

Review of the Health Effects in Vietnam Veterans of Exposure to Herbicides-Eleventh Biennial Update

Committee

Irva Hertz-Picciotto

Chair

Irva Hertz-Picciotto, M.P.H., Ph.D. is a professor in the Department of Public Health Sciences, School of Medicine, and at the Medical Investigations of Neurodevelopmental Disorders (MIND) Institute, University of California, Davis (UCD), and is chief of the Division of Environmental and Occupational Health. She currently directs the NIH-funded Environmental Health Sciences Center at UCD, along with the Program on Environmental Epidemiology of Autism and Neurodevelopment at the MIND. She has published over 250 scientific papers on environmental exposures, including metals, pesticides, PCBs, and air pollution, and their effects on pregnancy, the neonate, and early child development, as well as on methods in epidemiologic research. She has also led several cohort studies of toxic chemicals and both pregnancy outcomes and early child development internationally. Dr. Hertz-Picciotto has served on scientific advisory panels for the U.S. Environmental Protection Agency, the NIH National Toxicology Program, and the California Governor's Proposition 65 committee. She has served or currently sits on editorial boards for the American Journal of Epidemiology, Environmental Health Perspectives, Epidemiology, and Autism Research. She served as president of the Society for Epidemiologic Research and of the International Society for Environmental Epidemiology, and in 2011 she received the Goldsmith Lifetime Achievement Award from the International Society for Environmental Epidemiology. Recently she co-founded Project TENDR (Targeting Environment and Neuro-Developmental Risks), a collaborative effort of scientists, clinicians, policy-makers and advocates that aims to decrease the incidence of neurodevelopmental disorders by reducing neurotoxicant exposures that contribute to them. Dr. Hertz-Picciotto has previously chaired three National Academies committees: one on breast cancer and the environment and two previous updates of Committees to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides. She received a Ph.D. and an M.P.H. in epidemiology and an M.A. in biostatistics from UC Berkeley. Before joining the faculty at UC Davis, Dr. Hertz-Picciotto was a professor in the Department of Epidemiology at the School of Public Health, University of North Carolina, Chapel Hill. She is a National Associate of the National Academies.

Nancy Berliner

Member

Nancy Berliner, M.D., is chief of the division of hematology at Brigham and Women's Hospital and Professor, Harvard Medical School. Her research focus is gene regulatory pathways of normal white blood cell development and how they are disrupted in leukemia and pre-leukemic syndromes as well as the pathogenesis of the anemia of aging, and benign and malignant hematologic disorders. Most recently, her laboratory has studied the role of cellular stress responses in the disruption of hematopoietic cell differentiation in myelodysplasia. A second focus of her lab is the role of inflammatory cytokines in the anemia of the elderly and in modulating the natural history of myelodysplasia. Dr. Berliner is a Member of the National Academy of Medicine (elected 2010). She received her M.D. from Yale University School of Medicine.

Wendy B. Bernstein

Member

Wendy Bernstein, M.D., is a staff physician in oncology and hematology and chair of scientific review for the department of research programs at Walter Reed National Military Medical Center. She is also an associate professor of medicine, and an adjunct associate professor of pharmacology and of microbiology at the Uniformed Services University of the Health Sciences (USUHS). Prior to assuming these posts, Dr. Bernstein served as a staff clinician the National Cancer Institute's Medical Oncology Branch. Her clinical practice and research activities center on hematologic and immune-mediated cancers. Dr. Bernstein is a 28-year veteran of the US Army Medical Corps, from where she retired with the rank of colonel. She received her M.D. from USUHS and is Board certified in internal medicine, oncology, and hematology.

Michael J. Carvan, III

Member

Michael J. Carvan, III, Ph.D., M.S., is a Shaw Professor at the School of Freshwater Sciences and School of Public Health, both of the University of Wisconsin-Milwaukee. He earned his M.S. in biologic oceanography at the University of Miami's Rosenstiel School of Marine and Atmospheric Science in Coral Gables and his Ph.D. in veterinary anatomy and public health with a focus in toxicology from Texas A&M University's College of Veterinary Medicine in College Station. After obtaining his doctorate, Dr. Carvan held National Institute of Environmental Health Sciences molecular toxicology fellowships at the University of Cincinnati Medical Center. His research uses zebrafish as a genetic system for identifying genes that influence susceptibility of response to xenobiotics. He has served on the National Academies of Sciences, Engineering, and Medicine (NASEM) Board on Life Sciences, and as a committee member on the ninth and tenth updates to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides.

