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The Current State of Ethnic and Racial Disparities in Cardiovascular Care: Lessons from the Past and Opportunities for the Future

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Abstract Significant racial/ethnic disparities have been documented in cardiovascular care. Although health care quality is improving for many Americans, differences in clinical outcomes have persisted between racial/ethnic minority patients and non-minorities, even when income, education level, and site of care are taken into consideration. Potential causes of disparities are complex and are related to differences in risk factor prevalence and control, use of evidence-based procedures and medications, and social and environmental factors. Minority patients are more likely to receive care from lower-quality health care providers and institutions and experience more barriers to accessing care. Factors such as stereotyping and bias in medicine are hard to quantify, but likely contribute to differences in treatment. Recent trends suggest that some disparities are decreasing. Opportunities for change and improvement exist for patients, providers, and health care systems. Promising interventions, such as health policy changes, quality improvement programs, and culturally targeted community and clinic-based interventions offer hope that high-quality health care in the USA can be provided to all patients.

Keywords Cardiovascular outcomes · Racial/ethnic disparities · Review

Introduction

The seminal 2002 Institute of Medicine (IOM) report *Unequal Treatment*: *Confronting Racial and Ethnic Disparities in Heath Care* documented the enormous disparities in health care quality experienced by racial and ethnic minorities [1]. In the case of cardiovascular care, the report cited up to a 50 % lower rate of necessary cardiac procedures among blacks as compared to whites. These observations helped set the agenda for research and practice to improve the accessibility and quality of health care for racial/ethnic minorities. Concurrently, governmental and non-governmental organizations implemented programs and funding mechanisms to address disparities. In this spirit, in 2011, the Department of Health and Human Services (HHS) released its first federal strategic action plan on eliminating racial/ethnic disparities with the goal of achieving "a nation free of disparities in health and health care" by 2020 [2, 3].

In the decade since the publication of the IOM report, health care quality has improved for most Americans—people are living longer and are less likely to die from stroke and heart disease—and some of the gaps in clinical outcome between white and black patients have narrowed [4••, 5, 6]. However, significant disparities persist, especially for patients with heart disease. Cardiovascular-related mortality has declined more slowly for black individuals than for whites and remains the largest contributor to the racial gap in life expectancy (Fig. 1) [5–7]. Furthermore, access to care is worsening for many racial and ethnic minorities [4••, 5]. The reasons for persistent disparities are many and interrelated. In this paper, we will review the current state of health disparities in cardiovascular disease, focusing on studies published since the 2002 IOM report. We describe both why racial and ethnic differences in care continue to exist and highlight interventions that have particular promise for addressing this massive public health problem.

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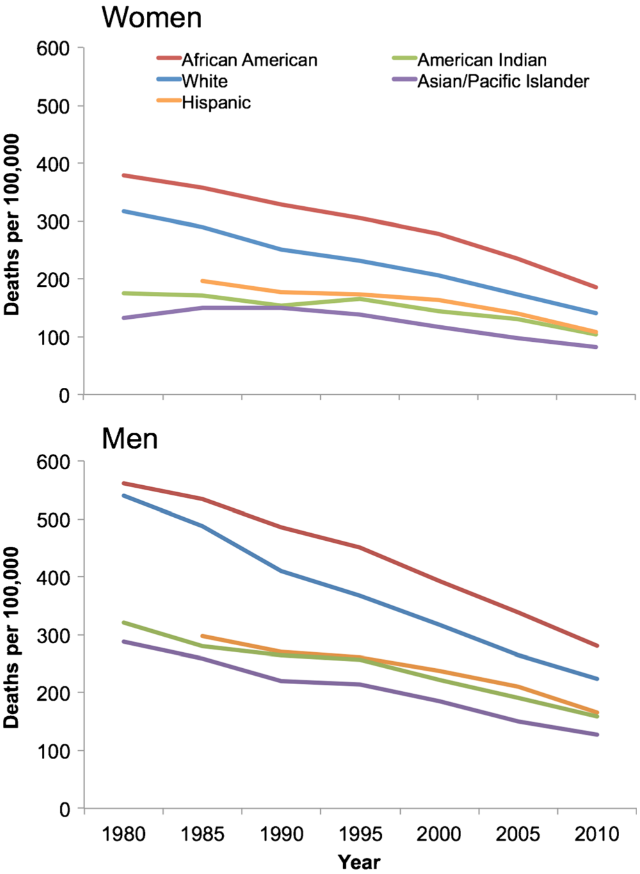

