

## Triple-negative breast cancer in Georgia: Burden, disparities, and connections to Georgia's Breast Cancer Genomics Project

Alissa K. Berzen, MPH, and Rana Bayakly, MPH

Georgia Department of Public Health

Corresponding author: Alissa K. Berzen • Georgia Department of Public Health • 2 Peachtree St., Ste 14-282, Atlanta, GA 30303 • 404-657-2636 • [Alissa.Berzen@dph.ga.gov](mailto:Alissa.Berzen@dph.ga.gov)

**Background:** Triple negative breast cancer (TNBC) is typically aggressive and unresponsive to traditional cancer treatment, and disproportionately affects young and Black women. Approximately 60%-80% of breast cancers in women with the breast cancer gene (BRCA) mutation are TNBC, and children of a parent with a BRCA mutation have a 50% chance of inheriting it. Current guidelines recommend women diagnosed with TNBC receive genetic testing and counseling. Georgia's Breast and Cervical Cancer Program (BCCP) routinely screens clients for increased risk of genetic mutation via an online screening tool.

**Methods:** Using data from the Georgia Comprehensive Cancer Registry (GCCR) for 2010-2013, we calculated TNBC percentages/rates, diagnosis stage, and case fatality rate based on vital status. By using TNBC data as a proxy for BRCA gene mutation prevalence, we assessed the burden of TNBC and racial/age disparities to inform Georgia's genomics efforts.

**Results:** The percentage of invasive breast cancers, versus in-situ, was the same for Georgia Black and White women; however, Black women had almost double the percentage of TNBC as compared to White women. Black women under 40 had a 20% higher breast cancer incidence rate than similarly aged White women, but had almost double the TNBC rate. Georgia TNBC cases were about twice as likely as non-TNBC cases to be deceased, and Black TNBC cases had higher fatality rates than White cases (almost twice as high in women under 40).

**Conclusions:** Georgia's genomics program began screening in 2012, and participating counties offer screening to all women's health clients. Awareness of hormone receptor status (and furthermore, possible presence of genetic mutation) for women diagnosed with breast cancer can guide the proper course of treatment. Additionally, family members of women diagnosed with TNBC in Georgia may take advantage of the screening for risk of genetic mutation through the genomics program prior to a cancer diagnosis, and receive counseling where appropriate.

**Key words:** breast cancer, genomics, disparities, epidemiology, prevention

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