Special Report

Eliminating Disparities in Cardiovascular Health
Six Strategic Imperatives and a Framework for Action

George A. Mensah, MD

Abstract—Disparities in cardiovascular health are among the most serious public health problems in the United States today. Despite the remarkable declines in cardiovascular mortality observed nationally over the last 3 decades, many population subgroups defined by race, ethnicity, gender, socioeconomic status, educational level, or geography show striking, and often widening, disparities in cardiovascular health. The pervasive nature of these disparities and compelling evidence of the adverse impact they have on clinical outcomes and quality of life have been well documented. The elimination of these disparities is 1 of the 2 overarching goals of the *Healthy People 2010* national public health agenda; however, few publications provide guidance on what actions to take. In this review, 6 strategic imperatives within a framework for action are presented. Other key elements of the framework include 10 focal areas and 6 major settings within which the framework calls for accelerated interventions to eliminate disparities in cardiovascular health. Success in this endeavor will require innovative and comprehensive interventions built on a foundation of sound clinical and public health science. Strategic partnerships with communities, community-based organizations, state and local governments, and public and private partners from both health and nonhealth sectors are essential. Additionally, investment in local-level disparities surveillance, community-based participatory research, and development of a diverse clinical and public health workforce will be invaluable. **(*Circulation*. 2005;111:1332-1336.)**

Key Words: population ■ ethnic groups ■ prevention ■ cardiovascular diseases

In issuing guidance for preparing the national healthcare disparities report, the Institute of Medicine stated that health disparities "are among this nation's most serious health care problems."[1] Within cardiovascular health, evidence for the existence of disparities and inequities in the quality of prevention, treatment, and control of cardiovascular diseases is compelling.[2,3] For example, the National Conference on Cardiovascular Disease Prevention, a transagency conference convened at the encouragement of the US Congress in 1999, concluded that there were wide and "striking" differences in cardiovascular mortality on the basis of race/ethnicity, socioeconomic status, and geography and that these disparities pointed to "major gaps in efforts to use available, proven approaches to control cardiovascular diseases."[4,5] More recently, the landmark report on national healthcare disparities stated that "disparities are pervasive in our health care system," and that these disparities come at "a personal and societal price."[6]

For many population subgroups defined by race, ethnicity, gender, socioeconomic status, and rural or urban residence, the personal and societal price of disparities is excessive. Nowhere is this more evident than in cardiovascular health. For example, cardiovascular diseases alone account for more than one third of the differences in life expectancy between blacks and whites.[7] Although these disparities are well publicized, specific strategies for their elimination have been less clear. In this report, a framework for action to eliminate disparities in cardiovascular health is presented.

The Framework for Action

The proposed framework has 3 main domains (Figure). The first domain comprises 6 strategic imperatives that identify actions that must be taken to achieve the overarching goal of eliminating disparities (Table). These strategic imperatives address the need to accelerate evidence-based interventions in disparate population subgroups; use policy and environmental change strategies; and highlight the importance of multidisciplinary and transsectoral partnerships. The additional strategic imperatives address the importance of disparities surveillance; community-based participatory research and translation; and the identification, recruitment, and retention of a diverse clinical and public health workforce. The second domain addresses 10 focal areas that reflect the complex etiology of disparities, within which interventions must be undertaken (Table). The third domain (Table) emphasizes the importance of taking action across multiple major settings.

