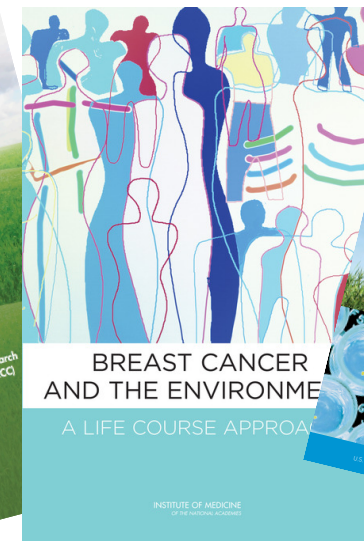
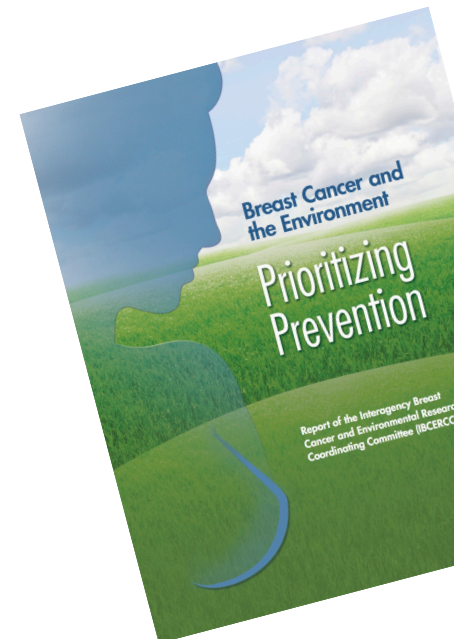


Barriers and opportunities for breast cancer organizations to focus on environmental health and disease prevention

**Jennie Liss Ohayon, Eric Nost, Kami Silk, Michele Rakoff,
Julia Green Brody**

Breast cancer organizations are key research stakeholders

- BC orgs advocated for research on the environment
- New evidence supports links between the disease and chemicals
- Expert panels recommend reducing exposures

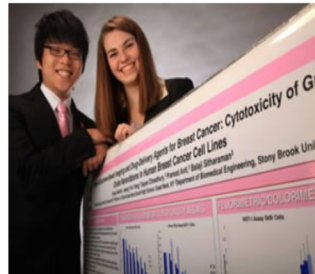


Main questions

- Are breast cancer organizations incorporating research results into their work?
- What barriers and opportunities influence their ability to focus on environmental factors?

A Mixed-Methods Approach:

- Used a Python script to evaluate frequency of 36 environmental factors and 16 other risk factors on the websites of 81 BC organizations and 2 national cancer organizations (NCI and ACS)



Risk Reduction: Quick Precautionary Tips

- Seek using safer alternatives to toxic pesticides in and around the house: www.beyondpesticides.org
- Choose organic produce when possible and learn about the "Clean 15" and "Dirty Dozen": <http://www.ewg.org/foodnews/summary.php>
- Choose storing food and beverages in stainless steel and glass containers instead of plastic
- Look for fabric or hemp shower curtains instead of plastic ones.
- Keep sales receipts, which may contain BPA, to a minimum in your pockets or pocketbook.
- Choose cosmetics that don't contain parabens, triclosan and artificial fragrance. (phthalates) Also avoid cosmetics using "nanotechnology", <http://www.ewg.org/skindeep/> -Download EWG's Cosmetic App!
- Avoid using non-stick pans which contain the carcinogen "PFOA".

<http://greatneckbcc.org/breast-cancer-precautionary-tips/>

- Conducted 2 focus groups and 20 interviews with leaders of breast cancer organizations

BC organizations' websites have limited discussion of environmental factors

- 40% organizations include information on environmental chemicals on websites
- Twice as many organizations (82%) discuss other risk factors (family history/genetic, lifestyle, pharmaceutical)

