When Ida Washington received a letter inviting her to participate in a women’s health study to explore the environmental roots of breast cancer, she didn’t think twice. Her mother was diagnosed with the disease nearly 40 years ago, and since then, it has been a terrifying mystery she has yearned to unravel.

Washington was just a teenager when the lump was found on her mother’s left breast. In the years that followed, as her mother’s cancer went into remission, she began to wonder what caused it. “My mother didn’t smoke, she didn’t drink. Breast cancer didn’t run in the family,” she said.

Ida’s mother, Willie Mae Washington, now 92, participated in the first generation of a scientific study that has endured for more than half a century to investigate environmental exposures. Now Ida Washington, 52, is continuing the legacy as part of its second generation.

The two women are among the more than 15,000 mothers, daughters and granddaughters in the San Francisco Bay Area enrolled in a project known as the Child Health and Development Studies, launched in 1959. Tens of thousands of samples of the women’s blood are stored, providing more than 50 years of continuous data on health outcomes and environmental exposures.

Scientists tap into this unique trove as they struggle to figure out what role environmental exposures play in the development of diseases such as breast cancer.

By Lindsey Konkel, Environmental Health News

“These women are a national treasure,” said Barbara Cohn, director of the Child Health and Development Studies and Three Generations follow-up study, based in Berkeley, California. “They hold the key to understanding the risks.”

While billions of research dollars have been spent on screening, treating, and trying to cure breast cancer, still relatively little is known about its causes. One in every eight women today will contract the disease during her lifetime. Genes account for only a small number of cases, 5 to 10 percent. Known risk factors include age, obesity and low physical activity.

Washington, her mother, and other members of the Bay Area study are uniquely poised to help researchers answer the why’s of breast cancer and other diseases afflicting women.

Over the years, this group of women and their children — known in scientific jargon as a cohort — has helped scientists understand how diseases can start even before birth and may pass from one generation to the next — not just through genes, but also by things in their environment.

Funded largely by the National Institutes of Health, hundreds of scientific studies have been published about these women since the 1960s.

There are no research cohorts like it in the country. In fact, it may be the only one of its kind in the entire world.

Because of its size and longevity, the Child Health and Development Studies is helping researchers tease apart the complex series of events and exposures starting before birth that may lead to cancer and other diseases many decades later. A growing number of studies suggest that the hormones and chemicals a child is exposed to in the womb may play a big role in his/her development of a number of diseases.

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At doctor’s visits during childhood and adolescence, Ida Washington, who lives in San Leandro, California, remembers filling out questionnaires and having body measurements taken. “I never thought much about it,” she said. “The tests were just part of the routine.” It wasn’t until several years later, when she received that letter in the mail, that she realized what it was all for.

Ida has a 30-year-old son she hopes will be asked to participate in a men’s follow-up study. Her mother, Willie Mae, who worked as a nursing aid in convalescent and private homes at the time, no longer remembers when she was approached about the study or why she joined. “I think shortly after Ida was born,” she said. “I had three older children. Ida was my baby.”

The blood that Ida’s mother and the others provided years ago was frozen and now resides at a storage facility in Fredrick, Maryland. Cohn, the study director, rations serum from the archived vials sparingly. When the vials are gone, so is the information — and potential — that they hold.

New blood and urine samples, provided by the second generation of women, now in their late 40s and early 50s, as well as their daughters, are processed and stored at a state-of-the-art biorepository on the University of California, Berkeley’s new Bay campus.

Study participants like Ida Washington feel that they are part of something bigger than themselves: they are partners in a quest to find answers for the causes of breast cancer and other diseases. Cohn is trying to ensure the project’s funding, reliant on federal grants, continues long into the future, although nothing is guaranteed.

Like most people, Ida Washington hopes one day for a cure for breast cancer. And while she realizes she may never know why her mother developed the disease nearly 40 years ago, she understands that the cure and the cause are inextricably linked. “How can we begin to find a cure if we don’t first know the cause?” she asked.

Nobody knows exactly how many years, months, and days it will take to answer those questions, or if those answers will ever be available to help any of the women now in the study who may develop breast cancer in their lifetime.

But the legacy of these women will live on, with their blood and tissue samples providing clues that will endure long after they die.

You have received this newsletter because you were part of a ground-breaking study. Please update your contact information at: info.chds@chdstudies.org or call us at 510.649.6390.