Fig. 1 Death rates from heart disease over time by sex and race/ethnicity. (Data from the National Center for Health Statistics. Health, United States, 2012: With special feature on Emergency Care. Hyattsville, MD. 2013) [102]

Race and Ethnicity Classification

In the USA, race and ethnicity categories are defined, for governmental purposes, by the Office of Management and Budget (OMB). The OMB recommends that race and ethnicity identification be based on self-identified cultural characteristics, social constructs, and ancestry but does not outline a clear distinction between race and ethnicity. On this basis, the OMB requires that, at a minimum, federal race data be collected in five categories: American Indian or Alaska Native (AI/AN), Asian, Black or African American, Native Hawaiian or Other Pacific Islander (NHOPI), and White. In addition, they recommend that ethnicity be defined as either Hispanic or Latino or not [8]. These definitions are summarized in Table 1. Federally funded clinical research must collect and report information on race/ethnicity in this manner.

Self-report of race/ethnicity is considered the "gold standard" and is more reliable than other methods, such as staff observation or geocoding based on zip code and surname analysis [1, 9]. Currently, the collection of race/ethnicity data is not routine or standardized, and such data may be collected differently by health insurance plans, emergency rooms, inpatient hospital wards, and clinics. Up to 50 % of hospitals that collect race/ethnicity data do so by the observation of an admitting or registration staff [10]. Organizations such as the Health Research and Educational Trust (HRET) and America's Health Insurance Plans (AHIP) are working to improve data collection on race/ethnicity and use the data to study disparities and improve quality of care [11].

Explaining Racial and Ethnic Differences in Cardiovascular Outcomes

It is now well recognized that the categorization of people by race or ethnicity represents a sociopolitical construct and does not necessarily imply genetic or anthropological similarity [12]. Many differences in clinical outcomes ascribed to race/ethnicity may be driven by class and income inequality [13]. That said, racial/ethnic disparities are significantly reduced, but not eliminated, when socioeconomic factors are taken into account, such as income, education level, insurance coverage, geography, and site of care [14, 15]. Although adjustment for these "confounding factors" attenuates observed racial/ethic differences in health outcomes, we must not forget that such findings demonstrate that disparities exist among other vulnerable populations, especially the poor and uninsured, regardless of race.

Differences in the quality of health care delivered to minority versus non-minority populations are attributed to several complex causes, including differences in clinical presentation, patient preference, access to care, health insurance options, and social environment. Furthermore, discrimination and the biases of some providers and health systems contribute to the differential treatment of certain groups. As demonstrated in Fig. 2, health care disparities are those differences that originate from inequality within the health system or differential treatment by providers [1].

Risk Factor Burden and Control

The increased prevalence of certain cardiovascular risk factors and the degree to which such risk factors remain uncontrolled contribute significantly to racial/ethnic differences in cardiovascular outcomes. Individuals of black race have a higher prevalence of cardiovascular risk factors at a younger age, leading to higher lifetime cardiovascular risk [16, 17]. The prevalence of hypertension is substantially higher in blacks than whites (41 versus 28 %, respectively), with black women being at particularly high risk [6]. Hypertension control is worse among black patients, even for patients who have received regular health care [4••]. For example, in the REGARDS study, black patients with hypertension were more likely than white patients to be aware of their diagnosis

Table 1 Standards for the classification of federal data on race and ethnicity

Race categories	
American Indian or Alaska Native	A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment
Asian	A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent
Black or African American	A person having origins in any of the black racial groups of Africa
Native Hawaiian or other Pacific Islander	A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands
White	A person having origins in any of the original peoples of Europe, the Middle East, or North Africa
Ethnicity categories	
Hispanic or Latino	A person of Cuban, Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race
Not Hispanic or Latino	

Adapted from the Office of Management and Budget, 1997 [8]

and be on treatment but were 27 % less likely to have their blood pressure controlled [18]. Differences in hypertension prevalence and control contribute to higher rates of stroke, end-stage kidney disease, heart disease, and death [6].

