

B-GREAT MILESTONES



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WELCOME MESSAGE

The Breast Cancer Genetics Research and Education for African American Women Team (B-GREAT) was formed as an academic-community partnership to develop strategies to reduce breast cancer health disparities in inherited cancer testing in the Black community. In our 9th year, we continue to contribute to expanding knowledge about hereditary breast cancer, as we strive to empower those at risk to make the most informed decisions regarding their health care options. Please visit our website for more information: bgreatinitiative.inheritedcancer.net.

Through this newsletter, we want to give you updates on our studies among young breast cancer survivors, bring awareness to racial inequalities in healthcare, and welcome new members passionate about breast cancer genomics and health disparities research to our team.

We hope you and your family are staying safe in these challenging times and thank you for your continued support of our research efforts. These types of efforts remain critical as we strive to educate and inform the African American community about the role of inherited breast cancer genes that “run in families.”

Sincerely,

B-GREAT Co-Founders

Tuya Pal, MD, FACMG
Vanderbilt-Ingram Cancer Center

Susan Vadaparampil, PhD, MPH
Moffitt Cancer Center

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ABOUT THE BEST STUDY

BEST
"To evaluate biological and non-biological factors among young Black women with breast cancer in order to develop effective strategies to improve health outcomes"

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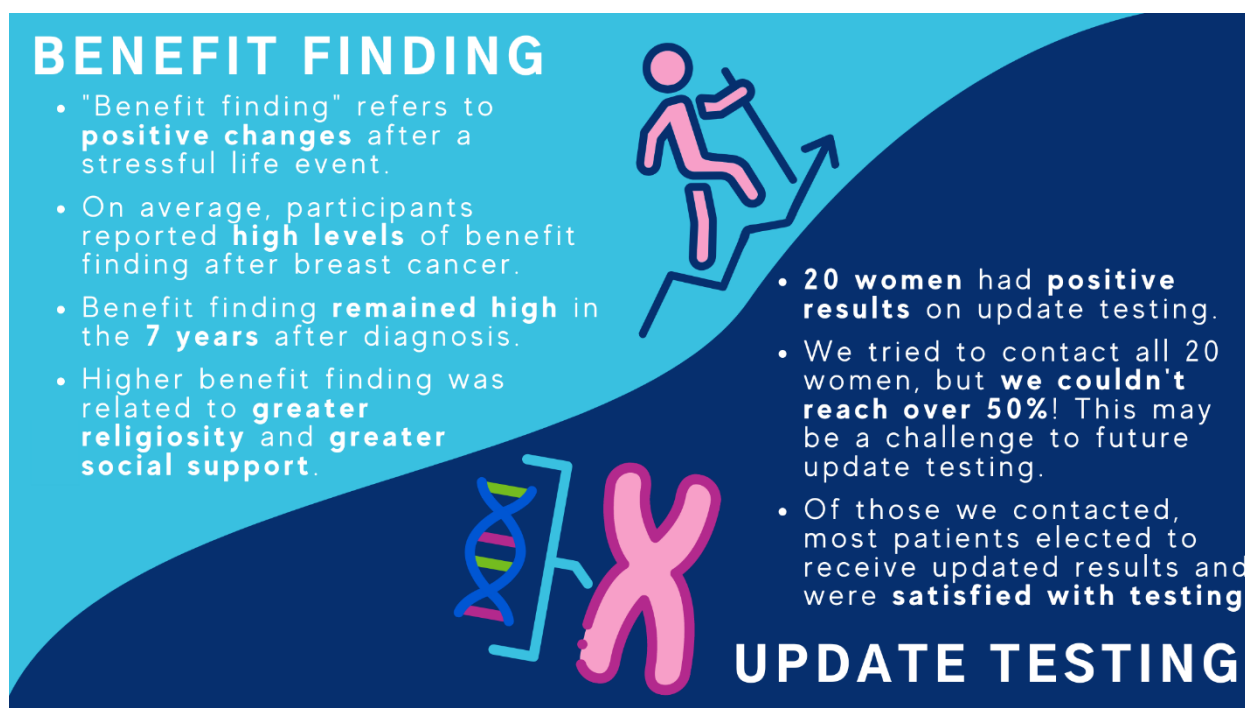
To date, over 650 Black women diagnosed at or below age 50 with breast cancer are participating in our BEST study. This study is focused on young Black women with breast cancer, recruited through the Tennessee and Florida state cancer registries. Through this study, we continue to offer opportunities for genetic counseling, education, and testing. Continued recruitment into the BEST study and collaboration with other similar efforts will further help to expand our knowledge about biological and non-biological factors among young Black women diagnosed with breast cancer to contribute to the development of effective strategies to improve health outcomes.

