

Breast Cancer and the Environment: Science News from Silent Spring Institute July 2004

Rachel Carson's Legacy

This year marks the 40th anniversary of Rachel Carson's death. A courageous and outspoken woman, an extraordinary scientist and naturalist with a gift for lyricism about the mundane doings of insects, shellfish, and birds, Carson died of breast cancer just two years after the 1962 publication of her book *Silent Spring* touched off the modern environmental movement. When she testified about the dangers of DDT just before her death, she wore a wig to hide her treatment as she forthrightly told Congress, "I hope this committee will give attention to the right of the citizen to be secure in his own home against the intrusion of poisons applied by other persons. This should be one of the basic human rights." Since Carson's death, many have wondered whether there is a connection between the environmental toxins that inspired her work and the disease that killed her.

As a new generation of remarkable women brought breast cancer out of hiding with growing activism since the 1990s, questions about breast cancer and the environment became ever more compelling. Women with breast cancer have stood together at rallies, walks, and swims and in the halls of Congress; and by becoming visible in our communities, they have transformed that gnawing question, "Why did I get breast cancer?" into "Why do we have rising breast cancer rates worldwide? What can we learn to bring risk back down and truly end the epidemic?" When we see that a woman's lifetime risk of breast cancer went from 1 in 14 in Rachel Carson's day to 1 in 8 in the 1990s and 1 in 7 today, we know that prevention is a realistic goal.

Faced with statistics like these, many have been frustrated, though, that the breast cancer research establishment is focused so heavily on treatment with little investment in prevention. So in 1993, when leaders in the Massachusetts Breast Cancer Coalition learned that breast cancer incidence was higher on Cape Cod than in the rest of the state, they decided that breast cancer activists across the country needed "a lab of our own" to find out why. They founded Silent Spring Institute the next year as a partnership of scientists and activists with a mission to study the links between the environment and women's health, beginning with breast cancer.

As we reflect on the ten years since the Institute began, studies of the environment are still a miniscule fraction of the breast cancer dollar. But we see key discoveries that together build our confidence that investments in environmental studies will one day lead to prevention. In one stunning discovery last year, the New York Breast Cancer Study Group reported that among women with the high-risk mutations BRCA1 and BRCA2, the risk of being diagnosed with breast cancer by age 50 was 24% for those born before 1940 but rose to 67% for women born more recently. Physical exercise and healthy weight in adolescence were associated with later onset of disease. But what about the possible role of the 70,000-plus synthetic chemicals that have come onto the market since the 1940s?

To celebrate our tenth anniversary, Silent Spring Institute is launching a column to update breast cancer activists about environmental science. This is our first edition. We hope it will provide insight into research priorities, inspire new inquiry, and guide action.

In the next edition, we will address the question: What does lab science tell us about the biological mechanisms that may link chemicals and breast cancer?

Julia G. Brody, Ph.D., Silent Spring Institute

Activist Voices: What can I do?

“Tell somebody in your family or community that breast cancer rates keep rising and that means we can learn ways to prevent this disease. I believe environmental studies are the best medicine for my daughter’s generation.” -- Cheryl Osimo, Massachusetts Breast Cancer Coalition