

# African Female Breast Cancer Epidemiology (AFBRECANE) Study



**The Goal:** to determine the incidence, prevalence, and outcomes of standard treatments of various forms of breast cancer in Nigeria, while evaluating new genetic markers and technologies to inform breast cancer prevention and treatment strategies.

## The Problem

Breast cancer is the most common cancer in women globally and it is increasingly overtaking cervical cancer as the most common female cancer in low and middle income countries (LMIC). In developed countries, increased incidence of breast cancer has been driven by hormone receptor positive breast cancer but there are concerns that this may not be the case in Sub-Saharan Africa including Nigeria. There is also controversy about the distribution of molecular subtypes of breast cancer in African women. Furthermore, little is known about the role that environmental factors, such as diet, physical activity and vitamin D play on risk of breast cancer and its molecular subtypes in Nigerian women.

## Project Strategy

1. Enroll 1,000 women with breast cancer to participate in the study, collecting their DNA samples, information regarding lifestyle and capturing multi-generational family history of breast cancer in Nigeria for the first time.
2. Use modern genomic technologies to compare the genomes of women with breast cancer and those without.
3. Evaluate the contributions of specific risk factors, including diet, vitamin D and physical activity to incident breast cancer and its molecular subtypes in Nigerian women.

## Potential Impact

The results of the study could have a number of wide-ranging yet impactful implications not only for the health of Nigerian women, but women of African descent and other women globally. Given that only few comprehensive epidemiological studies of this type have been conducted on molecular subtypes of breast cancer in black women, this AFBRECANE study will contribute significantly to the global knowledge of the epidemiological and genomic determinants of molecular subtypes of breast cancer, and may generate deep insights into the roles of environmental risk factors. Furthermore, there is great potential to discover African-specific gene variants that are associated with breast cancer that can be used to evaluate genetic risk for breast cancer in populations of African women.

## Project Leads



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## Project Sites



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**Non-African Collaborators:**  
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