Denali Boon, Ph.D., M.P.H.

Senior Epidemiologist

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(she/her)

Dr. Boon is a senior epidemiologist with expertise in pesticides, infectious diseases, and molecular biology. Before joining Gradient, Dr. Boon was a senior epidemiologist at an agriscience company, where she led the company's environmental epidemiology strategy and efforts, and was also responsible for global human health risk assessments of a portfolio of chemicals. Dr. Boon focused her Ph.D. and postdoctoral research on the development and implementation of novel methods to estimate the incidence of hepatitis C virus (HCV) and HIV infections. She also contributed to research on the molecular epidemiology of SARS-CoV-2 and COVID-19, and served as co-lead of the Johns Hopkins University Novel Coronavirus Research Compendium's Diagnostics Team. Prior to pursuing her graduate studies, Dr. Boon worked at the National Institutes of Health (NIH) on science communication and grants administration in the extramural research program, and conducted research on the host immune response to and pathogenesis of human viral infections in the intramural research program.

Areas of Expertise

- Epidemiology
- Human Health Risk Assessment
- Exposure
- Biostatistics
- Pesticides
- Science Communication
- Infectious Diseases
- COVID-19/SARS-CoV-2
- Molecular Biology
- Diagnostics

Education

- Ph.D., Epidemiology, Johns Hopkins University
- M.P.H., Johns Hopkins University
- B.S., Microbiology, University of Vermont

Selected Projects

Epidemiological Literature Review: Reviewed epidemiology literature related to trichloroethylene, tetrachloroethylene, benzene, and vinyl chloride and adverse health outcomes.

Analysis of Ambient $PM_{2.5}$ and Risk of Asthma: Reviewed and commented on a methodological approach to estimating the risk of mortality and the onset of asthma in relation to low levels of $PM_{2.5}$ in ambient air.

Review of Adverse Health Effects and Nickel Exposure: Critically reviewed epidemiology literature on the respiratory and cardiovascular health effects of exposure to nickel as a constituent of particulate matter in ambient air.

Methodological Review and Bias Assessment: Reviewed and provided comments on methodological limitations that may be subject to bias in the epidemiology literature examining the association between Bisphenol A (BPA) exposure and cancer.

Methyl Tert-Butyl Ether (MTBE) and Cancer Analysis: Reviewed epidemiology literature regarding the association between MTBE and cancer.

Selected Publications and Presentations

Déglin, SE; Burstyn, I; Chen, CL; Miller, DJ; Gribble, MO; Hamade, AK; Chang, ET; Avanasi, R; **Boon, D;** Reed, J. 2022. "Considerations towards the better integration of epidemiology into quantitative risk assessment." *Global Epidemiology.* In press.

Burns, CJ; LaKind, JS; Naiman, J; **Boon, D;** Clougherty, JE; Rule, AM; Zidek, A. 2022. "Research on COVID-19 and air pollution: A path towards advancing the science." *Environ. Res.* In press.

Schneider, K; Webb, L; **Boon, D;** Johnson, RM. 2022. "Adolescent steroid use in association with substance use, team sports participation, and injection drug use." *J. Child Adolesc. Subst. Abuse.* In press.

Sargent, D; **Boon, D;** Reed, J; Dunn, E; Chukwudebe, A; Pisa, F; Botham P. 2022. "Enhancing Environmental Epidemiology: New Approaches to Weight of Evidence and Exposure Characterization." Presented at the One EFSA Conference, Brussels, Belgium, June 21-24.

Williams, J; Geurs, P; **Boon, D.** 2021. "PDP 2019 Assessment: Understanding the Recent Increase in Potential Tolerance Violations." Presented at the American Chemical Society Annual Meeting, Virtual, August 22-26.