2001.
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The current approaches to cultural competence in medical education may decrease any implicit race bias and are focused on knowledge, attitudes, and skills training. Knowledge-based programs focus on definitions of culture, social determinants of health, and variance in disease, incidence and prevalence. Educational programs highlight medical-ethno beliefs and practices that influence the patient-provider relationships and health outcomes. Attitude-based curricula—which include cultural sensitivity and awareness approaches—highlight patient awareness of the influence and impact of socio-cultural factors on patients’ values and behaviors which are linked to clinical outcomes. The curricula use self-reflection to explore bias, racism, sexism, and classism. Skill building educational programs focus on therapeutic communications skills that focus on the patient’s explanatory model of illness and social determinants, and how to use an interpreter or cultural liaison.13

In 1998, Tervalon and Murray-Garcia advocated that medical training should embrace ‘cultural humility’ rather than ‘cultural competence’ in educational initiatives for physicians training in the 21st century. Cultural humility is a process that requires an individual to continually engage in self-reflection, self-awareness, and self-critique as lifelong reflective learners. It is a process that helps physicians to develop respectful, dynamic partnerships with their patients. The physician consciously monitors the power imbalances that may develop in patient-focused interviewing, communication, and decision-making processes.14 One of the models of cultural competence that healthcare providers can use as a framework for integrating patient-centered culturally responsive healthcare services into nursing education, practice and research is the Campinha-Bacote model of cultural competence in healthcare delivery.15 According to Campinha-Bacote, culturally-competent care depends on the healthcare provider observing the self as becoming culturally competent rather than achieving culturally-competent status. Her recommended skill set encompasses expressions of integrated knowledge that demonstrate cognitive, affective, and psychomotor abilities. Components of cultural competence that exhibit behaviors in these three domains can be identified as: cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire. The model blends the fields of transcultural nursing, medical anthropology, and multicultural counseling.

Patient-centered care and cultural competency initiatives need to be woven in the fabric of healthcare education, research, and delivery of clinical services. To illustrate this point, a survey by the American Heart Association showed that African-American and Hispanic women have the lowest risk factor awareness of any racial or ethnic group, even though they have the highest risk of death from heart disease and stroke.16 To combat this gender, ethnic and racial disparity, healthcare providers must be trained effectively to use cultural competency models to enhance their patients’ health beliefs, values and preferences so that they in turn demonstrate effective self care management skills for controlling their cardiovascular risk factors.

The Value of Community-based Participatory Approach Models

As described above, translational research through public health models of CBPR and community engagement, such as seen in the REACH and SHARE studies, can be effective in decreasing health disparities in cardiovascular disease. As a systematic approach to culturally-competent healthcare delivery, CBPR is a research paradigm that promotes public participation and engages diverse communities in research because it promotes mutual transfer of expertise, power sharing in decision-making, and data ownership among community and academic partners.27 ‘Community’ is defined as collective individuals who work, share recreation, or live in an area together, or any group with common interests. ‘Community engagement’ refers to values, strategies and actions that can empower communities through authentic partnerships; mutual respect; inclusive partnership; power sharing and equity; and flexibility in pursuing goals, methods, and time frames to address the priorities, needs and capacities of communities. Academic investigators become part of the community and community members co-direct the research, analyzing or shifting its purpose and process. Partnered choices of realistic designs are achieved through two way discussions of what various designs can offer and how communities engage.28

In CBPR, patient cultural navigators, family health advocates or community healthcare workers (CHWs) are natural helpers from within a community that receive training and then spread health promotion knowledge to individuals within their culturally-congruent communities.29 These CHWs can identify effective treatment interventions that reduce coronary risk in their own populations, and evaluate best practices for collaborative care with healthcare providers. They build bridges between hospital and community care providers to promote effective cardiac health in all populations.

Conclusion

Scholars, healthcare practitioners and policy makers need to monitor and research systematic approaches to culturally-competent interventions in education, quality improvement, recruitment, provision of care, language services, and community engagement. All of these approaches can potentially contribute to reductions in healthcare disparities; however, they need to be further assessed for their validity and impact in patients with cardiovascular disease. For example, the ability of CHWs to promote health within their cultural communities and to deliver culturally-tailored interventions need to be further evaluated and analysed to determine the best evidence-based cross-cultural interventions. The enhancement of patient-provider communications by eliminating language barriers also needs to be further researched to validate regulations expected to be mandated by various health regulatory agencies in the future.28

