

# Closing the Exposure Assessment Gap: A Case Study of Phthalates



**Dr. Bhavna  
Shamasunder**



**Dr. Astrid  
Williams**



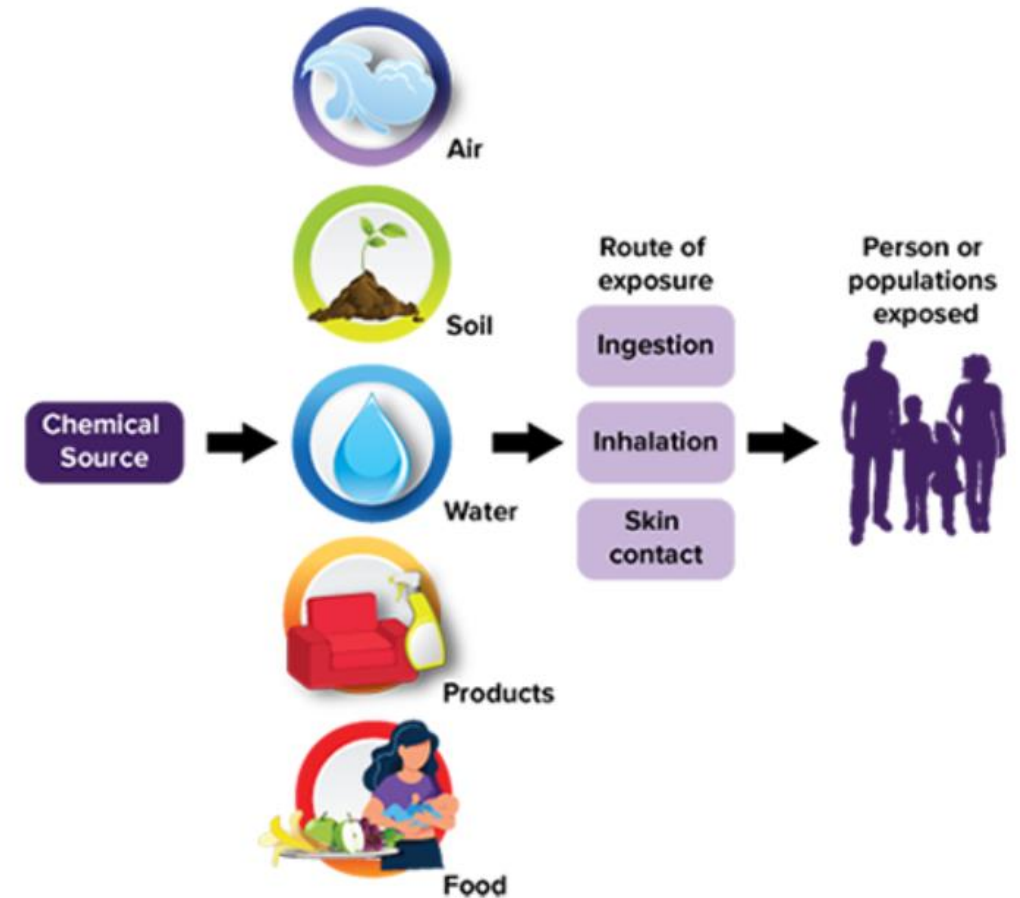
**Dr. Micaela E.  
Martinez**



**Jonathan  
Kalmuss-Katz**

# Exposure assessments are essential for meaningful chemical regulation

- Most federal environmental laws regulate chemicals and pollutants based on risk
- Risk is generally calculated by multiplying a chemical's toxicity (the dose at which it causes, or does not cause, a particular response) and anticipated exposures
- If regulators do not account for all exposures, they will understate risk and underregulate the chemical

