Perspective

Perspective: Black Resilience - Broadening the Narrative and the Science on Cardiovascular Health and Disease Disparities

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The health of African Americans has been largely described in terms of deficits, disease and death. Little attention has been historically given to the fact that African Americans as a population show the sustained ability to survive an evolving array of social, economic and environmental adversities that date back to more than a century before the founding of the United States. While these inequities have indeed taken (and continue to take) a devastating toll, there is also wide heterogeneity in outcomes, suggesting the existence of substantial individual and collective resilience among African Americans.

This Perspective aims to stimulate discussion and research that explores resilience in a population in which "overcoming" and "bouncing back" from adversities (ranging from minor incidents to legally ordained, chronic and horrific oppression) has been a requirement for survival. Rigorous scientific exploration of Black resilience may yield important insights into the phenomenon of human resilience that transcend race. *Ethn Dis.* 2020;30(2):365-368; doi:10.18865/ed.30.2.365

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Introduction

There is growing acceptance of the fact that the resolution of health disparities is beyond the reach of classical medical science alone.[1] Consider disparities in cardiovascular disease (CVD), the nation's leading killer. CVD kills approximately 600,000 people annually in the United States and costs nearly $207 billion each year in lost productivity and health care costs.[2,3] Research-driven advances in prevention strategies and medical care have dramatically decreased CVD-related deaths over the past 50–60 years.[4] However, these gains have been decidedly unequal: the declines in CVD deaths among Black men and women lag substantially behind those of their non-Black American counterparts, resulting in approximately 36,000 excess CVD deaths per year among Blacks. This is a public health tragedy.

Social Determinants of Health

While specific proximate factors like hypertension and diabetes can be identified and treated, primordial origins, exacerbating factors and inadequate care for CVD (and other diseases) are profoundly driven by racially determined social conditions. This conclusion is not a 21st century epiphany. In 1899, W.E.B. Du Bois wrote, "One thing we must of course expect to find, and that is a much higher death rate at present among Negroes than among whites….They have in the past lived under vastly different conditions and they still live under different conditions…"[5,6] These words retain their relevance today, especially in the

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context of unresolved battles over health insurance and environmental racism, punctuated by escalating racist rhetoric and actions that are reminiscent of our worst eras past. From policy to interpersonal levels, African Americans as a group are chronically confronted with exposures and disadvantages that have well-documented—and negative—health impact.[7]

Toppling the Monolithic View of Black Health

As noted above, the consequences of health disparities are catastrophic. Fortunately, documentation of disparities over the last several decades has helped focus the attention of the lay, scientific and policy communities – leading to the emergence of a large body of literature and compelling calls to action.[8] This represents an enormous step forward. However, the frequent, emphatic repetition of disparity statistics (necessary to drive home the reality of health inequities) can have the unintended consequence of portraying African American individuals as peculiarly vulnerable; that "blackness" –not the race-based adversity it incites – is a risk factor for bad outcomes. Many clinicians in the United States train or practice in "safety-net" city hospitals where they encounter large numbers of desperately poor and desperately ill Black patients; their anecdotal experiences reinforce a stereotypical image of the vulnerable, unhealthy African American.

This monolithic view of Black health does a disservice to African Americans and to scientific inquiry. Blacks are a heterogenous group with more genomic variability than any other human population; individual health outcomes among the Black population are likewise highly varied and often intriguingly good despite expectations.[9] Hypertension is known to be highly pervasive and virulent in Blacks; but half of all Black adults do not have it. Lifespans of elderly African Americans (those aged >80-85 years) have long been noted to be at least as long as those of their White counterparts.[10] Data from the famous Evans County Study showed a group of rural Blacks in the 1960s had far less evidence of coronary disease than their White counterparts despite having significantly higher blood pressures and smoking rates.[11] Despite these and similar intriguing findings, the focus of research on African Americans' health is almost always on Black vulnerability, not strength—a strength which, by any reasonable measure is considerable given the chronic, transgenerational stressors experienced by African Americans since arrival to the Western Hemisphere via the Transatlantic slave trade. Individual and group resilience among Blacks is hiding in plain sight. As scientists, understanding this "wonder" should be at least as compelling a priority as understanding group and individual vulnerabilities.