1. US Department of Commerce, US Census, 2000. Available at: http://census.gov (accessed April 25, 2010).
2. Engebretson J, Mahoney J, Carlson E, Cultural competence in the era of evidence-based practice. / Professional Nursing, 2008;24:172–8.
3. Smedley BD, Stith AY, Nelson A, Unequal treatment: confronting racial and ethnic disparities in healthcare. Washington DC: National Academies Press, 2002.
4. Sullivan UK, Missing persons: minorities in the health professions. Washington DC: Sullivan Commission, 2004. Available at: www.aacn.nche.edu/Media/pdf/SullivanReport (accessed December 31, 2010).
5. US Department of Health and Human Services, Office of Minority Health, National standards for culturally and linguistically appropriate services in health care final report, Washington, DC: US Department of Health and Human Services, Office of Minority Health, 2001. Available at: www.minorityhealth.hhs.gov/assets/pdf/checked/ finalreport.pdf (accessed December 31, 2010).
6. Division of Standards and Survey Methods, Joint Commission standards supporting the provision of culturally and linguistically appropriate standards, Oakbrook Terrace IL, 2007.
7. Blumenthal M, Maddox T, Rushing Q, Mensah G, Disparities in cardiac care: rising to the challenge of Healthy People 2010,
11. Peterson E, Yancy C, Eliminating racial and ethnic disparities in cardiovascular care, J Am Coll Cardiol, 2004;44:503-8.
8. Pearcy JN, Keppel KG, A summary measure of health disparity, J Am Med Assoc, 2002;288:2849-6.
10. Banow RO, Grant AG, Jacobs AK, The cardiovascular state of the union: confronting healthcare disparities, Circulation, 2005;111:1105-7.
12. Bibbins-Domingo K, Pletcher MJ, Lin F, et al., Racial differences in incident heart failure among young adults, N Engl J Med, 2009;360:1179-90.
13. Two Feathers J, Kieffer E, Palmisano G, et al., Racial and ethnic approaches to community health (REACH) Detroit Partnership: improving diabetes related outcomes among African Americans and Latino adults, Am J Health Promot, 2005;19:1552-60.
14. Kumanykja S, Wadden T, Shults J, et al., Trial of family and friend support for weight loss in African American adults, Arch Intern Med, 2005;165:1799-1804.
15. Berewick, D. A user’s manual for the IOM’s quality chasm report, healthAffairs, 2002;21:86-90.
16. Institute of Medicine Committee on Quality of Health Care in America, Crossing the quality chasm: a new health system for the 21st century, Washington, DC: National Academy Press, 2001.
17. Alexander GR, Cultural competence models in nursing, Crit Care Nurs Clin North Am, 2002;14:415-21.
18. Boyle DP, Springer A, Toward a cultural competence measure for social work with specific populations, J Ethnic Cultural Diversity, 2001;9:53-71.
19. Shaya FT, Obayayo CM, The case for cultural competency in health professionals, Am J Pharm Ed, 2006;6:24.
20. Cross T, Baaron B, Dennis K, Isaacs M, Towards a culturally competent system of care (Volume 1), Washington, DC: Georgetown University Center for Child and Human Development, CASSP Technical Assistance Center, 1999.
21. Lavizzo-Mourey R, Mackenzie E, Cultural competence: essential measurement of quality for managed care organizations, Am J Med, 1996;124:919-26.
22. Betancourt JR, Green AR, Carrillo JE, Anath-Firempong O, Defining cultural competency: a practical framework for addressing racial/ethnic disparities in health and healthcare, Public Health Reports, 2003;118:293-302.
23. Shaya FT, Obayayo CM, The case for cultural competency in health professional, Am J Pharm Ed, 2006;6:article 24.
24. Morales LS, Cunningham WE, Brown JA, et al., Are Latinos less satisfied with communication by health care providers?, J Gen Intern Med, 1999;14:409-17.
25. Rathore SS, Chen J, Wang Y, et al., Sex differences in cardiac care, J Am Coll Cardiol, 2005;44:503-8.
26. Green AR, Carney DR, Palin DJ, et al., Implicit bias among physicians and its prediction of thrombolysis decisions for black and white patients, J Gen Intern Med, 2006;22:1231-8.
27. Wenger, N., Current status of cardiac rehabilitation, J Am Coll Cardiol, 2006;51:1619-31.
28. Gregory P, Lavietes T, Simpson C, Racial disparities in access to cardiac rehabilitation, Am J Phys Med Rehabil, 2006;85:305-10.
29. Engbergston J, Mahoney J, Carlson E, Cultural competence in the era of evidence-based practice, J Professional Nursing, 2006;22:172-8.
30. Bhattachta S, Russel M, Strickler G, et al., Disparities in utilization of coronary artery disease treatment by gender, race and ethnicity: opportunities for prevention, National Black Nurses Association, 2007;12:36-49.
31. Betancourt JR, Green AR, Carrillo JE, Park ER, Cultural competency and healthcare disparities: key perspectives and trends, Health Affairs, 2005;24:999-1005.
32. Betherton SE, Rockey PH, Etzel SI, US graduate education medical education: 2003-2004, J Am Med Assoc, 2004;292:1022-7.
33. Kripalani S, Bussy-Jones J, Katz M, Genoa I, A prescription for cultural competence in medical education, J Gen Intern Med, 2006;21:116-20.
34. Tenenblon M, Murray-Garcia J, Cultural humility versus cultural competence: a critical distinction in defining physician training outcomes in multicultural education, Journal of Health Care for the Poor and Underserved, 1999;9:117-25.
35. Campinha-Bacote J, The process of cultural competence in the delivery of healthcare services: a model of care, J Transcultural Nursing, 2002;13:181-4.
36. Mosca L, Mosch H, Christian A, et al., National women’s awareness, prevention action and barriers to cardiovascular health, Circulation, 2006;113:525-34.
37. Israeli BA, Eng E, Schultz AJ, Parker EA, Methods in community-based participatory research for health, San Francisco, CA: Jossey-Bass, 2005.
38. Jones L, Koenig P, Wells K, Bringing experimental design to community-participatory research. In: Minnik M, Wolfstein N, Leela, Community-based participatory research for health, New York, NY: Jossey-Bass, John Wiley and Sons, 2005.
39. Cherrington A, Ayala DX, Etier JP, et al., Recognizing the diverse roles of community health workers in the elimination of health disparities: from paid staff to volunteers, Ethnicity Disease, 2010;20:189-94.