RESPOND: A National Study of Prostate Cancer in African Americans

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African American men have a >60% higher incidence and are more likely to be diagnosed with aggressive prostate cancer than white men. The reasons are not clear but are likely to include a multitude of factors such as social factors (e.g. lifetime stress), inherited susceptibility, and tumor-related features such as somatic alterations and local inflammation in the microenvironment. To investigate these hypotheses, over the next five years, we will establish a large, national, population-based cohort study, RESPOND, (*Research on Prostate Cancer in Men of African Ancestry: Defining the Roles of Genetics, Tumor Markers and Social Stress*) of 10,000 African American men with incident prostate cancer identified through nine U.S. cancer registries from states that include 38% of all African American prostate cancer cases in the U.S. We will also recruit men who wish to volunteer through our website (RespondStudy.org). The cohort will provide comprehensive information on 1) multilevel stressors over the lifecourse; 2) geographic data on residential segregation, and social and built environmental factors; 3) lifestyle factors and health behaviors; 4) disease-specific factors including PSA screening history and treatment choice; 5) germline DNA to study genetic susceptibility; and 6) tumor samples to characterize somatic changes and immune profile the tumor microenvironment. No previous study has attempted to obtain information across these domains in a single large cohort in order to understand the independent and joint contributions of these factors. Leveraging the RESPOND resource and investigator expertise, we have designed a research program composed of four Projects that are supported by four Cores which are all focused on the central theme of identifying social and biological factors related to prostate cancer disease aggressiveness in African American men. These Projects include: the investigation of multilevel social stressors across the lifecourse in relationship with aggressive prostate cancer (Project 1); genome-wide discovery efforts of germline susceptibility loci for aggressive prostate cancer and examination of the relationship between germline and somatic variation (Project 2); the identification of underlying somatic alterations in prostate cancer tumors and biological pathways that are related to aggressive disease (Project 3); and, a detailed assessment of inflammation in the tumor microenvironment as it relates to prostate cancer aggressiveness (Project 4). Each of the four Projects addresses a distinct research domain but together will provide a comprehensive picture of the major factors that contribute to aggressive prostate cancer in African American men. The information we will discover is likely to help in explaining prostate cancer health disparities and have immediate clinical implications in the areas of improved patient stratification and personalized medicine for African American men. (www.RESPONDstudy.org)

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