

Biographical Summary

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

Dr. Goodman is the Director of Epidemiology at Gradient and an adjunct faculty member in the Department of Epidemiology at the Harvard School of Public Health. She is also a board-certified toxicologist. Dr. Goodman's focus is on human health risks from chemicals in the environment and consumer products. Her primary responsibilities include the design, oversight, analysis, and interpretation of epidemiology studies, and 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, where she conducted molecular epidemiology studies on colon cancer risk. She was also instrumental in the development of Polymorphism Interaction Analysis, a powerful statistical tool for cancer risk assessment. Dr. Goodman has published the results of her analyses in peer-reviewed toxicology and epidemiology journals, and has presented them to community groups and regulatory and legislative bodies.

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: Reviewed scientific literature on cancer and noncancer toxicity of trichloroethylene and perchloroethylene in a class-action lawsuit. Managed the quantitative analysis of exposure to these solvents in groundwater *via* ingestion and showering. Determined whether health effects 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 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 BMD₁ (BMDL₁) 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. Assessed the toxicity of a chemical found in the toy regarding potential routes of exposure and possible health risks.

Meta-analysis: Conducted meta-analyses and meta-regressions of airway hyper-responsiveness data from clinical studies of asthmatic volunteers exposed to NO₂ while exercising or at rest.



Practice Areas & Expertise

- Epidemiology
- General & Molecular 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

Goodman, JE; Chandalia, JK; Thakali, S; Seeley, MR. 2009. "Meta-analysis of nitrogen dioxide exposure and airway hyper-responsiveness." *Crit. Rev. Toxicol.* 39(9):719-742.

Goodman, JE; Nascarella, MA; Valberg, PA. 2009. "Ionizing radiation: A risk factor for mesothelioma." *Cancer Causes and Control.* DOI: 10.1007/s10552-009-9357-4.

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

Goodman, JE; Witorsch, RJ; McConnell, EE; Sipes, IG; Slayton, TM; Yu, CJ; Franz, AM; Rhomberg, LR. 2009. "Weight-of-evidence evaluation of reproductive and developmental effects of low doses of bisphenol A." *Crit. Rev. in Toxicol.* 39(1):1-75.

Goodman, JE; Gaylor, D; Beyer, LA; Rhomberg, LR; Beck, BD. 2008. "Effects of MTBE on the reported incidence of Leydig cell tumors in Sprague-Dawley rats: Range of possible Poly-3 results." *Regul. Toxicol. Pharmacol.* 50: 273-284.



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