Interventions are most likely to be successful in eliminating disparities if they address all 3 domains, and especially if they use multiple elements from the framework. In the

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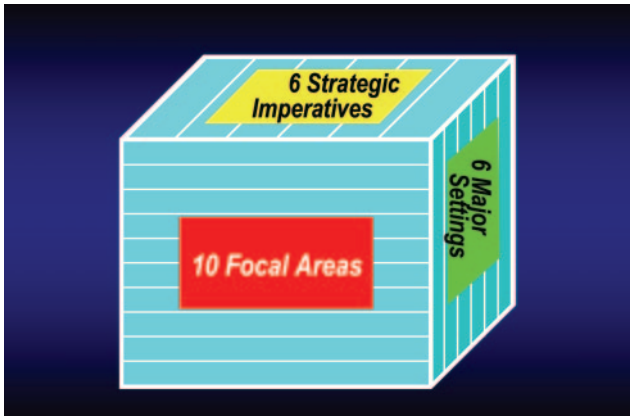

Framework for eliminating disparities in cardiovascular health.

following sections, additional details of the framework are provided. Whenever possible, other resources that may help in understanding and using the framework are identified. The lack of success stories or science-based evidence of impact on disparities associated with specific elements in the framework should not be taken as evidence of lack of usefulness but as a catalyst for specific program-relevant research within the relevant domain.

A Framework for Action to Eliminate Disparities in Cardiovascular Health

A. Strategic imperatives
   1. Accelerate health impact in disparate populations
   2. Advance policy and systems change
   3. Form strategic multidisciplinary partnerships
   4. Expand community-based participatory research and research translation
   5. Collect healthcare data by race, ethnicity, and disparities indicators
   6. Ensure a diverse clinical and public health workforce

B. Focal areas
   1. Access to health care
   2. Quality of health care delivered
   3. Patient preferences, healthcare utilization, adherence
   4. Culture, lifestyles, and personal behaviors
   5. Regulations, policies, and systems of care
   6. Geographic and environmental influences
   7. Income and educational levels
   8. Prejudice, discrimination, and bias
   9. Psychosocial stressors
   10. Biology, genomics, and gene–environment interactions

C. Major public health settings
   1. Communities, cities, counties, regions, states
   2. Schools and colleges
   3. Work sites of small and large businesses
   4. Hospitals, clinics, doctors' offices, emergency departments
   5. Faith-based settings (eg, churches, synagogues, mosques)
   6. Centers for training health professionals

Strategic Imperatives

Accelerate Health Impact in Disparate Populations

Improving health for all is necessary but insufficient to eliminate disparities. We must accelerate both interventions in health promotion and the prevention, evaluation, treatment, and control of cardiovascular disease in populations with the highest cardiovascular disease and risk factor burdens. Unless this is done, cardiovascular health disparities can actually worsen, even though overall cardiovascular morbidity and mortality may improve for all population subgroups. For example, the slower rate of decline for age-adjusted mortality in blacks compared with whites has led to a widening of disparities between these 2 groups even though overall mortality has declined for both.[8–11]

Advance Policy and Systems Change

Individual responsibility and behavior change are important but must be supplemented with widespread policy and systems changes in the healthcare setting. We must engage the active participation and leadership of federal agencies, state and local governments, policy makers, healthcare providers, and health professional organizations in these endeavors. Several working models that have successfully reduced health disparities in managed care and other settings have been published and are being used by public, private, commercial, and Medicaid managed-care organizations.[12–14]

Key features of these successful models include the formation of partnerships based on common goals to provide care, to educate, and to rebuild healthcare systems.[12] These models also champion a basic emphasis on prevention, health education, case management, disease-management tracking, centralized data collection, and appropriate use of technology and informatics for data analysis, provider feedback, and service coordination.[12,15,16]

Form Strategic Multidisciplinary Partnerships

Strategic partnerships, especially with the communities that bear excess burden of cardiovascular disease, are crucial for successful elimination of disparities.[17,18] The complex etiology of disparities requires a multidisciplinary and transsectoral approach in multiple settings. We must form strategic partnerships with communities, community-based organizations, community leaders, business executives, educators, the general public, and a multidisciplinary array of professionals from the nonhealth sectors.[3,17,18]

Expand Community-Based Participatory Research and Research Translation

Community-based participatory research has been identified as an important collaborative strategy for developing effective interventions to address health disparities.[3] Direct involvement of the community and community-based organizations and institutions in the design, implementation, and evaluation of health disparities research increases the likelihood of developing sustainable, culturally relevant strategies for addressing the complex etiology and the social and environmental determinants of disparities. Several models of such collaborations have been described, and the results of initial formative research in this endeavor have been encour-

aging.[19–25] Continued public health support for and expansion of these collaborations are crucial.