Racial differences in diabetes control and outcomes are also common. Diabetes increases the risk of developing and dying from cardiovascular disease and is expected to double in prevalence over the next four decades, with the elderly and racial/ethnic minorities being most at risk [6]. These trends are anticipated to exacerbate the already high prevalence of disease that is currently seen among blacks, Hispanics of Mexican or Puerto Rican descent, and American Indians. Up to 34 % of American Indians living in southern Arizona have been diagnosed with diabetes [19]. Racial/ethnic minorities are less likely to receive diabetes-specific recommendations and are more likely to experience complications of the disease such as end-stage renal disease and diabetes-related mortality [4••, 19].

Lifestyle differences also contribute to cardiovascular disparities. The prevalence of obesity among black women is 10 percentage points higher than Hispanic women and 20 percentage points higher than white women. Blacks and Hispanics are less likely than whites to be active and meet physical activity recommendations, a trend that starts in childhood [6, 20]. Blacks are less likely than whites or Hispanics to meet the recommended dietary guidelines for fruit, vegetables, and whole grains and are more likely to consume a greater percentage of calories from fast food [6, 21].

Whereas the prevalence of some cardiovascular risk factors, such as hypertension and obesity, has stabilized, the diagnosis of diabetes is expected to rise disproportionately among racial/ethnic minorities. Reduction of health disparities will not occur without risk factor prevention and control. The elimination of difference in blood pressure control alone could meaningfully reduce cardiovascular disparities in cardiovascular mortality between blacks and whites [22, 23].

Use of Cardiovascular Procedures

Racial/ethnic minority patients have consistently been observed to be less likely to receive cardiovascular therapies of proven benefit, especially timely evidence-based interventions that are higher cost or higher intensity, such as invasive

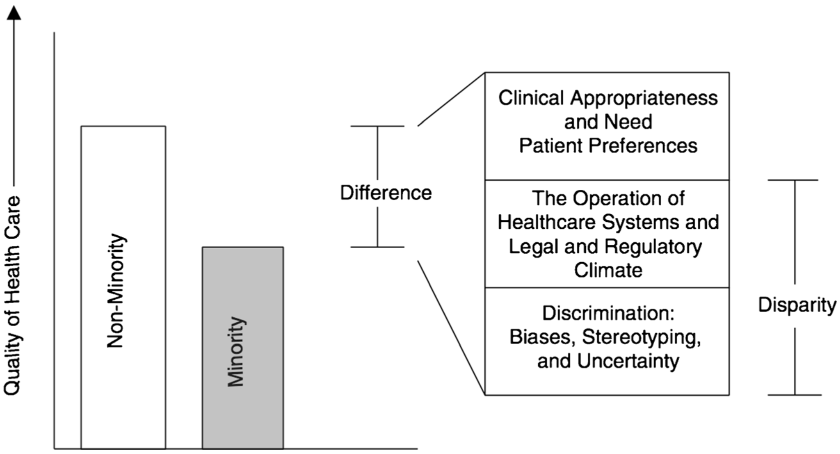

Fig. 2 Health care disparities are part of health care differences by race. (Reproduced with permission from the National Research Council. Unequal treatment: confronting racial and ethnic disparities in health care. Washington D.C.: The National Academies Press; 2003) [1]

cardiac procedures, and have worse outcomes after such procedures. Studies conducted in the 1980s and early 1990s demonstrated that black patients with coronary artery disease (CAD) were less likely to undergo diagnostic procedures and coronary revascularization with subsequent higher rates of adverse events and mortality [24–28].

More recent studies document ongoing disparities in access to interventional procedures, including diagnostic coronary angiography, percutaneous coronary intervention (PCI), and coronary artery bypass graft (CABG) surgery [14, 29–32]. These differences persist even when multiple factors are controlled for, including age, coronary disease severity, comorbid conditions, insurance status, and site of care. Non-white patients also experience significant delays to acute care: black and Hispanic patients presenting with an acute myocardial infarction (AMI) have significantly longer door-to-balloon times compared to white patients, a delay that contributes significantly to clinical outcomes [33, 34]. Differences in utilization are not fully explained by patient preference [35] or overuse among whites [36]. Recent trends in procedure utilization among other racial/ethnic minority groups have not yet been well-described.

