

Breast cancer is a complex disease that occurs in an environmentally complex world. A woman's lifetime risk for developing breast cancer increases as she ages, and the established risk factors for breast cancer, account for only a fraction of the cases. Indeed, incidence of breast cancer is rising faster than hereditary or lifestyle factors can explain. There is growing evidence of health harms, including breast cancer, from exposures to a range of chemicals and toxins. In fact, the President's Cancer Panel reported in 2010 that "the true burden of environmentally induced cancer has been grossly underestimated [and]...the American people—even before they are born—are bombarded continually with myriad combinations of these dangerous exposures."<sup>ii</sup>

## What We Know

50-70% of women with breast cancer have no known risk factors.<sup>ii</sup> Known risk factors include family history, early onset of menstruation, late menopause, late or no childbirth, alcohol consumption and ionizing radiation from x-rays.

Repeated exposure to toxic environments is related to increased risk for breast cancer. At-risk groups include people who work frequently with toxic chemicals and ionizing radiation, such as farmers, nail technicians, chemists, and radiology technicians.<sup>iii</sup>

Timing of exposure is significant. Exposures to harmful environmental toxins during certain periods of rapid breast development, is more harmful than the same exposure once the breast tissue is fully developed. These "windows of susceptibility or vulnerability" include in utero, puberty, pregnancy and menopause.

Currently, the lifetime exposure to environmental contaminants is extremely understudied.<sup>iv</sup> Although there are numerous studies that point to *associations* between exposures to environmental toxins and high rates of breast cancer, exposure to ionizing radiation is the only *known* exposure that raises a woman's risk of developing breast cancer. Suspected carcinogens for breast cancer include polycyclic aromatic hydrocarbons (PAH) and polychlorinated biphenyls (PCB)<sup>vi</sup>, formaldehyde<sup>vii</sup> and endocrine disrupting chemicals<sup>viii</sup> such as DDT, BPA, phthalates and parabens<sup>ix</sup>.

Low dose exposures to endocrine disrupting chemicals are important and can have serious effects on human health.<sup>x</sup> In order to understand the effects that chemicals have on the body, they should be tested in ultra-low doses that imitate real human exposures.<sup>xi</sup>

The effects of exposure to chemicals can persist well beyond the time they were banned. For example, the pesticide DDT banned in 1972 was found in 65% of Cape Cod and 85% of California dust samples in 1999-2001.<sup>xii</sup>

## Chemical Exposures Come from Many Sources

We are exposed to multiple chemicals on a daily basis from many different sources that potentially increase our risk of developing breast cancer. We cannot control our exposures through shopping for safer products. Below are examples of some of the ways we are routinely exposed.

Through the food we eat – pesticides on produce, rBGH in dairy products, BPA in cans and hard plastics, PFOA in nonstick coatings on cookware.

Through the products we use – flame retardants in furniture, phthalates and parabens in personal care products, nonyphenols in cleaning products, detergents, shampoos and paints.

Through the environment in which we live – chemicals of concern used in the fracking process for natural gas and oil and fossil-fuel exhaust from automobiles and power plants.

## Everyday Chemicals are Grossly Under-Regulated

The Toxic Substances Control Act (TSCA) of 1976 did not require any safety testing for all chemicals that were in existence prior to 1976 to remain on the market. In the 36 years since TSCA was enacted, only 200 of the 100,000+ chemicals used and produced in the U.S. have been tested for safety.<sup>xiii</sup>

Production and use of synthetic chemicals is on the rise. Following the World War II industrial boom, the growing incidence of breast cancer has paralleled the

increased production of synthetic chemicals.<sup>xiv</sup> Of an estimated 100,000 synthetic chemicals in commercial use today, more than 90% have never been tested for their effects on human health.<sup>xv</sup> Meanwhile, production of these chemicals is rising at least 3.3% per year.<sup>xvi</sup>

The use of terms, such as “natural”, “non-toxic”, and “safe” in product labeling is not adequately regulated in the U.S. The U.S. Federal Trade Commission has created some guidelines for environmental marketing, but they are rarely enforced.<sup>xvii</sup>

## **BCAction’s Perspective**

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Structural change to our regulatory system is necessary. While BCAction supports individuals making choices about products they buy, we know this isn’t enough to protect everyone from the effects of multiple chemicals in our daily lives. Focusing on structural change to reform chemical policy has the potential to protect everyone.

Disadvantaged populations, especially communities of color, are more likely to be employed in occupations with higher levels of exposure such as manufacturing, agriculture, and certain service sector occupations. They are also more likely to live in more highly contaminated communities.<sup>xviii</sup> Studies have shown that these unequal exposures result in racial and ethnic differences in chemical body burdens<sup>xix</sup> of certain chemicals such as flame retardants, BPA and phthalates.<sup>xx</sup>

Support the Precautionary Principle.<sup>xxi</sup> Currently, in the U.S., the prevailing approach to chemical regulation is reactionary. Instead, we should take a precautionary approach and act now with the evidence we have to reduce risk of harm to human health. We need to shift the burden of proof to companies making chemicals and products and insist that they prove they are safe before putting them on the market.

Research into environmental links to diseases should be a priority, and it must be independently funded.

In order to stop cancer where it starts, we need to spend as much time and money researching causes, as we have spent on developing treatments.<sup>xxii</sup>

## **Broad Chemical Reform Is Necessary**

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While far from perfect, passage of the Safe Chemicals Act would be a big step towards meaningful chemical policy reform. The Safe Chemicals Act would modernize the Toxic Substances Control Act to require chemical companies to demonstrate the safety of industrial chemicals and the U.S. Environmental Protection Agency to evaluate safety according to the best available science.

## **What You Can Do**

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Support the Safe Chemical Act. Click [here](#) to urge your state senator to support stronger regulation of toxins linked to breast cancer.

Get informed! Read [Living Downstream](#) by Sandra Steingraber, [Silent Spring](#) by Rachel Carson, and [Exposed](#) by Mark Shapiro.

Stay current by subscribing to BCAction’s newsletter, [The Source](#).

Check out the following environmental health and justice organizations:

Women’s Voices for the Earth  
[www.womensvoices.org](http://www.womensvoices.org)

Center for Environmental Health [www.ceh.org](http://www.ceh.org)

Environmental Working Group [www.ewg.org](http://www.ewg.org)

Pesticide Action Network North [www.panna.org](http://www.panna.org)

Campaign for Safe Cosmetics [www.safecosmetics.org](http://www.safecosmetics.org)

Safer Chemicals, Healthy Families  
[www.saferchemicals.org](http://www.saferchemicals.org)

Silent Spring Institute [www.silentspring.org](http://www.silentspring.org)

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*Breast Cancer Action is a national grassroots education and advocacy organization. We believe that breast cancer is a public health crisis, and a social justice issue. We advocate for systemic change to end this breast cancer epidemic, while supporting women at risk of and living with breast cancer. We do not take money from any corporation or organization who profits from or contributes to breast cancer which allows us to remain an independent and unapologetic voice for those affected by this disease. For more information go to [www.bcaction.org](http://www.bcaction.org).*

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