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The burden I carry

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Earlier this year, scientists tested my blood and urine for chemicals found in food, air, water, soil and consumer products as part of a multistate biomonitoring project.

The organizers, a collaboration of the Commonweal Biomonitoring Resource Center and state environmental health advocacy groups, including Environment Illinois, emphasized that participants shouldn't get too worked up about the results, because the health effects of exposure to these chemicals -- PBDEs (flame retardants), bisphenol-A (BPA) and phthalates -- aren't yet understood.

But they warned that when we learned of our individual chemical concentration levels, we might feel distressed or even outraged.

I wasn't concerned. Although the risk of developing an environmentally related disease depends on many factors, including genes, age, sex, nutrition and lifestyle, I thought I'd been limiting my exposure to toxins.

I never use fragrances, nail polish or hair sprays, for example, because they can contain phthalates. I don't eat or drink from plastic polycarbonate containers that can leach BPA. I buy organic as often as possible.

When the results came back, however, I learned that of the 35 participants in seven states, my body harbored the highest levels of two particular phthalates.

My level of one, mono-butyl phthalate (MBP), which is found in non-plastic consumer products such as detergents, lubricating oils, solvents, carpets, glue, insect repellents and personal care products, ranked me among the top 5 percent of the nation, according to data from the Centers for Disease Control and Prevention's national biomonitoring program. That meant my levels were higher than 95 percent of the U.S. population, even though I have no known exposures to any of these products.

Phthalate exposure is linked to male reproductive problems, including feminization of

baby boys. I have two baby boys. It's also associated with altered hormone levels in baby boys and men, reduced sperm concentration and motility and increased sperm DNA damage in men. Phthlates found in breast milk have been correlated with shifts in reproductive hormones in infant males. I was nursing my now 11-month-old when the snapshot was taken of my sky-high phthalate levels.

Last month, California joined the European Union and 14 other countries in banning the use of phthalates in children's and infant products. And last week, under pressure from health and environmental groups, Target announced it was reducing its use of polyvinyl chloride (PVC) plastic, which contains phthalates.

Still, nobody can tell me what my high levels mean. I can't undo the exposure. I can't hire a body-pollution detective to identify the source, and phthalates generally are not labeled on products. When I think about the implications for my children, my stress level jumps.

This is why some researchers and institutional review boards have argued against giving participants individual results when the clinical implications are unclear, according to Julia Green Brody, lead author of a study that examined the ethics of biomonitoring projects.

Chemical testing technologies have advanced faster than ethical guidelines and results reporting, something that can result in unconstructive fear.

But these new methods of detecting ever-lower concentrations of chemicals are also "powerful communication and mobilization tools," Brody found. Federal biomonitoring screening programs, activist campaigns or community-based studies "could significantly transform environmental health research, regulatory policy and public health approaches to disease prevention by both humanizing and quantifying the 'invisible' issue of contamination," Brody wrote.

Most people want to know their pollution results because they're curious and find it empowering; they believe in a right to know something about themselves and a right to act. The primary way to "act," if you're worried about exposure, is to identify and remove the sources.

But how can we act when chemical exposure is constant and unavoidable? More than 100,000 industrial chemicals are in use today. Most have not been tested for safety, including 202 widely used industrial chemicals that could damage the brain, according to a study in the British medical journal The Lancet.

Biomonitoring is a little like releasing an environmental assessment after an oil spill. We need to know the extent of the damage. But the contamination never should have happened in the first place.

Here's the full report produced by the environmental groups.