BENITA: WHAT PARTICIPANTS TAUGHT OUR TEAM

In the last year, we completed two more projects using data from the **BENITA** (**B**ehavioral and **E**mo**N**al **I**mpact of **T**esting in **A**frican Americans) study! In this study, 360 young Black breast cancer survivors from Florida received genetic testing to see if they had a mutation in the **B**reast **C**ancer (**BRCA**) genes. They completed surveys before and after they had genetic testing. This year, we used the data from the BENITA study to answer two important questions about breast cancer survivorship among Black women:

1. Do Black women experience any positive changes after a breast cancer diagnosis?¹
2. Women who received genetic testing prior to 2013 are eligible for “update” genetic testing, which tests for mutations in other genes (besides the **BRCA** genes) that may increase risk for breast cancer. Are Black breast cancer survivors interested in “update” genetic testing?²

The infographic below tells you what we found out about these important questions!



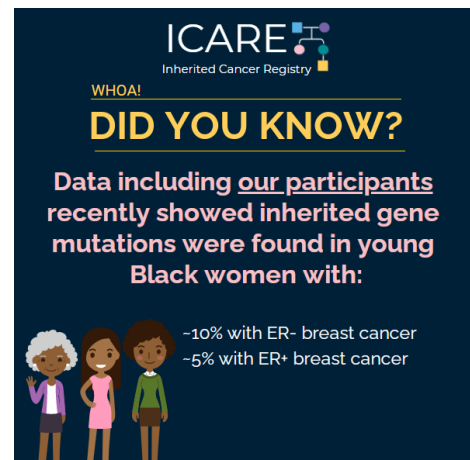
¹Conley et al. 2020 Jul. Patterns and covariates of benefit finding in young Black breast cancer survivors: A longitudinal, observational study. *Psychooncology*. PMID: 32323400.

²Conley et al. 2020 Apr. Acceptability and outcomes of multigene panel testing among young Black breast cancer survivors. *Breast J*. PMID: 32319712.

GENES THAT RAISE BREAST CANCER RISKS AMONG BLACK WOMEN

A study among Black women with and without breast cancer, **including our research participants**, showed that mutations in inherited breast cancer genes were identified in 10% of women with estrogen receptor (ER)-negative breast cancer, 5% of women with ER-positive breast cancer, and 2% of women without a cancer diagnosis. The highest breast cancer risks were seen among those with **BRCA1**, **BRCA2**, and **PALB2** mutations. These findings of inherited cancer genes among Black women are similar to those previously seen in White women and highlight the importance of identifying these women and offering them both genetic counseling and testing.

Palmer et al. 2020 May. Contribution of germline predisposition gene mutations to breast cancer risk in African American women. *J Natl Cancer Inst*. PMID: 32427313.



RACIAL INEQUALITIES IN HEALTHCARE

It is important to talk about racial inequalities in healthcare as they affect the care received among Black patients. Through our research efforts focused on inherited cancers, we strive to study inequities and consider strategies to make healthcare more equitable.

Our study among a diverse group of young women with breast cancer showed that Black women had lower rates of genetic testing compared to White women.¹ Another study among ovarian cancer patients showed similar findings.²

Additionally, the American Association for Cancer Research (AACR) recently published a Cancer Disparities Progress Report, stating "... our limited knowledge of cancer biology in racial and ethnic minorities, including their inherited cancer predisposition and the genomic underpinnings of cancer initiation and progression, diminishes the potential of precision medicine in these populations."³ We highlighted some specific information about inherited cancers that was included in this timely report through our social media efforts, which we have included in the colored panels below.

- ~10% of cancer cases are due to inherited mutations
- Prior inherited cancer studies have focused on Non-Hispanic Whites
- There is inadequate representation and a lack of data from other racial and ethnic minorities, such as African Americans and Hispanics
- Genetic alterations that are specific to African ancestry correlate with distinct immune characteristics in tumors that may affect responses to immunotherapy
- Our current knowledge of cancer genetics cannot be applied to all populations, limiting our knowledge of inherited cancer risks in racial and ethnic minorities
- There is an urgent need for comprehensive immune profiling of cancer patients from diverse racial and ethnic backgrounds that are effective for these populations

We strive to develop strategies such that ALL populations, regardless of race and ethnicity, benefit from genetic testing. To raise awareness about the importance of genetic testing for inherited cancers across diverse populations, we have grown our social media efforts by regularly sharing updates on treatment advances, cancer risks, and inherited cancer screening guidelines. We encourage you to follow us on your preferred platform (Instagram, Facebook, Twitter, and/or LinkedIn) to stay informed.

EVEN THOUGH BLACK PATIENTS ARE **LESS AWARE** OF GENETIC TESTING...THEY ARE INTERESTED IN IT!

