

National Institute on Minority Health and Health  
Disparities Specialized Centers of Excellence on  
Minority Health and Health Disparities



Priscah Mujuru, DrPH,<sup>1</sup> Beda Jean-Francois, PhD,<sup>2</sup> Eliseo J. Pérez-Stable, MD<sup>3</sup>

Obesity is a leading cause of morbidity and mortality and has been declared a national health priority, with higher prevalence among African American/Black women.<sup>1</sup> In the U.S., the obesity epidemic is widespread across all age groups, with rates in racial and ethnic minority populations apparent as early as the school years.<sup>2,3</sup> Social Determinants of Health, sedentary behavior, easy access to caloric dense foods of lower nutritional value, and inadequate health insurance coverage place racial/ethnic minority populations such as Blacks/African Americans and Hispanics/Latinos at higher risk of multiple chronic diseases and poor quality of life. Moderate and severe obesity increases the risk of obesity-related complications, such as hypertension, coronary heart disease, and diabetes,<sup>4</sup> and recent findings revealed that obesity is a risk factor for hospitalization and death because of coronavirus disease 2019 (COVID-19).<sup>5</sup> Intervention efforts for treating and preventing obesity require a multifactorial approach given that contributing factors can include diet, physical activity, stress, income, psychological factors, and access to treatments.<sup>2</sup>

The National Institute on Minority Health and Health Disparities (NIMHD) is committed to interdisciplinary research that leads to the understanding of the complex interactions between biological, behavioral, and social factors associated with obesity-related health disparities throughout the life course. The NIMHD has funded several obesity research projects through various grant mechanisms, including the Centers of Excellence (COE). The COEs focus on a specific unifying theme that can lead to a demonstrable impact to address minority health and health disparities. Example thematic topics include etiology and mechanisms of diseases and health conditions in populations that experience health disparities, intervention approaches to improve minority health or reduce health disparities, or methodologic approaches to measuring neighborhood impacts on health disparities. Each COE is expected to support innovative multidisciplinary research to promote

minority health and reduce health disparities, strengthen exemplary research training and education activities to support the development of well-trained researchers from minority and health disparity populations, increase the number of individuals from minority and other health disparity populations participating in research activities, and provide support for engaging minority and other health disparity communities in effective and sustainable activities aimed at improving the health. COEs' activities can include research projects, research education, pilot projects, and community dissemination activities designed to contribute to the theme's impact.

The Obesity Health Disparities Research Center (OHDRC) COE at The University of Alabama at Birmingham (Birmingham, AL) was awarded to study the disproportionate burden of obesity-related health disparities across the life course in African Americans. Using the State of Alabama as a model, OHDRC aims to reduce the disparities in obesity between African Americans and Whites to reduce the related health disparities in prevalent chronic diseases. The following 2 research projects supported by NIMHD are pivotal to OHDRC's efforts. The first research project on "Early Life Stress, DNA Methylation, and Disparities in Obesity across Generations" will investigate the hypothesis that early life stress produces DNA methylation profiles that

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From the <sup>1</sup>National Institute on Minority Health and Health Disparities, NIH, Bethesda, Maryland; <sup>2</sup>National Institute for Complimentary and Integrative Health, NIH, Bethesda, Maryland; and <sup>3</sup>Office of the Director, National Institute on Minority Health and Health Disparities, NIH, Bethesda, Maryland

Address correspondence to: Priscah Mujuru, DrPH, National Institute on Minority Health and Health Disparities, NIH, Bethesda MD 20892. E-mail: [priscah.mujuru@nih.gov](mailto:priscah.mujuru@nih.gov).

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contribute to health disparities in obesity-related outcomes and are transmitted across generations. Findings from this novel project could help explain obesity stress-related epigenetic mechanisms and potentially inform the protective factors or negative impact of these mechanisms across generations. The second research project “Leveraging Ongoing Home Visitation Programs to Address Obesity Disparities among Underserved, Low-Income Mothers and Children” is the first RCT to evaluate the effectiveness of a habit-based obesity intervention delivered as part of ongoing home services. The overall research aim is on weight outcomes in underserved preschool children and their mothers. Similarly, the habit-based obesity intervention outcomes could theoretically show intergenerational transmission of obesity, an area of much-needed investigation.

NIMHD supports pilot projects through the OHDRC Investigator Development Core that mentors early-career researchers to develop innovative projects that are aligned with the Center’s theme to address obesity disparities. These pilot projects cover a wide spectrum of inquiries from translational and clinical sciences to population and community health research. The researchers make use of the NIMHD Research Framework, an adaptable multidimensional model that depicts a wide array of health determinants relevant to understanding and addressing minority health and health disparities issues. NIMHD has also funded a regional demonstration project to show evidence-based practice research “Adapting an Evidence-Based Physical Activity and Nutrition Intervention for Community Implementation.” This demonstration project aims to advance the OHDRC’s efforts of translation science to evidence-based practice. The innovative efforts of OHDRC to reduce obesity health disparities can inform interventions and policies to address the multifactorial causes of obesity that negatively impact populations that experience health disparities. Additional research is needed to continue to examine the complex contributors to obesity in populations that experience health disparities. Future research to address the obesity epidemic may include health information technology approaches, systems

science modeling,<sup>6</sup> and research partnerships with school-based health centers.

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## SUPPLEMENT NOTE

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