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**About the Editor:  
Todd Seavey**



is Director of Publications at ACSH and edits FactsAndFears. His opinions are not necessarily ACSH's.

He can be reached at [seavey \[at\] acsh.org](mailto:seavey[at]acsh.org).

**Do Trace Environmental Chemicals Cause Breast Cancer?**

By [Elizabeth M. Whelan, Sc.D., M.P.H.](#)

We at ACSH are accustomed to media reports about trace exposure to "chemicals" causing a spectrum of diseases -- including cancer. Usually these claims come from self-appointed "consumer"/"environmental" groups like the Environmental Working Group -- and even some savvy people in the media and the general public know to take the assertions with a significant grain of salt.

But today's wires and newspaper stories -- with headlines like the one in the *L.A. Times*, "Common Chemicals Are Linked to Breast Cancer" -- took us by surprise. Writing in the American Cancer Society journal *Cancer*, researchers wrote that "overall, exposure to mammary gland carcinogens is widespread...these compounds are widely detected in human tissues and in environments, such as homes, where women spend time." The researchers did not estimate the number of cases of breast cancer caused by "chemicals" but noted that "modifying factors would spare thousands of women." The researchers named 216 chemicals that they claim induce breast cancer in women -- and zoomed in on the ones they considered to be the real culprits, including "pesticides, dyes, cosmetic ingredients, and chemicals in chlorinated drinking water."

The reports of "mammary carcinogens" came from researchers from the Silent Spring Institute, a women's environmental health organization in Newton, MA, Harvard's Schools of Medicine and Public Health, the Roswell Park Cancer Institute in Buffalo, and the USC's Keck School of Medicine. In response to the findings, the "Susan G. Komen for the Cure" organization pledged an additional \$5 million for research to identify the specific environmental causes of breast cancer.

There are a couple of problems here:

First, the designation "mammary tumors" is based on a mega-analysis of rodent studies -- not human studies. Yet evaluations of animal cancer testing (including [one by ACSH](#)) have concluded that animal cancer tests do not accurately predict human cancer risk. Rodents are not little men -- or women.

No serious cancer causation expert thinks exposure to trace levels of environmental chemicals contributes to the toll of breast cancer in the United States. In a newly released "bible" of cancer epidemiology (*Cancer Epidemiology and Prevention*, edited by Schottenfeld and Fraumeni), the authors who reviewed the causation of breast cancer (Colditz, Baer, and Tamimi) cover "environmental factors" in determining breast cancer -- meaning factors other than heredity, age, gender, etc. They consider the influences of reproductive factors (for example, pregnancy early in life may offer protection), use of hormones, weight, and nutritional factors (obesity after middle age is a risk factor for breast cancer). Then they evaluate the claim that "other environmental factors" contribute to breast cancer risk -- including exposure to trace levels of pesticides and industrial chemicals. They conclude that evidence from large pooled studies found no association between exposure to trace chemicals like PCBs and DDT and breast cancer risk: "overall recent studies have not found evidence of increased risk of breast cancer and (exposure to environmental chemicals)."

The question is: why are otherwise mainstream cancer organizations calling attention to

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purely hypothetical risks?

*Elizabeth M. Whelan, Sc.D., M.P.H., is president of the American Council on Science and Health ([ACSH.org](http://ACSH.org), [HealthFactsAndFears.com](http://HealthFactsAndFears.com)).*

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**AMERICAN COUNCIL ON SCIENCE AND HEALTH** | 1995 BROADWAY, 2ND FLOOR, NEW YORK, NY 10023-5860  
TELEPHONE: (212) 362-7044 | FAX: (212) 362-4919 | E-MAIL: GEN. ORGANIZATION MAILBOX: [acsh \(at\) acsh.org](mailto:acsh(at)acsh.org); IND. STAFFER:  
[\[last name or last name followed by first initial\]@acsh.org](mailto:[last name or last name followed by first initial]@acsh.org)

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