2015 RESEARCH FAST FACTS
Hereditary Breast Cancer

Research Saves Lives

Most cases of breast cancer occur by chance. However, breast cancer can occur more often than usual in some families because of their genetic make-up. This type of breast cancer is called hereditary breast cancer. In these cases, a mutated gene is passed from parent to child. This mutated gene increases the risk of developing breast cancer.

About 5 to 10 percent of all breast cancers in the U.S. are thought to be hereditary. Hereditary breast cancer occurs more often in younger women and men and can be more aggressive than other types of breast cancer. Women with inherited breast cancer genes also have increased risk for developing other cancers, particularly ovarian cancer.

Learn more about hereditary breast cancer.
http://sgk.mn/1ScS5KM

Two gene mutations commonly associated with hereditary breast cancer are mutations in *BRCA1* (**BR**east **CA**ncer gene one) and *BRCA2* (**BR**east **CA**ncer gene two). But BRCA mutations account for only 20 to 25 percent of all hereditary breast cancers. There are many other inherited gene mutations that may increase the risk of developing breast cancer. Some of these are known and include mutations in the *PALB2*, *CHEK2*, *ATM* and *TP53* genes. But many are yet to be discovered.

Read about Terry Swain's experience as a survivor of hereditary breast cancer.
http://sgk.mn/1tgjVtH

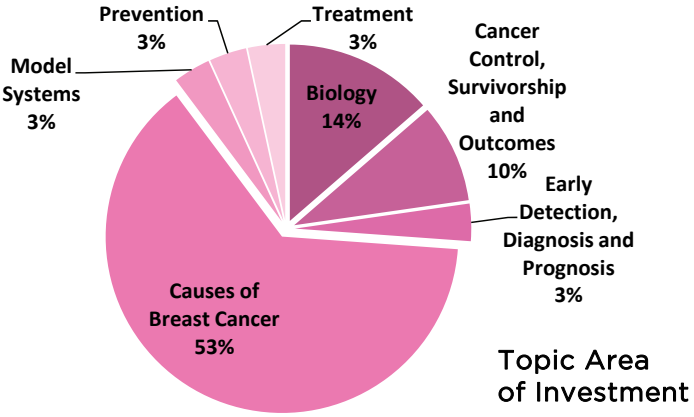
Identifying other inherited gene mutations is an important step in helping women and men understand their individual risk, and empowering them to take preventive or protective measures for their future.

Our Research Investment

More than $28 million in over 80 research grants and 30 clinical trials focused on hereditary breast cancer.

What We're Investigating

- Identifying the cellular factors that affect why some women with a *BRCA* mutation develop breast cancer and others do not
- Using cutting edge genomic technology to identify new genes linked to inherited breast cancer
- Testing whether Everolimus, a drug used to treat metastatic ER+ breast cancer and other cancers, can be used to prevent breast cancer in women with a *BRCA* mutation



Topic Area of Investment

Read how Komen Scholar Dr. William Foulkes and collaborators identified a new inherited breast cancer risk gene, *RECQL,* in Komen's Stories of Discovery series.
http://sgk.mn/1QOqFg6

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 to 60 percent.
- 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