For patients with CAD necessitating stent implantation, drug-eluting stents (DES) have lower rates of long-term restenosis, as compared to bare metal stents, in patients able to tolerate and adhere to dual antiplatelet therapy for up to 12 months [37]. After the introduction of DES in the United States in 2003, black patients were less likely than whites to receive DES [38]. Analyzing a contemporary registry of Medicare patients, Kumar et al. found that black patients were only slightly less likely and Hispanic patients were slightly more likely to receive DES as compared to white patients, suggesting that uptake of this newer technology among minorities has improved over time [39].

Placement of an implantable cardiac defibrillator (ICD) is indicated for patients with systolic heart failure with an ejection fraction ≤35 %. Registry studies initially demonstrated that rates of use were lower among women and black patients as compared to men and whites [40]. However, between 2005 and 2009, ICD use increased overall, with the greatest increase seen among black patients [41]. By 2009, racial difference in ICD use had resolved; however, differences in use by gender persisted. Appropriate use of cardiac resynchronization therapy in eligible heart failure patients may be lower in racial/ethnic minorities, but examination of this trend over time has not been well-studied [42].

Use of Evidence-Based Medications

Evidence of disparities in the use of low-cost, lower-severity interventions is less consistent. Several studies have demonstrated that black and Hispanic patients are less likely to receive evidence-based medications and counseling during an admission or at discharge for CHF or AMI. However, many of the differences are attenuated when confounders, such as socioeconomic status, comorbid conditions, and especially site of care, are taken into consideration [4••, 14, 33, 43, 44]. Uptake of newer therapies and recommendations may occur more slowly among minority populations. The CRUSADE registry demonstrated that black patients were significantly less likely than whites to receive newer therapies for acute coronary syndrome, such as clopidogrel and glycoprotein IIb/IIIa inhibitors [29].

Racial/ethnic minorities are more than 50 % less likely to be adherent to statins used for primary or secondary prevention compared to whites [45]. This relationship holds even when studying populations with similar health insurance and prescription drug coverage. In a recent study evaluating medication adherence after an AMI among Medicare beneficiaries older than 65 years, blacks and Hispanics were up to 36 % less likely to be adherent to evidence-based secondary prevention medications at 12 months. Groups with the lowest adherence rates were black and Hispanic women [46•]. These results are striking since poor adherence to secondary prevention cardiovascular medicines predicts a greater likelihood of a cardiovascular events, hospitalization, and mortality [47, 48].

The reasons for differential rates of medication non-adherence are many and complex. For example, the extent to which an individual has the confidence and skills to manage one’s own health care is increasingly recognized as a driver of medication non-adherence and differences in health outcomes [49]. Individuals who are “less-activated” are generally more passive about their health. They may be more affected by access issues than their more activated counterparts, ask fewer questions during a medical encounter, and have more unmet medical needs. Compared to white individuals, black and Hispanic individuals have far lower rates of activation, independent of differences in socioeconomic status [50]. Among low-income black patients with hypertension, self-efficacy strongly predicts medication adherence [51]. Depression is associated with adverse outcomes and mortality in patients with cardiovascular disease and co-exists with behavioral mechanisms such as smoking, physical inactivity, and medication non-adherence [52]. Furthermore, how minorities trust providers, interact with the health care system, and understand instructions may be different compared to whites [45].

Access to Care and Quality of Care

Where people live significantly impacts where people seek care, although proximity to high-quality health care does not guarantee its accessibility. Despite living closer to higher-quality hospitals than whites, black patients presenting with AMI or undergoing cardiac surgery are more frequently admitted to lower-quality hospitals [53] and experience higher mortality rates [54–57]. After CABG surgery, non-white patients have a 33 % higher risk of death compared to whites; correcting for socioeconomic factors and hospital characteristics reduces this disparity to 16 % [54]. Non-white patients are more likely to undergo cardiac surgery by lower-quality surgeons [58]. As a whole, hospitals that provide high-cost, low-quality care are disproportionately concentrated in the American South and care for twice the proportion of elderly black and a higher proportion of elderly Hispanic and Medicaid patients [59•].