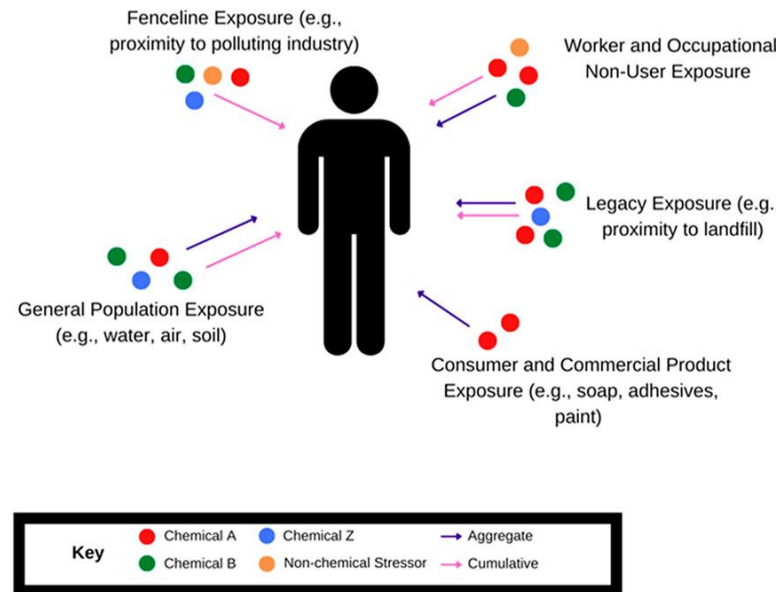


[https://www.health.ny.gov/environmental/chemicals/chemicals\\_and\\_health/biomonitoring.htm](https://www.health.ny.gov/environmental/chemicals/chemicals_and_health/biomonitoring.htm)

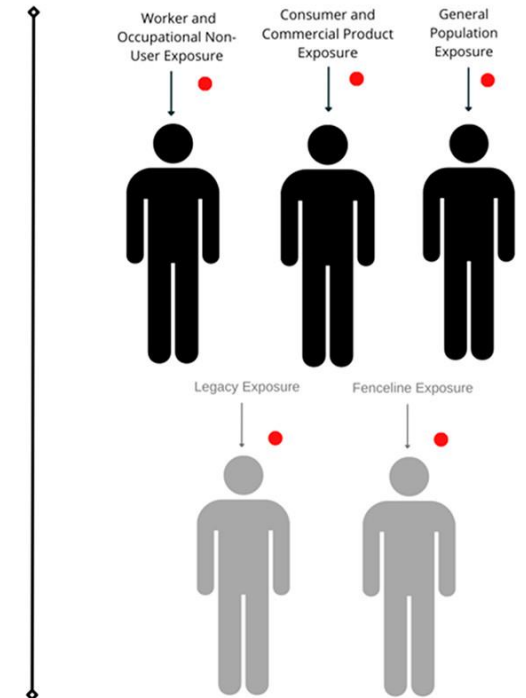
# Federal agencies conduct flawed exposure assessments

- Limited monitoring and biomonitoring data
- Heavily reliant on under-protective default assumptions
- No ability to detect many chemicals in the environment
- Failure to consider aggregate exposures across routes and pathways
- Failure to consider cumulative exposures to multiple chemicals and non-chemical stressors

The Reality of Chemical Exposures



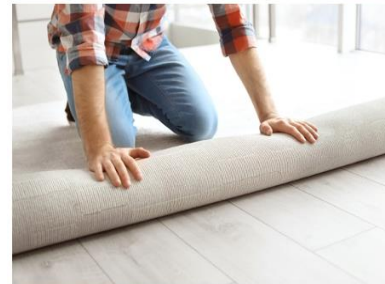
How EPA Evaluates Chemical Exposures



*Environ. Sci. Technol.* 2022, 56, 17, 11969-11982, <https://pubs.acs.org/doi/10.1021/acs.est.2c02079>

# Phthalate risk evaluations under TSCA

- EPA currently evaluating seven phthalates under the Toxic Substances Control Act (“TSCA”)
- Known co-exposures to multiple anti-androgenic phthalates from multiple exposure pathways (diet, drinking water, consumer products, cosmetics, outdoor air, indoor dust, etc.)
- Women of color have some of the highest exposures and the highest levels of phthalates within their bodies
- EPA admits a “lack of data for all phthalates concentrations in all environmental media”





# Panelist introductions

## **Dr. Bhavna Shamasunder**

Associate Professor  
Chair, Urban and Environmental Policy  
Occidental College

## **Dr. Astrid Williams**

Manager, Environmental Justice Program  
Black Women for Wellness

## **Dr. Micaela Martinez**

Director, Environmental Health  
WE ACT for Environmental Justice



**TAKING STOCK**

