CARDIOVASCULAR DISEASE IN RACIAL AND ETHNIC MINORITIES
Cardiovascular Disease in Racial and Ethnic Minorities

Edited by

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Dear Nar,

If I were Paul I would write an epistle or like Shakespeare I’d put it in drama form or if gifted for writing like Lil Val I’d give you a vivid account of Hurricane Betsy. Since neither is possible, you must accept this rambling story of our two nights of a dreadful experience which happens only once in an individual’s life cycle...........

..........Rescue work by helicopter was slow. That stopped at dark about 7 o’clock & people began to panic. I told Kenneth† and Keith and those around me that we may as well make the best of it, for no one knows we are here and help won’t come until morning. Let us thank God for the glorious full moon, with which he lit up the sky. God folded all of his handiwork in one massive unit of power that night. The rain fell so hard that I had to take off my glasses & hide my head. The wind blew so hard that had there been one bit of let up everything would have blown dry. The water, still slowly rising, had two more inches to go before it reached the roof top. Our only hope then was the roof of the cafeteria........

..........The worst part of the storm is going back to clean up. Everything is a total loss. The furniture broke up into splinters. We have not found the chest of drawers which we used to step into the attic. What is not destroyed is so filled with stench & slime that you’ll throw it away. The one or two pieces of clothing, after many washings still seem to hold odor. Then too, mildew and other fungi vehemently attack everything........

We learned: that communication and cooperation are necessary factors for survival in a disaster; that water is the most destructive force in the world; that ice, electricity, and telephone are precious possessions; that people are great.

Yours,

Inola

Excerpts from a letter, written by my mother, the late Inola Copelin Ferdinand, to her sister, Narvalee, after we survived dreadful days on the roof in the aftermath of Hurricane Betsy, which hit New Orleans, Louisiana, September 9, 1965, devastated the Lower Ninth Ward, and killed dozens of citizens, including my paternal grandfather, Vallery Ferdinand, Sr.

This text is dedicated to the people of the Republic of Haiti and New Orleans, Louisiana, United States of America and other victims and survivors of Hurricane Katrina and other natural and un-natural disasters, and to the researchers, healers, and all those who have committed themselves to furthering the status and improving the lives of those who have been underserved.

This work is devoted to my wife Daphne, and children Kamau, Rashida, Aminisha, and Jua who are my sources of strength and inspiration.

Keith C. Ferdinand, MD

* My eldest brother, Kalamu ya Salaam (Vallery Ferdinand III)
† My 2nd eldest brother, Kenneth Ferdinand
I offer this text as a token of my appreciation to Alexander Armani for all his love and patience for his single working mother.

Annemarie Armani, MD
FOREWORD

This textbook, *Cardiovascular Disease in Racial and Ethnic Minorities*, confirms that there is much to be learned about some of the unique aspects of heart and vascular diseases related to various subpopulations. By studying differences in morbidity, mortality, and pathophysiology, the various authors assembled by Keith C. Ferdinand, MD, clearly illustrate areas of concern and much needed further research into health-care disparities, specifically related to race and ethnicity. Before my tenure as director of the Centers for Disease Control and Prevention (CDC), and later 16th Surgeon General and Assistant Secretary for Health, and onward until present time, I am personally committed to defining the best methods to understand health and illness and eliminate disparities related not only to race and ethnicity but also to gender, socioeconomic status, religion, and geography. One of the shared strengths of the American society is the ability to recognize circumstances which are unacceptable and seek means to compassionately address those unfortunate situations.

Prior to the Healthy People 2010 report, health experts including the authors of Healthy People 1990 and 2000, listed decreasing health disparities as a primary goal. However, as clinicians, public health scientists, and others now recognize, our ultimate goal should be and must be the elimination of disparities. As a society, we have effectively increased life expectancy over the last century by greater than 30 years and markedly improved quality of life. Nevertheless, disparities remain and are unacceptable. Therefore, our national goal to eliminate disparities versus short-term objectives related to specific risk factors should have no timeline. Both increasing access to health care and future research into genetics and genomics are essential. Nevertheless, these two areas combined may comprise only 35–40% of overall health determinants. Environmental factors, both physical and social, are paramount and must be addressed in order to eliminate disparities. Health is not just the absence of modern technological interventions. Culture counts; how people manifest diseases and illnesses is directly related to decision making, coping with stressors, life organization, and financial and educational attainment. Social determinants, poverty, and education, including health literacy and cross-culture sensitivity and communication are vital. To eliminate disparities will be a long and arduous task. These unfortunate, adverse situations have developed over centuries and will not be reversed in a few years of enlightened intercession. Dedicated, well-funded approaches to eliminate disparities, specifically related to cardiovascular diseases are
essential. Physicians and other clinicians often lack the extensive knowledge base needed to approach cardiovascular disease in various racial and ethnic minorities. As Dr. Martin Luther King, Jr. most eloquently noted, “Of all the forms of inequality, injustice in healthcare is the most shocking and inhumane.”

