2022 RESEARCH FAST FACTS
Hereditary Breast Cancer

RESEARCH SAVES LIVES

While most cases of breast cancer occur by chance, others occur in some families because of their genetic make-up. In familial breast cancer, also called hereditary breast cancer, a mutated gene that increases the risk of developing breast cancer is passed from parent to child. *BRCA1* and *BRCA2* (BReast CAncer susceptibility genes 1 and 2) are the most well-known genes linked to hereditary breast cancer. However, BRCA mutations account for only 5-10% of all hereditary breast cancers in the U.S. Inherited mutations in other genes, including *PALB2*, *CHEK2*, *ATM*, and *TP53* may increase the risk of developing breast cancer for people who carry these mutations. These gene mutations and their contribution to breast cancer are currently under study.

About 5-10% of all breast cancers in the U.S. are thought to be hereditary. Hereditary breast cancer occurs more often in younger people and can be more aggressive than other types of breast cancer. Hereditary breast cancer can also occur in men. Women with inherited breast cancer gene mutations also have increased risk for developing other cancers including ovarian cancer, pancreatic cancer and melanoma.

Identification of inherited gene mutations is an important step in determining a person's individual risk, empowering them to take charge of their health and take measures that may reduce their risk of breast cancer.

Learn about your risk of breast cancer here.

Learn more about hereditary breast cancer here.

OUR RESEARCH INVESTMENT:
(1982-2022)

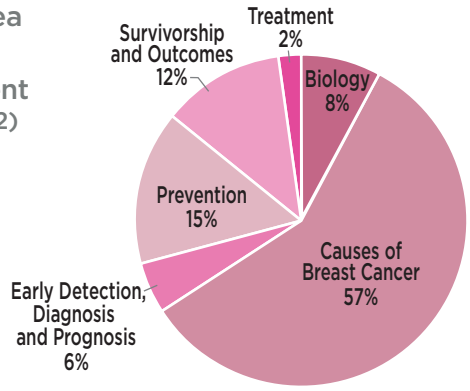
More than $37 million in over 100 research grants and more than 30 clinical trials focused on hereditary breast cancer

What We're Investigating

- Identifying biological factors that influence why some people with a *BRCA* mutation develop breast cancer and others do not.
- Using cutting-edge technology to identify new genes or areas in the genome linked to inherited breast cancer.
- Testing whether the abnormal function of specific breast cells can be targeted to prevent breast cancer in people with inherited gene mutations like *BRCA*.
- Analyzing samples from Nigerian women to identify factors that contribute to hereditary breast cancer progression and potential treatments in this population.

Read how Komen Scholar Dr. Tuya Pal is working to understand and develop strategies to improve inherited breast cancer outcomes for Black women through genetic testing and counseling here.

Topic Area of Total Investment (1982-2022)



WHAT WE'VE LEARNED from Komen-funded research

- Mutations in a gene called *RECQL* are associated with inherited breast cancer and may increase risk by as much as 50 percent, depending on the mutation.
- An inherited mutation in the *PALB2* gene may increase the risk of breast cancer by 30-60%.
- Including a family history of other cancers, such as prostate and pancreas, may help improve breast cancer risk prediction tools like BRCAPRO.

Learn More About Breast Cancer | More Komen-funded Research Stories | Get Involved & Support Komen Research