Minority and low-income patients are less likely to be insured and may be more sensitive to high degrees of patient cost-sharing, an increasingly popular tactic among employers and insurers to reduce cost [47, 60]. In the USA, individuals who lack adequate health insurance are more likely to experience adverse clinical outcomes and die pre-maturely, especially if poor [61, 62]. In the ARIC registry, the uninsured had higher rates of stroke and death, but not myocardial infarction, and experienced less awareness and control of hypertension and hyperlipidemia [62]. Racial/ethnic minorities make up a disproportionate share of the low-income and the uninsured relative to their size in the population [2]. From 2002 to 2009, 21.5 % of American Indian or Alaskan Natives were uninsured the entire year compared to 17.6 % of whites [4]. Hispanic individuals most at risk for being uninsured are Mexican Americans, Central Americans, and those not born in the USA.

Even minority patients with health insurance experience significant barriers to accessing care. Individuals who are underinsured, based on a high ratio of out-of-pocket medical expenses relative to income, are more likely to forgo preventative and chronic medical care [63]. Patient cost-sharing, including copayments for medications and clinic visits, coinsurance, and high deductibles, decreases access to care and utilization of high-severity health care services among vulnerable populations. Introduction of a prescription drug cost-sharing program in Quebec found that essential medication use decreased by 9 % for the elderly and 14 % for patients on welfare; post-intervention rates of emergency room visits, hospital admissions, and mortality were significantly higher for both groups [60]. Deferment of appropriate care for urgent conditions has been observed among patients of lower socioeconomic status but has not yet been studied among racial/ethnic minorities specifically [64]. This will be important to understand as insurance plans with high deductibles and increased patient cost-sharing are being increasingly used to limit health care spending.

Having a usual source of care may be as important as health insurance for patients to receive consistent preventative care [65]. Lower-income and non-white individuals are significantly less likely to identify a usual primary care provider and rely more on acute hospital care [4••]. In a survey of 40 predominately low-income black individuals, preferential use of emergency department care instead of ambulatory care stemmed from the perception of easier access, affordability, and higher quality of care [66]. Non-English speakers are less likely to seek medical care, even if insured, and are more likely to report negative health care experiences [67].

Racial and socioeconomically related differences in referral patterns may reinforce differences in health care quality [56]. Black Medicare enrollees are more likely to see primary care physicians who are less likely to be board certified, less likely to provide appropriate health screening, and more likely to report difficulties in providing high-quality care [68]. Furthermore, black patients are less likely to receive specialized care from a cardiologist and are thus less likely to receive evidence-based cardiac procedures or be referred to cardiac rehabilitation programs [69]. Provider-level factors, such as stereotyping, bias, and cultural insensitivity, also impact health disparities [1]. In a survey of 344 cardiologists, one-third agreed that disparities exist in cardiovascular care, but only 5 % believed that disparities existed in the care of their own patients [70]. Respondents were far more likely to identify patient and system level factors as contributing to health disparities than provider-level factors. The contribution of conscious or unconscious racial bias by providers deserves further study, since this behavior may be amenable to intervention in early medical training [71].

Neighborhood and Social Environment

Racial/ethnic minorities are more likely to live in neighborhoods that are bad for their health. Urban neighborhoods that are identified as predominately black have less access to healthy food options; fewer recreational facilities; and more advertising promoting tobacco, alcohol, and high-calorie foods [72, 73]. Individual lifestyle choices are important for maintaining health and preventing illness; however, neighborhood and social factors can make risk factor prevention and control more challenging for certain groups. Environmental factors also play a role. Individuals living in low-income neighborhoods are in closer proximity to sources of industrial pollution and have more exposure to lead in their homes. Although lead exposure has decreased substantially in the USA since the 1970s, blacks continue to have higher lead levels that may interact with stress, leading to increased rates of hypertension [74].