OUR OWN RESEARCH HAS SHOWN: GENETIC TESTING FOR INHERITED CANCERS HAPPENS **LESS OFTEN** IN BLACKS COMPARED TO WHITES

Race	Percentage of Young Women with Breast Cancer Offered Genetic Testing
Black Women	36%
White Women	65%

PERCENTAGE OF YOUNG WOMEN WITH BREAST CANCER OFFERED GENETIC TESTING
Source: Cragun et al. PMID: 28182268

LET'S TRY TO **EDUCATE** EACH OTHER AND PUT AN END TO RACIAL INEQUALITIES IN GENETICS!

What can we do to help?

- HEALTHCARE PROVIDERS NEED TO **IDENTIFY** AND **TALK** TO THOSE AT **HIGH RISK** FOR INHERITED CANCER
- RAISE AWARENESS** ABOUT THE IMPORTANCE OF **EDUCATING** YOURSELF ON INHERITED CANCER

¹Cragun, et al. 2017 Jul. Cancer. PMID: 28182268. ²Manriquez, et al. 2018 Apr. Gynecol Oncol. PMID: 29605055. ³American Association for Cancer Research. AACR Cancer Disparities Progress Report 2020. Available at: https://cancerprogressreport.aacr.org/wp-content/uploads/sites/2/2020/09/AACR_CDPR_2020.pdf

INTRODUCING SONYA REID, MD, MPH

We are thrilled to announce that Dr. Sonya Reid has joined the Vanderbilt faculty, where she is a practicing medical oncologist in the breast cancer program. Dr. Reid's research interests include breast cancer genomics and health disparities, with a focus on population health, which includes working on projects focused on the delivery of cancer genetic services alongside Dr. Tuya Pal. Dr. Reid has had a longstanding interest in disparities research, stemming in part from her upbringing in her home country of Jamaica. We are proud to welcome Dr. Reid to the Vanderbilt faculty and look forward to continuing to work closely with her.

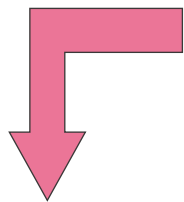
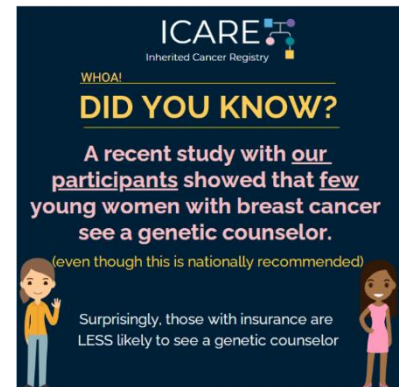


Check out below a recent article Dr. Reid wrote about disparities in genetic counseling!

DISPARITIES IN BRCA COUNSELING AMONG YOUNG BREAST CANCER SURVIVORS

A study among young Black, Hispanic, and Non-Hispanic White breast cancer survivors in Florida, **including our research participants**, showed that few young Black women with breast cancer see a genetic counselor, AND those with insurance are LESS likely to see a genetic counselor. For more information, read the full article at: <https://www.nature.com/articles/s41436-020-0762-0>

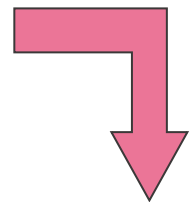
Reid, et al. 2020 Feb. Disparities in BRCA counseling across providers in a diverse population of young breast cancer survivors. Genet Med. PMID: 32066870.



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GUIDELINE UPDATES

RACIAL INEQUALITIES

TREATMENT ADVANCES

Updates to NCCN Genetic/Familial Breast, Ovarian, and Pancreatic Guidelines
Posted September 8th, 2020

BREAST CANCER RISK MANAGEMENT UPDATES BY GENE:

NBN

- risks downgraded & high-risk breast screening no longer suggested

BARD1

- consider breast MRI starting at age 40 now

RAD51C & RAD51D

- potential increase in female breast cancer risk

BRCA1/2

- consider annual mammogram in men with gynecomastia

Inherited Cancers and Disparities

In ovarian cancer patients, genetic testing rates were lower in:

- Blacks (compared to Whites)
- Uninsured (compared to those with insurance)

Group	Genetic Testing Rate
Whites	33.8%
Blacks	21.6%
Insured	35.3%
Uninsured	20.8%

Percentages reflect proportions of ovarian cancer patients with genetic testing
Source: Kurian, et al. PMID: 30964716

ADVANCES IN TREATMENT: BREAST CANCER

Stage 1 → Stage 2 → Stage 3 → Stage 4

#1 placebo + chemotherapy with platinum based agents + taxanes versus #2 veliparib + chemotherapy with platinum based agents + taxanes

Combination therapy in BRCA carrier with metastatic breast cancer is superior to monotherapy.