Aravinda Chakravarti

Member

Aravinda Chakravarti, Ph.D., is professor of medicine, pediatrics, molecular biology, and genetics, and biostatistics at the Johns Hopkins University School of Medicine and the Bloomberg School of Public Health. He has been a key participant and architect of the Human Genome, HapMap and 1000 Genomes project. His research focus is genome-scale analysis of humans and computational analysis of gene variation and function to understand the molecular genetic basis of complex human disease. Dr. Chakravarti's discovery of genes and pathways contributing to Hirschsprung disease has served as a model for the genetic dissection of other multifactorial human disorders, such as autism spectrum disorders, hypertension, and sudden cardiac death. He was president of the American Society of Human Genetics in 2008. Dr. Chakravarti is one of the founding Editors-in-Chief of Genome Research and Annual Reviews of Genomics & Human Genetics, and serves on the boards of numerous international journals, academic societies, the NIH, and biotechnology companies. He received his Ph.D. in human genetics from the University of Texas-Houston Health Science Center. Dr. Chakravarti is a Member of the National Academy of Sciences (elected 2015) and the National Academy of Medicine (NAM; elected 2007). He is also an Honorary Fellow of the Indian Academy of Sciences. Currently he serves on the NAM Council Nominating Committee.

Dana C. Dolinoy

Member

Dana Dolinoy, Ph.D., is associate professor of environmental health sciences and nutritional sciences at the University of Michigan School of Public Health, and leads the Environmental Epigenetics and Nutrition Laboratory, which investigates how nutritional and environmental factors interact with epigenetic gene regulation to shape health and disease. She serves on the Editorial Boards of the Journal of Nutritional Biochemistry and Epigenetics and as an Associate Editor for Environmental Health Perspectives, Environmental Epigenetics, and Toxicological Sciences and is an active member of the Society of Toxicology, the Environmental Mutagen and Genomics Society, and the American Society for Nutrition, and served as Chair of the 2015 Gordon Research Conference in Molecular & Cellular Mechanisms of Toxicity. In 2012, she was the recipient of the Association of Schools of Public Health/Pfizer Research Award for the article "An Expression Microarray Approach for the Identification of Metastable Epialleles in the Mouse Genome," a work that has been cited as a model approach that may allow for directly assessing the role of early nutritional and environmental exposures in human adult disease. Dr. Dolinoy recently received the 2015 NIH Director's Transformative Research Award to develop novel epigenome editing tools to reduce disease risk and in 2016 served as the Chair of the SOT Contemporary Concepts in Toxicology (CCT) meeting ToxicoEpigenetics: The Interface of Epigenetics and Risk Assessment. Dr. Dolinoy holds an M.Sc. in environmental sciences and engineering from the Harvard School of Public Health, and a Ph.D. in genetics and genomics and integrated toxicology from Duke University.

Mary A. Fox

Member

Mary A. Fox, Ph.D., is assistant professor in the Department of Health Policy and Management and co-director of the Risk Sciences and Public Policy Institute at the Johns Hopkins Bloomberg School of Public Health. She teaches courses in quantitative risk assessment methods and risk policy and management for the Risk Sciences and Public Policy Institute's Certificate Program. Dr. Fox's research is focused on human health risk assessment as a part of environmental policy making, particularly approaches to cumulative and chemical mixtures risk assessment. Dr. Fox has served on three National Academies committees including the one responsible for the most recent Gulf War and Health report, Volume 10: Update of Health Effects of Serving in the Gulf War. She also served on committees that examined the long-term health consequences of exposure to burn pits in Iraq and Afghanistan, and the health risks of phthalate exposure. Dr. Fox began her public health career conducting community health studies around hazardous waste sites as a research scientist in the New York State Department of Health. She received her M.P.H. from the University of Rochester School of Medicine and Dentistry and Ph.D. from the Johns Hopkins Bloomberg School of Public Health.

Karl T. Kelsey

Member

Karl T. Kelsey, M.D., M.O.H., is a professor of epidemiology, and pathology and laboratory medicine at Brown University. He is also the director of Center for Environmental Health and Technology. Until 2007, he was on the faculty of the Harvard School of Public Health and Harvard Medical School. He is interested in the application of laboratory-based biomarkers in chronic-disease epidemiology and tumor biology and in characterizing individual susceptibility to cancer. Dr. Kelsey is an author of more than 200 publications and has served on the National Academies' committees on toxicity testing and assessment of environmental agents, copper in drinking water, the evaluation of the Department of Veterans Affairs Uniform Case Assessment Protocol to review the health consequences of service during the Persian Gulf War, curriculum development in environmental medicine, the health effects of mustard gas and lewisite, and most recently on the past three Committees to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides. Dr. Kelsey received his M.D. from the University of Minnesota and a master's degree in occupational health from Harvard University.