This excellent text, *Cardiovascular Disease in Racial and Ethnic Minorities*, will contribute greatly to our understanding of the present status of multiple cardiovascular conditions and related issues. The various authors and the editor should stimulate clinicians and others to purposeful action.

*David Satcher, MD, PHD*
This textbook on *Cardiovascular Disease in Racial and Ethnic Minorities* is designed to explore the importance of human genomic variation and the impact of environment on cardiovascular diseases. The Human Genome Project has confirmed that all human populations, regardless of self-identified race or ethnicity, are essentially the same, with widespread variation within self-defined racial groups. In this project, we did not attempt to confirm the validity of race, but to examine to what extent biomedical and scientific literature can clarify the impact of genetic variation versus environment as related to cardiovascular disease.

Specifically, this project was initiated with the encouragement of Annemarie Armani, MD, and is the culmination of our multiple prior collaborations, and our collective efforts to quantify and highlight accurate data and the unique aspects of cardiovascular-related conditions in multiple populations. In choosing varied areas of clinical practice and research, we sought to include experts who have both a history of academic rigor and a thoughtful reflection on these areas of study.

Medical knowledge is more than the simple accumulation of unrelated data. We learn from our patients, and when we delve into these sensitive areas of racial/ethnic disparities, we become better practitioners. In order to keep pace with the shrinking world, medical science must recognize that advances in transportation and communications increase global connectivity. In a 2008 document, the World Health Organization (WHO) confirmed that heart disease remains the top cause of worldwide mortality. Cardiovascular disease, including myocardial infarction, heart failure, and stroke, especially among women, accounts for 29% of deaths worldwide each year. This WHO report on the global burden of disease also confirmed that infectious diseases also contribute to 16.2% of worldwide deaths and thirdly, cancer causes 12.6% of global deaths. Furthermore, the WHO asserted that women die more often from heart disease than men (31.5% versus 26.8%). As noted throughout the text, the primary forces behind the consistent high rates of heart disease in various populations are persistently and increasingly overweight and obesity status, insufficient physical activity, and the excess consumption of fat and salt.

I was nurtured and educated by my parents, Vallery Ferdinand, Jr., and Inola Copelin Ferdinand, to be a force for positive change and contribute to the removal of inequities in our society. My first formal education beyond the shelter of my native Lower 9th Ward and the segregated South occurred as a
Telluride Scholar at Cornell University in Ithaca, New York. As a freshman, initially majoring in history, I was energized by the passion of the youth of the turbulent 1960s to make a difference in other people’s lives. Along with several of my fellow student activists, I chose to serve my disadvantaged community through medicine. We considered it essential to use our formal training to impact the welfare of the African-American community and other disadvantaged groups only recently emerging from the shadows of an American experience crippled by racial strife and inequality.

Subsequently, at the historic Howard University, College of Medicine, I became convinced that internal medicine and specifically cardiovascular disease should be my primary area of research and clinical practice since African-Americans were clearly disproportionately affected by hypertension, heart failure, stroke, and end-stage kidney disease. Medical textbooks published before this time considered coronary heart disease to be a rare cause of morbidity/mortality in United States blacks. These earlier concepts were wrong. Cardiovascular heart disease mortality in African-Americans is the highest of all major racial/ethnic subpopulations in the United States.

As recently as 2008, organized medicine, specifically the American Medical Association (AMA), recognized its complicity in propagating racial inequality through an unfortunate history of omission and commission. Apologizing for these past errors, the AMA, along with the National Medical Association and the National Hispanic Medical Association, have created a commission to address healthcare disparities. The coalition’s goals are to identify and promulgate means of eliminating health disparities (www.ama-assn.org). In this light, the best means for assessing nuances and significant findings related to cardiovascular disease in various populations is to address a broad range of topics with a diverse group of experts and I have invited submissions from a wide range of geographically and racially/ethnically diverse men and women.