Additionally, overlooking this heterogeneity of response in the face of ubiquitous stress misses the opportunity to study a critical human capacity—the phenomenon of resilience. Human resilience is necessary because threats to homeostasis and survival are an inevitable fact of life. All living things encounter health dangers routinely. The ability to resist or overcome such challenges is necessary for survival of cells, tissues, organs, systems and ultimately the organism itself. In circumstances where stressors are encountered in excess frequency, number or severity, a larger proportion of those exposed will succumb to disease and death, just as Du Bois observed. But among the healthy survivors of relentless challenge, remarkable examples of resilience may occur. To quote James Baldwin's assessment of African Americans in Harlem in the middle of the 20th century: "…the wonder is not that so many [Black people] are ruined but that so many survive."[12] Understanding Black resilience—individual and collective—may help chart new pathways to understanding health in the face of adversity.

Resilience

Among health disciplines, psychology has led in the study of human resilience. The American Psychological Association offers a simple definition: "…the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress."[13] This definition also works beyond the realm of psychological well-being. Cellular resilience after exposure to a toxin *in vitro*, for instance, exists entirely without psychological input.[14] On the other hand, the probability and degree of recovery after myocardial infarction, an obvious feat of resilience, may depend significantly on psychosocial predispositions like optimism as well as purely

biological features of the person and the event. The blurred lines in defining resilience may be best addressed within a "multiple resiliencies" framework that explains how an individual can combine their psychological resilience with other types of resilience (eg, physiological, social) to achieve a physical resilience in the face of biological stressors, internal and external.[15] For Blacks, instances of health and longevity co-exist with terrible disparities, the latter of which are "utterly predictable," given the strains borne disproportionately by Blacks.

The MECA Study

The Morehouse-Emory Cardiovascular (MECA) Center for Health Equity Study is taking a deep-dive into self-reported Black heterogeneity and resilience in cardiovascular health. It is being conducted in Atlanta, Georgia, long considered to be the "Black Mecca." Despite this moniker, Atlanta has been overlooked for inclusion in large-scale studies of Black cardiovascular health. Given the city's diversity in African American's SES (a highly potent social determinant of health) and the size of the Black population (nearly 2 million), Atlanta is an ideal location for studies of Black heterogeneity in cardiovascular (CV) health and resilience-defined operationally as unexpected good cardiovascular health (individual or neighborhood) in an environment of excess risk.[16]

MECA is divided into three projects that aim to explore determinants of Black CV resilience on 3 distinct levels: environmental/social context; individual clinical parameters; and epigenetic/metabolomic characteristics.

Early findings reveal the existence of "resilient" and "at risk" neighborhoods, often geographically contiguous, where CVD rates vary widely after controlling for median Black household income. Subsequent analyses have yielded interesting correlations. For instance, neighborhoods high in measures of social cohesion and social interaction were strongly associated with CV resilience. In fact, these two factors were the strongest neighborhood-level promoters of Black CVD resilience, perhaps stronger than elements of the built environment like walkability. *Individuals* living in the "resilient" neighborhoods who also possessed personal psychological attributes such as "purpose in life" and "environmental mastery" were even more likely to have evidence of individual resilience. The additive power of these specific psychological and environmental factors may point toward useful interventional strategies.[17,18]

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Physiologic studies and a small clinical trial assessing variations in vascular function, inflammation, oxidative stress and progenitor cell populations are ongoing. Further, miRNA and metabolomic scans are being analyzed; clues to the gene expression and metabolic phenotype of resilience that emerge from these approaches may shed light on resilience at the molecular and epigenetic levels. Together, these multi-layered investigations of social context, psychological profile and biological markers (from clinical to molecular) may open the door to new targets for preventive and therapeutic CVD intervention. Stored blood offers the opportunity for additional exploration and correlation of biomarkers with vascular, psychosocial and environmental parameters.

Closing Thoughts

Historical and present-day inequities are real, pervasive and take a devastating toll on Black health. The dehumanizing horrors of 11 generations of chattel slavery followed by enforcement of a myriad of legalized (and *de facto*) social and economic mechanisms of oppression and deprivation have had an undeniable and lasting negative health impact on Blacks. Yet the resultant catastrophe of disparities is not the whole story of Black health. A more complete narrative would also emphasize that African Americans have been called upon to muster extraordinary strength of mind and body for the sake of psychological and physical survival. Instances of survival and health among Blacks under extraordinarily adverse circumstances represent the essence of resilience. To overlook this truth is to miss an opportunity to better understand not only Black resilience, but resilience as a universal

human phenomenon, the science that underlies it, and how mechanisms that preserve health in the face of adversity may help end health disparities and promote health equity.

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Conflict of Interest

No conflicts of interest to report.

Author Contributions

Research concept and design: Taylor, Washington-Plaskett, Quyyumi; Acquisition of data: Taylor; Data analysis and interpretation: Taylor; Manuscript draft: Taylor, Washington-Plaskett, Quyyumi; Administrative: Washington-Plaskett; Supervision: Quyyumi

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