Collect Healthcare Data by Race, Ethnicity, and Disparities Indicators

Summary data from national vital statistics are important but must be supplemented with population-based, local-level data on disparities. We must collect local-level healthcare data by race, ethnicity, gender, and other indicators of disparity to inform and guide program development, implementation, and evaluation.[14,26,27]

Ensure a Diverse Clinical and Public Health Workforce

A skilled and diverse public health workforce is the key to achieving the goals and objectives of *Healthy People 2010* and eliminating health disparities[28]; however, discussions of the clinical and public health workforce issues have focused mostly on supply, composition, training, and competency.[29] Increasingly, the diversity of the workforce is seen as an important aspect of workforce development and planning. In particular, increasing the racial and ethnic diversity of the healthcare workforce is essential in efforts to provide culturally competent care and expand healthcare access for the underserved.[30] The barriers to and opportunities for increasing the proportions of women and ethnic minorities in the cardiology workforce have been published recently.[31,32]

The Focal Areas

The 10 focal areas identified reflect the complex etiology of health disparities. They vary in terms of their contribution to disparities and the weight of the evidence suggesting that interventions that address them will also reduce or eliminate disparities. Among these 10 focal areas, access to care and quality of care are of great importance and have the most to contribute toward the elimination of disparities.

Access to Health Care

Differences in the availability, affordability, timely use, and effectiveness of health services importantly influence health outcomes and are key contributors to health disparities. Strategies to eliminate disparities must therefore address issues of healthcare access across the entire continuum of care.[33] Specifically, access to all of the following services must be improved: health promotion/education, clinical preventive care, primary care, emergency services, specialty care, and long-term and rehabilitative care.[33]

Among the *Healthy People 2010* objectives related to access,[33] the following represent key areas for addressing disparities in cardiovascular health: health insurance coverage for clinical preventive services, counseling about health behaviors, availability of a usual source and provider of care, difficulties or delays in obtaining needed health care and in receiving emergency care, racial and ethnic representation in health professions, and delay or difficulty in getting rapid prehospital emergency services. Little progress has been made in terms of meeting these goals and objectives.[34] We must accelerate interventions in these areas if we are to eliminate disparities.

Quality of Health Care Delivered

Equal access to health facilities and healthcare providers does not guarantee equal quality of care. The content of care (such as the extent of the clinical history, physical examination, routine diagnostic test use, and referral for specialty care) and the quality of care (timing and choice of appropriate interventions) may differ as a result of race, ethnicity, gender, provider bias, or racial and ethnic stereotyping.[35,36] For successful elimination of disparities, access and quality must both be addressed. We must accelerate the provision of interventions that ensure an equal level of high-quality care for all patients who present to the healthcare system with the same clinical indications regardless of race, ethnicity, gender, or socioeconomic status. The National Health Care Quality Report provides both the rationale and a framework for action in this regard.[37]

Patient Preferences, Patterns of Healthcare Utilization, and Culture

Even if access to high-quality care were universal, there is no guarantee that all persons would take equal advantage of the available healthcare services. Patient preferences, patterns of healthcare utilization, cultural beliefs and practices, personal behaviors, and lifestyle choices are important determinants of health services. We must accelerate the provision of health literacy and health promotion/education services and simultaneously improve the cultural competence of health providers. Strategies that engender patient trust in the healthcare system have been described and must be supported.[38–41]