In this book, we explore new findings and implications of genomics and inherence specifically related to single-nucleotide polymorphisms and the concept of ancestry versus the sociopolitical historical category of race. Perhaps in the future, medical research will not use the blunt, inaccurate determination of race as a category but will attempt to define the risk of certain diseases based on genomics, including better understanding and identification of these single-nucleotide polymorphisms. In the interim, the very presence of unacceptable cardiovascular disease disparities, based on race and ethnicity, specifically in the United States, indicates the need for universal access to evidence-based medicine, removal of socioeconomic barriers, and the application of therapeutic lifestyle changes for all individuals at increased risk.

Our understanding of cardiovascular disease in minority populations in the United States and eventually multiple populations worldwide must include the impact of environment. High rates of cardiovascular disease in
various racial/ethnic populations will not be curtailed if we do not address obesity, diabetes, and the impact of westernization and urbanization of lifestyle. Describing the essence of Hawaiian culture in the provoking text, Nā Kuʻāina: Living Hawaiian Culture, Davianna Pōmaikaʻi McGregor traces the unbroken lineage of native Hawaiians, noting that their very survival is related to their positive relationship to the land and resources where they live and work. Similarly, the various authors in this text recognize the impact of adverse lifestyle, especially urban living conditions on cardiovascular disease, and have weaved new and emerging data related to these findings throughout this work.

Medicine is both art and science. Clinicians who believe that medical knowledge is simply a collection of tangential data cannot fully appreciate the significant interaction between environment, culture, social economic status, and politics that impact the health of each individual in our society. The unique and forward-thinking Ghanaian author, Ayi Kwei Armah, wrote in his groundbreaking fiction/fact-filled novel of the need for Africans to embrace healers. In his 1978 allegorical tale, The Healers, he noted that there is greater power in healing than our individual desire for supremacy and accumulation of wealth. This power lies in the ability to help life recreate itself. Although Armah’s text refers to African society and the need to overcome the wounds of colonialism, this concept can be applied to any environment where people have been unduly injured and suffer from lack of access to health, unequal application of modern, evidence-based medicine, or live in an environment burdened by poverty and adverse lifestyle.

In 25 years of direct patient care in cardiovascular medicine in my native Ninth Ward, New Orleans, Louisiana, I along with my wife, Daphne Pajeaud Ferdinand, PhD, APRN, maintained an independent, progressive cardiovascular center, Heartbeats Life Center, which served the people of our native Crescent City community. During the development of our clinic, it became increasingly evident that simply prescribing medications, and completing diagnostic testing, and interventional procedures would not successfully curb the disproportionate high levels of cardiovascular morbidity and mortality experienced in the community. On August 29, 2005, the Southern Gulf Coast was devastated by Hurricane Katrina, including the flooding of 80% of New Orleans and the devastated the Lower 9th Ward. Heartbeats Life Center remains at present an empty shell. Nevertheless, the study of cardiovascular medicine and the application of technologically advanced care must continue to respond to the needs of all populations. Working with the Association of Black Cardiologists, the National, Heart, Lung and Blood Institute on its ad-hoc community on minority populations, and the Center for Disease Control and Prevention, and others I have become increasingly aware of the subtle distinctions in how cardiovascular diseases present and are managed in various subgroups.
This compilation hopefully stands as one small effort to define and clarify the nuances of how racial/ethnic groups manifest cardiovascular illnesses and seeks best practices to control risk factors and eliminate unnecessary death and disability. The expert authors will hopefully be recognized for their significant contributions to the medical literature and prompt us to further overcome shortcomings in our understanding of the complex nature of various cardiovascular conditions.

“Wise people are not absorbed in their own needs. They take the needs of all people as their own.”

*Inspiration from Tao Te Ching*

*Keith Copelin Ferdinand, MD*
ACKNOWLEDGMENT

The editor has been supported during this project and throughout my career by my wife, Daphne P. Ferdinand, RN, MN, PhD. Also, I would like to acknowledge the invaluable contribution of Annemarie Armani, MD in the initial conceptualization and development of this text.
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