

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

Board on Environmental Studies and Toxicology

**NATIONAL RESEARCH COUNCIL
FOURTH WORKSHOP OF THE STANDING COMMITTEE ON
RISK ANALYSIS ISSUES AND REVIEWS**

**QUANTITATIVE METHODS FOR ASSESSING EXPOSURE MEASUREMENT ERROR IN
EPIDEMIOLOGIC STUDIES: IMPLICATIONS FOR ENVIRONMENTAL HAZARD
IDENTIFICATION AND RISK ANALYSIS**

**Public Meeting: March 27-28, 2008
National Academies Keck Center, Room 100
500 Fifth Street, NW
Washington, DC 20001**

PUBLIC AGENDA – MARCH 27, 2008

- 3:00 Purpose of Workshop and Introduction of Committee Members Bernard Goldstein, Chair
- 3:10 EPA's Expectation for Workshop Peter Preuss
Director
National Center for Environmental Assessment (NCEA), EPA
- 3:15 Overview of Workshop Format and Issues to be Discussed Linda Cowan
Committee

ERRORS IN EXPOSURE MEASUREMENT AND THEIR IMPACT

- 3:20 Types and Sources of Exposure Measurement Error in Environmental Assessment Petros Koutrakis
Harvard University
- 3:50 Impacts of Exposure Measurement Error on Hazard Assessment and Dose-Response Estimation (Linear and Non-Linear Models) Donna Spiegelman
Harvard University
- 4:20 Panel Discussion [Committee members, speakers, and invited participants (Amy Berrington, NCI; Glinda Cooper, EPA; Jay Lubin, NCI; Jeremy Sarnat, Emory University; Kyle Steenland, Emory University)] Are there other sources or impacts not addressed by the speakers that need to be mentioned?

EPA PRACTICES FOR ADDRESSING EXPOSURE MEASUREMENT ERROR

- 4:50 EPA's Current Practices for Characterizing Exposure Measurement Error in Epidemiologic Studies and Related Uncertainties in Health Assessments – Case Studies Thomas Bateson
NCEA, EPA
- 5:30 Public Comment Opportunity
- 6:00 ***ADJOURN PUBLIC SESSION***

PUBLIC AGENDA – MARCH 28, 2008

QUANTITATIVE METHODS FOR CORRECTING ERRORS IN EXPOSURE MEASUREMENT

- 9:00 Comparison of Approaches for Correcting Errors in Exposure Measurement: Examples Brent Coull
Harvard University
- 10:00 ***BREAK***
- 10:15 Comparison of Approaches for Correcting Errors in Exposure Measurement: Examples Daniel Stram
University of Southern California
- 11:15 Panel Discussion [Committee members, speakers, and invited participants (Amy Berrington, NCI; Glinda Cooper, EPA; Jay Lubin, NCI; Jeremy Sarnat, Emory University; Kyle Steenland, Emory University)] – What data or priors are required for these approaches and from what sources would EPA obtain or develop them? In what circumstances can EPA productively use these methods to correct for exposure measurement error? How are distributional summaries from the Bayesian and Monte Carlo approaches interpreted within causal frameworks given their subjective prior component? How would the uncertainty due to an absence of data on which to base priors compare to the bias-related uncertainty? What side studies would be useful for various approaches?
- 12:15 ***LUNCH BREAK***
- 1:00 Adjusting for Unmeasured Confounders Daniel Scharfstein
Johns Hopkins University
- 1:30 Bayesian Approaches for Adjusting for Unmeasured Confounders in Observational Studies Sylvia Richardson
Imperial College, London
- 2:15 Panel Discussion of Charge Questions and Summary of Discussion [Committee members, speakers, and invited participants (Amy Berrington, NCI; Glinda Cooper, EPA; Jay Lubin, NCI; Jeremy Sarnat, Emory University; Kyle Steenland, Emory University)] – How can the corrected results from individual studies be optimally combined? How could EPA gauge or rank the potential magnitude of different types of uncertainties in epidemiologic studies, so that one can focus on the specific uncertainties most likely to produce bias? What additional methodological tools and research should EPA consider or support (for example, exposure modeling)?
- 3:15 Public Comment Opportunity
- 3:30 ***ADJOURN PUBLIC SESSION***