

# Biographical Summary

## Julie E. Goodman, Ph.D., DABT Principal

Dr. Goodman is an expert in toxicology, epidemiology, and assessing human health risks from chemicals in consumer products and the environment. Her primary responsibilities at Gradient include the design, oversight, analysis, and interpretation of epidemiology studies as well as the evaluation of chemical toxicology data, apparent disease clusters, and chemical exposures. Before joining Gradient, Dr. Goodman was a Cancer Prevention Fellow at the National Cancer Institute. Dr. Goodman has authored original research articles, review articles, and book chapters on a wide variety of topics related to epidemiology and toxicology, including weight-of-evidence analyses of several chemicals. She also has presented scientific findings and analyses to community groups and regulatory and legislative bodies. She is currently an adjunct faculty member in the Department of Epidemiology at the Harvard School of Public Health.

## Representative Projects

**Cancer Cluster Analysis:** At the request of a municipality and in response to citizens' concerns, investigated whether there was an increased incidence rate of cancer in residents living near a municipal landfill. Communicated findings to city officials and residents at public meetings.

**Cross-Sectional Study:** Critically reviewed cancer and noncancer trichloroethylene and perchloroethylene toxicity data. Conducted quantitative analysis of exposure to these solvents in groundwater *via* ingestion and showering. Determined whether health effects in an allegedly exposed community were comparable to those in communities with no known solvent exposures based on questionnaire data.

**Efficacy and Toxicity Analysis:** For a pharmaceutical company whose patent was being challenged, performed an independent analysis of efficacy and toxicity data to determine whether claims in the patent could be challenged.

**Regulatory Comment:** Provided written and oral comments to the Clean Air Scientific Advisory Committee (CASAC) on clinical and epidemiological studies and their bearing on US EPA's development of National Ambient Air Quality Standards (NAAQS) for ozone, particulate matter, nitrogen oxides, and sulfur oxides.

**Weight-of-Evidence Analysis:** Conducted a comprehensive critical weight-of-evidence review of studies bearing on the ability of very low exposures to bisphenol A to affect reproduction and development *via* endocrine disruption. Testified before several state legislative committees regarding potential restrictions on bisphenol A.

**Benchmark Dose Calculations:** Analyzed US EPA's use of the lower confidence limit on the BMD<sub>1</sub> (BMDL<sub>1</sub>) to determine a point of departure for cancer risk of dimethylarsenic acid in humans in a white paper submitted to US EPA.

**Product Safety Analysis:** Determined whether a toxicological evaluation of a toy was sufficient for determining children's health risks. Conducted an independent analysis of potential routes of exposure to and toxicity of a chemical found in the toy.

**Meta-analysis:** Conducted meta-analyses and meta-regressions of airway hyper-responsiveness data from clinical studies of asthmatic volunteers exposed to NO<sub>2</sub> while exercising or at rest.



## Practice Areas & Expertise

- Epidemiology
- Toxicology
- Occupational Exposures
- Product Safety
- Carcinogenesis
- Risk Assessment

## Education

Ph.D., Toxicology, Johns Hopkins University  
Sc.M., Epidemiology, Johns Hopkins University  
S.B., Environmental Engineering,  
Massachusetts Institute of Technology  
Diplomate of the American Board of Toxicology

## Selected Publications

Rhomberg, LR; Bailey, LA; Goodman, JE; Hamade, AK; Mayfield, DB. 2011. "Is exposure to formaldehyde in air causally associated with leukemia? – A hypothesis-based weight-of-evidence analysis." *Crit. Rev. Toxicol.* (In Press).

Goodman, JE; Dodge, DG; Bailey, LA. 2010. "A framework for assessing causality and adverse effects in humans with a case study of sulfur dioxide." *Reg. Tox. Pharmacol.* 58:308-322.

Goodman, JE; Kerper, LE; Petito Boyce, C; Prueitt, RL; Rhomberg, LR. 2010. "Weight-of-evidence analysis of human exposures to dioxins and dioxin-like compounds and thyroid hormone levels during early development." *Reg. Tox. Pharmacol.* 58(1):79-99.

Goodman, JE; Nascarella, MA; Valberg, PA. 2009. "Ionizing radiation: A risk factor for mesothelioma." *Cancer Causes and Control.* 20:1237-1254.

Goodman, JE; Prueitt, RL; Dodge, DG; Thakali, S. 2009. "Carcinogenicity assessment of water-soluble nickel compounds." *Crit. Rev. in Toxicol.* 39(5):365-417.



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