Regulations, Policies, and Systems of Care

Although individual behaviors and personal lifestyle choices are important, we must recognize that regulations, policies, and systems of care provide important constraints on individual choices. Thus, appropriate policy development and policy changes that make healthy choices the easier choices will be needed. In particular, it will be necessary to support and enhance safety net programs.[42–46]

Geography, Local Environment, and Socioeconomic Influences

Disparities in cardiovascular health on the basis of geographic location of residence and local environment are well documented.[47–50] For example, rural residents have important healthcare challenges in addition to access barriers. Superimposed on these challenges are disparities introduced by socioeconomic factors such as unemployment, poverty, low educational level, and income inequality. The crucial role that these socioeconomic factors play in health disparities is also well documented.[51,52] Aggressive efforts to improve socioeconomic conditions, in partnership with the nonhealth sectors at the state and federal levels, can have a major impact on accelerating health gains and eliminating disparities.

Psychosocial Stress

The association of psychosocial stress and psychological risk factors with adverse outcomes in cardiovascular disease and other chronic conditions is well established.[53–55] An excess burden of psychosocial stress in population subgroups can contribute to disparities in cardiovascular health and clinical outcomes and is believed to play a role in the development of racial/ethnic health disparities.[56–58] Increased support for the

detection, treatment, and control of depression and community interventions to address social isolation, hostility, anger, and anxiety can be helpful.

Prejudice, Discrimination, and Bias

Healthcare provider bias, prejudice, racism, and related discriminatory practices have significant influences on health disparities.[35,36] Although this phenomenon is well described, we lack definitive evidence of the best strategies for confronting discrimination and eliminating its associated health disparities. Jones has presented a theoretical framework for understanding racism on 3 levels (institutionalized, personally mediated, and internalized) that can also be useful for designing effective interventions and for starting a national conversation on racism.[59] Continued research in this area is necessary. In the interim, programs and campaigns to increase awareness of the existence and adverse impact of all forms of discrimination are needed. Identification of practical legal frameworks for action and enforcement of existing federal statutes against discriminatory practices can be accelerated through increased support for the Office of Civil Rights.[35,36,60]

Biology, Genomics, and the Gene-Environment Interaction

Biology plays an important role in health disparities, but not all observed differences are genetically determined. Although genetic predisposition to certain diseases is well established, often social and environmental conditions play a far more important role. Pharmacogenomics, genetic predisposition, and family history are important determinants of susceptibility to disease and response to therapy and thus may contribute to disparities. The appropriate use of genetics and genomics in health disparities research deserves continued study.[61,62]

The Major Settings

If health disparities are pervasive in our society, then interventions to eliminate them must be undertaken in all settings where people live, work, play, or worship. Ideally, the strategic imperatives and focal areas for intervention described in the framework must be addressed in all major settings. These settings include communities, schools, work sites, healthcare environments, faith-based institutions, and centers for training clinical and public health practitioners, such as schools of medicine, dentistry, nursing, and public health.

Within communities, strategic partnerships must be formed with the residents and opinion leaders, community-based organizations, local governments, and public and private agencies from both health and nonhealth sectors, such as transportation, housing, urban development, and education. Activities within schools can focus on young people and teachers and other school employees. These settings vary in terms of their appropriateness and effectiveness for certain interventions for the elimination of health disparities. Mullen et al[63] have published recommendations for cross-setting and within-setting research related to interventions.

Summary and Conclusions

The pervasiveness of cardiovascular health disparities in the United States today stands in sharp contrast to the genius and remarkable achievements of American medicine and must be a concern to all clinical and public health practitioners, policy makers, and the general public. Although a daunting and formidable task, the elimination of disparities is attainable, and its societal benefits are compelling. A comprehensive, multidisciplinary, transsectoral approach is required. The framework presented in this review is one such approach. It does not, however, represent the official position of the American Heart Association or the Centers for Disease Control and Prevention. However, it is offered as a testable framework for action. A serious commitment to implementing similar strategies and evaluating their effectiveness is highly desirable.

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