The association of acute and chronic psychosocial stress with cardiovascular risk and events is well established, and racial/ethnic minorities and other groups may experience an excess burden of stress. Work, marital, and caregiver stresses are all associated with myocardial ischemia and cardiac events, which may be more evident in low-income populations [75–78]. Chronic stress can accelerate the atherosclerotic process but it also associated with behavior changes that impact cardiovascular risk, such as smoking, sedentary lifestyle, or medication non-adherence [79].

Perceived racism and internalized racism have been associated with physiological changes and may contribute to health care disparities by the degree of stress that an individual experiences [80]. Although some studies have shown association of perceived racism with blood pressure and cardiovascular outcomes, the results are mixed [81]. Following a diverse group of 3,300 pre-menopausal women, the SWAN study demonstrated high rates of perceived unfair treatment: 65 % black women, 27 % Hispanic women, and 47 % whites reported a high degree of perceived unfair treatment based on race, ethnicity, or gender. Perceived unfair treatment was not correlated with higher blood pressure [82].

Opportunities for Change

Successful interventions that improve outcomes for racial/ethnic minorities have been well-documented across a broad range of chronic conditions, including hypertension, diabetes, asthma, HIV, and cancer [83]. The design of interventions to reduce cardiovascular disparities should borrow from lessons learned from within and outside the field of cardiovascular medicine. Davis et al. conducted a review of studies focusing on interventions to improve cardiovascular care and outcomes among racial/ethnic minorities published between 1996 and 2006. Of the 62 identified interventions, the majority focused on prevention and control of cardiovascular risk factors, such as hypertension and tobacco use; few studies concentrated on patients with CAD or congestive heart failure (CHF) [84]. This survey demonstrates that although documentation of cardiovascular disparities is robust, implementation and evaluation of programs to address them is still lacking.

Some interventions designed to improve quality of care may have the untoward effect of worsening care for vulnerable populations, including care for racial/ethnic minorities. Performance incentive programs, such as pay-for-performance and public reporting, may widen the disparity gap by penalizing physicians who take care of high-risk and vulnerable patients [85]. After the release of CABG report cards for surgeons in New York State in 1991, disparities in CABG use for black and Hispanic patients increased, although subsequently fell to the pre-report card level over the course of the next several years [86]. The Hospital Value-Based Purchasing Program enacted by Medicare in 2012 provides financial rewards to hospitals that achieve specific process measures and better clinical outcomes. Unfortunately, an analysis of the first year of the program suggested that hospitals that care for a higher proportion of socioeconomically disadvantaged and minority patients received lower Medicare payment adjustments with a financial impact that is expected to be significant [87].

In 2005, the Robert Wood Johnson Foundation launched *Finding Answers*: *Disparities Research for Change*, a program designed to survey disparity-centered interventions and fund innovative programs focused on improving outcomes in patients with diabetes, cardiovascular disease, and depression. The program also provides a framework for health care professionals and organizations to improve minority health through a standardized process using root cause analysis. Their website provides a database of interventions linked to health care delivery settings that have been found to be effective across different strategies, racial/ethnic groups, and disease states. Interventions identified as most successful were those that were multi-factorial, culturally tailored, and used interactive skills training with a multi-disciplinary team of care providers [83].

Three approaches that show promise as ways to mediate racial/ethnic health disparities in cardiovascular disease are described in greater detail below.

Equal Care Through Guideline Adherence

Standardization of treatment protocols for AMI and CHF has improved short- and long-term outcomes for many patients. Get with the Guidelines (GWTG) is a national hospital-based quality improvement program and prospective registry that promotes adherence to evidence-based guidelines for patients with CAD, CHF, atrial fibrillation, and stroke. The program provides professional educational sessions, patient education resources, quality improvement, and feedback on process measures and outcomes to participating hospitals. Participation in hospital-based quality improvement programs is associated with improved process measures and clinical outcomes [88].

To understand how participation in the program impacted health disparities, Cohen et al. evaluated more than 140,000 patients with AMI treated at one of the 443 participating hospitals between 2002 and 2007 [33]. During the first year of the study, black patients received lower quality of care compared to whites. But, by the end of the study, the small difference in quality had been eliminated such that all patients were receiving similar quality of care. Despite these improvements, some disparities do persist. A subsequent analysis of the GWTG-CAD cohort found that although time to revascularization in patients presenting with AMI decreased over time, black and Hispanic men continued to be at greater risk for a door-to-balloon time of greater than 90 min [89].