Andrew F. Olshan

Member

Andrew F. Olshan, Ph.D., is the Barbara Sorenson Hulka Distinguished Professor and Chair of the Department of Epidemiology of the University of North Carolina (UNC) Gillings School of Global Public Health. He is also the Associate Director of Population Sciences at the UNC Lineberger Comprehensive Cancer Center. His research interests are the etiology of cancer and reproductive, perinatal, pediatric outcomes. Recent work has focused on the role of environmental exposures, genetic factors, and adverse health effects in children and adults. He directs NIH-funded studies of head and neck cancer, breast cancer, and childhood cancer. He is director of the CDC-funded North Carolina Center for Birth Defects Research and Prevention. He has served on several National Academies committees, most recently as co-chair of the Committee to Review the Draft IRIS Assessment on Formaldehyde. He has also served as a member on four prior reviews of the health effects in Vietnam Veterans exposed to agent orange. Dr. Olshan received both his M.S. and his Ph.D. in epidemiology from the University of Washington and was a postdoctoral fellow in medical genetics at the University of British Columbia.

Lori A. White

Member

Lori A. White, Ph.D., M.S., is an associate professor in the Department of Biochemistry and Microbiology of the School of Environmental and Biological Sciences of Rutgers, the State University of New Jersey. She received a Master's degree in Zoology from the University of Maine, earned a Ph.D. in Biochemistry from Dartmouth Medical School, and did postdoctoral work at the University of Wisconsin. She has been active in Gordon Conference programs and was the chairperson for the Mechanisms of Toxicology summer session in 2008. Her past research focused on the elucidation of dioxin's carcinogenic activity, specifically how TCDD activates the aryl hydrocarbon receptor pathway resulting in altered gene expression in different biologically-relevant targets. In addition to this project, her lab currently uses the zebrafish model to study the neurotoxicological and behavioral effects following exposure to environmental contaminants during development. She served on the Ninth and Tenth Biennial Updates of the Committees to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides.

Molly Kile

Member

Molly L. Kile, Sc.D. is an associate professor in College of Public Health and Human Sciences of Oregon State University, and director of its Environmental Exposure and Biomarker Lab, and coordinates the program in Environmental & Occupational Health. She has affiliations with the university's Center for Global Health and is a visiting scholar in the Department of Environmental Health at Harvard T.H. Chan School of Public Health. She also leads the Community Engagement Core of Oregon State University's Superfund Basic Research Program, which works in collaboration with Native American Tribes in the Pacific Northwest to investigate their environmental health concerns and is funded by the National Institute of Environmental Health Science on a research project examining the potential for developmental exposures to influence immune functioning in children. Dr. Kile's primary research interest is in environmental and molecular epidemiology. Her research has focused on the application of biological markers for studying exposures, and the interaction between host factors (genetic polymorphisms, nutritional status, microbiome, and epigenetic markers) and environmental exposures. She serves as an editor for the Journal of Environmental and Public Health. Dr. Kile received her Ph.D. from Harvard T.H. Chan School of Public Health in Environmental Health and continued her postdoctoral training at Harvard in molecular epidemiology.

Beate R. Ritz

Member

Beate R. Ritz, M.D., Ph.D., M.P.H is a professor and former Chair of the Epidemiology Department at the School of Public Health at the University of California, Los Angeles (UCLA), where she has been a faculty member since 1995. Dr. Ritz holds co-appointments in both the Environmental Health department at the UCLA School of Public Health and in Neurology at the UCLA School of Medicine. She received both her M.D. and her Ph.D. in Medical Sociology from the University of Hamburg, Germany in 1987. Dr. Ritz was a research fellow and served in her residency at the Psychiatric University-Hospital in Hamburg. She went on to receive her doctoral training and a Ph.D. in Epidemiology in 1995 from UCLA. Dr. Ritz's research has focused on environmental toxins and the health effects they may have on birth outcomes, neurodegenerative and neurodevelopmental disorders, cancers and chronic diseases. For the last two decades, she has conducted research on the effects of air pollution on adverse birth outcomes and neurodevelopmental disorders in children who live in Southern California. She also studied the long-term effects of pesticides exposure on Parkinson's disease and cancer and is working on establishing a Parkinson's disease registry in California. Dr. Ritz previously served on National Academies' committees including two committees responsible for Gulf War and Health series reports, on the Committee on the Review of the Scientific Literature on Amyotrophic Lateral Sclerosis in Veterans, and most recently Using 21st Century Science to Improve Risk-Related Evaluations.