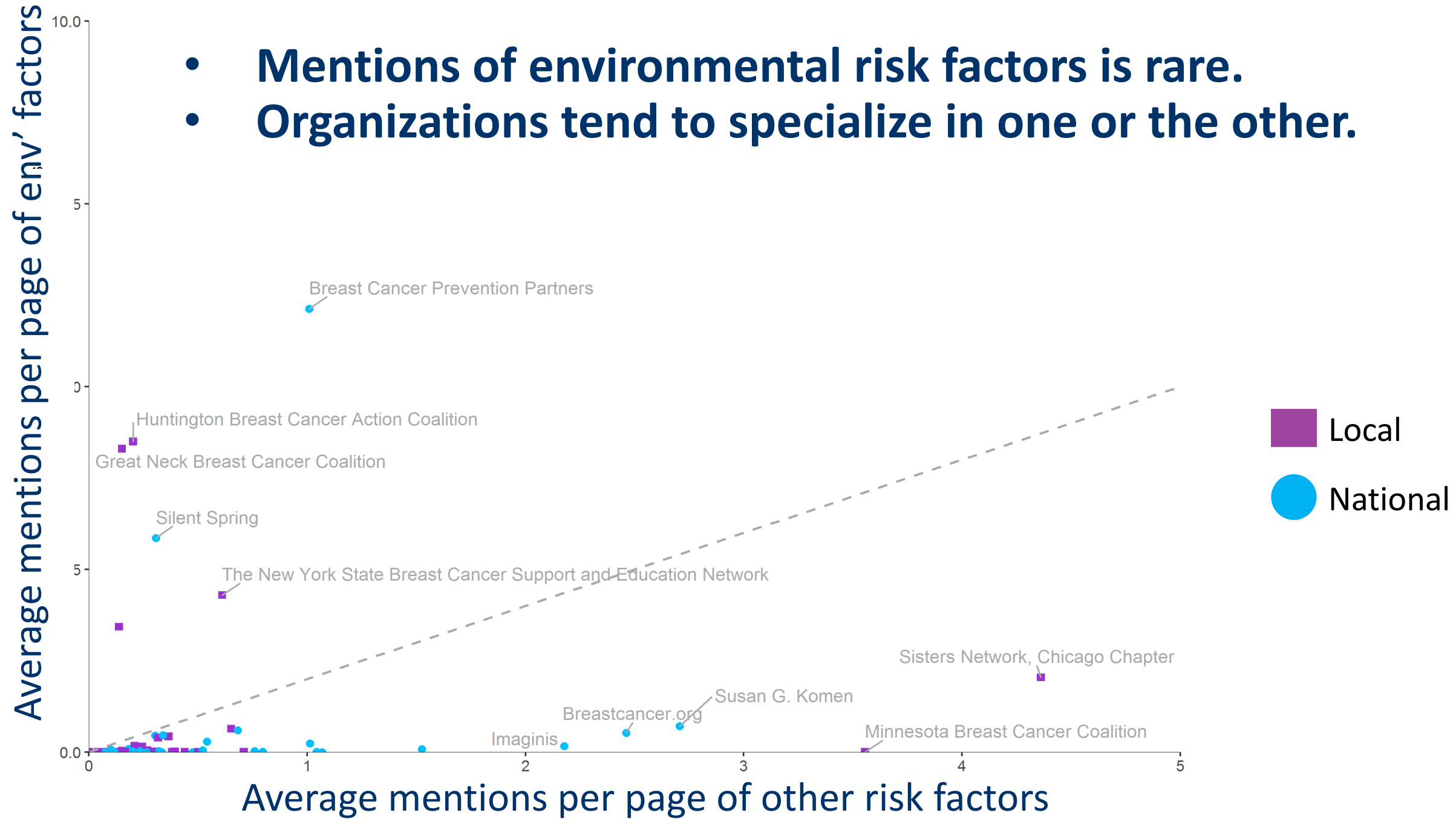
BC org websites most frequently mention factors related to lifestyle or family history/genetics (N Total=81)

Factor	% of Organizations that Mention (N)	Number of total mentions
Exercise	74 (60)	2796
Family History	67 (54)	1167
Diet	59 (48)	1514
Genetics	52 (42)	1257
Alcohol	48 (39)	722

BC org websites less frequently mention specific environmental chemicals

BCERPI	Factor	% of Organizations that Mention (N)	Number of total mentions
	Flame retardants	12 (10)	1704
	Air pollution	11 (9)	80
	PAHs	11 (9)	104
	PFAS	11 (9)	230
	Oxybenzone	7 (6)	18

- **Mentions of environmental risk factors is rare.**
- **Organizations tend to specialize in one or the other.**



Despite lack of online information, leaders of BC organizations are concerned about environmental links

- **Barriers:**

- Time and resource constraints
- Unsure about science and limited expertise
- Difficulties with messaging
- Downplaying of environmental risks by industry
- Lack of institutional leadership

What would help?

- Increased access to experts
- Easy-to-adopt educational programs
- Supporting national organizations in research communication
- More funding for scientist-advocate research partnerships

“If there was a program even on the environment that was already structured that [my organization] could just do, but I didn’t have to work at putting it all together, that would be wonderful.”

NCI and ACS' websites* more frequently mention family history/genetics or lifestyle factors

Factor	Mentions on NCI	Factor	Mentions on ACS
Family history	249	Exercise	340
Breast density	171	Diet	172
Genetics	140	HRT	100
Exercise	96	Body weight	77
HRT	37	Family history	74

***BC-specific pages only)**

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Breast d			
Genetics			
Exercise			
HRT			

Factors with no mentions on either website's breast cancer-specific pages: phthalates, flame retardants, air pollution, PAHs, PFAS (e.g, PFOA, PFOS), oxybenzone, bisphenols (e.g., BPA)

*Breast cancer-specific pages only)

Discussion and conclusion

- Great potential to enrich outreach efforts with up-to-date, meaningful, and culturally sensitive information on environmental factors
- Experts and trusted cancer organizations can increase research translation activities
- Previous research demonstrates economically/culturally diverse populations want information
- Need, however, to acknowledge the significant institutional barriers to breast cancer organizations focusing on the environment

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