It is important to note that improvements in process measures among minorities, while compelling, do not necessarily translate into improved clinical outcomes over time. The results may represent a selection bias by hospitals choosing to participate in a quality improvement intervention; alternatively, improved outcomes may represent global improvements seen for all patients and among all hospitals due to Medicare payment reforms and other similar interventions [90]. Emphasizing the importance of racial/ethnic data collection in prospective registries, such as GWTG and the National Cardiovascular Data Registry (NCDR), will allow practitioners to study the impact of quality improvement interventions and health system changes on health disparities.

Improved Access to Care

The Affordable Care Act (ACA) will allow previously uninsured Americans to gain access to health insurance and may particularly benefit vulnerable populations. Medicaid expansion will allow individuals in participating states with incomes less than 138 % of the federal poverty level ($26,951 for a family of three in 2013) to enroll in this program. Individuals with household incomes between 139 and 399 % of the federal poverty level will receive a tax credit subsidy and will be able to purchase coverage through the health insurance exchanges. Over 90 % of Hispanic, black, and American Indian/Alaskan Native non-elderly adults in the USA have incomes that could qualify them for either Medicaid expansion or tax credit subsidies [91]. Because Medicaid expansion is a state decision, as of December 2013, 25 states were not planning to expand Medicaid coverage and an estimated 5 million low-income, non-elderly adults will remain uninsured [92].

For insured individuals, programs that selectively reduced patient-out-pocket spending for evidence-based medications may be effective for reducing disparities. This strategy has been shown to improve medication adherence, reduce vascular events, and lower patient-out-of-pocket costs at no increased cost to insurers when used for secondary preventive therapies among post-myocardial infarction patients [93]. The effectiveness of this approach is particularly large for non-white individuals and, in fact, essentially eliminated many of the observed differences in post-MI outcomes based on race and ethnicity [94]. A provision promoting this approach, known as value-based insurance design, was included in the ACA [95].

Culturally Tailored Interventions

Interventions designed to improve cardiovascular outcomes may offer varying levels of benefit to people based on race/ethnicity and other sociodemographic factors. Nurse outreach and management has been shown to be effective for patients with a variety of cardiovascular conditions, especially in minority communities [84]. Nurses can serve many roles, including providing counseling on healthy behaviors, directly managing medications, and serving as a liaison between the physician and community health workers. Bosworth et al. conducted a multi-arm trial evaluating telephone-based interventions for hypertension control among patients followed in the Veterans Administration system [96]. Patients with uncontrolled hypertension at baseline demonstrated a sustained response from an approach combining medical and behavioral management, which included hypertension education and self-management skills. When they analyzed the results by racial subgroups, they found that black patients had a sustained response to the intervention (6.6 and 9.7 mmHg reduction in systolic pressure and 12 and 18 months, respectively) while white patients did not benefit at all [97].

Programs with community health workers [98], peer mentors [99], faith-based organizations [100], and local institutions such as barber shops [101] have also shown substantial promise and offer insight into the diversity of methods that can be used to improve the health of minority populations.

Conclusion

Efforts to improve the quality and value of health care in the USA have resulted in improved outcomes for many patients. Equitable care is an important component of high-quality care, and successful interventions to reduce health disparities must be identified and integrated into the health care system at the national, institutional, and/or community level to have a meaningful and sustained impact. Since the publication of the IOM report in 2002, we have made significant progress in understanding potential causes of racial/ethnic disparities in cardiovascular disease. Policy changes, such as the Affordable Care Act, will improve access to care for millions of Americans. The ongoing standardization of evidence-based care and quality improvement will improve health care for many patients with heart disease. Best practices to reduce disparities by engaging individual providers and patients are still being identified and will constitute an important approach to disparity reduction. Almost half of all Americans have cardiovascular disease and heart disease remains the number one cause of death for adults in the USA [6]. The potential impact of eliminating racial/ethnic disparities among patients with cardiovascular disease is tremendous.

Compliance with Ethics Guidelines

Conflict of Interest Jennifer Lewey declares that she has no conflict of interest.

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Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

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- •• Of major importance

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