

Neighborhood Environment Linked to Prostate Cancer Risk in Men With West African Genetic Ancestry

Increased ancestry-related risk in disadvantaged neighborhoods may be due to chronic stress.

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West African genetic ancestry was associated with increased prostate cancer among men living in disadvantaged neighborhoods but not among men living in more affluent neighborhoods, according to a new study led by researchers at the National Institutes of Health (NIH). The findings suggest that neighborhood environment may play a role in determining how genetic ancestry influences prostate cancer risk. The study was published Sept. 16, 2024, in [JAMA Network Open](#).

In the United States, most Black Americans have West African genetic ancestry, the researchers noted. Previous studies have shown that West African genetic ancestry is linked to increased prostate cancer risk among Black men, whose risk is higher than that of any other U.S. population group. However, it is unclear whether additional factors play a role in determining this ancestry-related risk.

To explore how the neighborhood environment and West African genetic ancestry may act together in influencing prostate cancer risk, researchers at NIH's [Center for Cancer Research](#) at the National Cancer Institute (NCI) conducted a study with long-term follow-up that included 1,469 self-identified Black and White men from the greater Baltimore area. The researchers determined the men's West African ancestry through genetic markers and neighborhood socioeconomic status through factors such as unemployment rate, income level, and percentage of households in poverty.

The researchers then examined the combined association of this ancestry and the neighborhood environment with prostate cancer risk and found that West African genetic ancestry was associated with prostate cancer risk among men living in disadvantaged neighborhoods but not among those living in more affluent areas.

The researchers posited that the increased ancestry-related risk in disadvantaged neighborhoods may be due to chronic stress — such as from racial profiling, housing discrimination, and exposure to violence — which can affect the immune system and cause high levels of inflammation, in turn promoting tumor growth.

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