

Barbara J. Divine, Ph.D.
Senior Managing Scientist

Professional Profile

Dr. Barbara J. Divine is a Senior Managing Scientist in Exponent's Health Sciences Center for Epidemiology, Biostatistics, and Computational Biology. Dr. Divine received a Bachelor of Arts degree in Mathematics and Behavioral Science from Rice University and a Ph.D. in epidemiology and biostatistics from the University of Texas Health Science Center at Houston, School of Public Health. She is a member of the Society for Epidemiologic Research and the American College of Epidemiology.

In 1978, Dr. Divine joined the Health Department of Texaco Inc. to develop and coordinate their epidemiology program. Her responsibilities have included the design and conduct of epidemiology studies of Texaco employees to discover or clarify potential problem areas in which work exposures to contaminants may be related to occupational illness, the development and maintenance of a companywide computerized health surveillance system, the monitoring of contractors conducting broad-based epidemiology studies sponsored by trade associations, expert advice and witness in litigation matters, and consulting on various company occupational and environmental epidemiology issues. She held this position until her retirement in December 2001. At this point, she formed Epidemiology Consultants, Inc. to provide expert occupational and environmental consulting services.

During her tenure at Texaco, she served on numerous industry and trade association epidemiology and occupational health panels. She served as chair of the Epidemiology Task Force of the American Petroleum Institute (API) for over ten years, as well as on the API Health and Product Stewardship Committee, the API Benzene Task Force, the International Institute of Synthetic Rubber Producers Epidemiology Steering Committee, the American Industrial Health Council Epidemiology Subcommittee, the Chemical Manufacturers Association Epidemiology Task Group, the American Chemistry Council Epidemiology Technical Implementation Panel, and the Texas Institute for the Advancement of Chemical Technology Epidemiology Panel.

She has published numerous articles on the results of the Texaco mortality studies in various professional journals, including studies of petroleum refinery workers, petrochemical workers, research workers, oil production and pipeline workers, and butadiene production workers.

Academic Credentials and Professional Honors

Ph.D., Epidemiology, University of Texas, 1978

B.A., Mathematics, Rice University (*magna cum laude*), 1971

Publications

Divine BJ, Hartman CM. A cohort study among workers at a 1,3 butadiene facility. *Chemico-Biol Interact* 2001; 135–136:535–553.

Divine BJ, Hartman CM. An update of a study of crude oil production workers 1946–1994. *Occup Environ Med* 2000; 57:411–417.

Collins JJ, Barbela T, Huebner WW, Divine B.J, et al. A framework for addressing health issues in or near a manufacturing facility. *J Occup Environ Med* 2000; 42:163–170.

Divine BJ, Hartman CM, Wendt JK. Response to letter on: An updated report on the Texaco mortality study 1947–1993 Part II. Analysis of specific causes of death for white males employed in refining, research, and petrochemicals. *Occup Environ Med* 2000; 57:143–144.

Divine BJ, Hartman CM, Wendt JK. An updated report on the Texaco mortality study 1947–1993 Part I. Analysis of overall patterns of mortality among refining, research, and petrochemical workers. *Occup Environ Med* 1999; 56:167–173.

Divine BJ, Hartman CM, Wendt JK. An updated report on the Texaco mortality study 1947–1993 Part II. Analysis of specific causes of death for white males employed in refining, research, and petrochemicals. *Occup Environ Med* 1999; 56:174–180.

Divine BJ, Satin KP. Re: Proportionate mortality among union members employed at three Texas refineries. *Am J Ind Med* 1999; 35:92–94.

Divine BJ, Hartman CM. Mortality update of butadiene production workers. *Toxicology* 1996; 113:169–181.

Divine BJ, Wendt JK, Hartman CM. Cancer mortality among workers at a butadiene facility. pp. 345–362. In: *Butadiene and Styrene: Assessment of Health Hazards*, IARC Scientific Publications No. 127. Sorsa M, Peltonen H, Hemminki K (eds), IARC, Lyon, France, 1993.

Divine BJ. An update on mortality among workers at a Butadiene facility—Preliminary results. *Environ Health Perspect* 1990; 86:119–128.

Divine BJ, Barron V. The Texaco mortality study. III. Patterns of mortality among producing and pipeline workers. *Am J Ind Med* 1987; 11:189–202.

Divine BJ, Barron V. The Texaco mortality study. II. Patterns of mortality among white males by specific job groups. *Am J Ind Med* 1986; 10:371–381.

Divine BJ, Amanollahi KS. Comments on epidemiologic support for ethylene oxide as a cancer-causing agent. *JAMA* 1986; 256:1726–1727.

Divine BJ, Barron V, Kaplan SD. The Texaco mortality study. I. Mortality among refinery, petrochemical, and research workers. *J Occup Med* 1985; 27:445–447.

Morgan RW, Claxton KW, Divine BJ, Kaplan SD, Harris VB. Mortality among ethylene oxide workers. *J Occup Med* 1981; 23:767–770.

Divine BJ. Comments on mortality among workers employed in petroleum refining and petrochemical plants. *J Occup Med* 1980; 22:640.

Presentations

Divine BJ, Hartman CM. A cohort study among workers at a 1,3 butadiene facility. Presented at the International Symposium on Evaluation of Butadiene, Isoprene and Chloroprene Health Risks. London, England, September 2000.

Divine BJ, Hartman CM. Mortality update of Butadiene production workers. Presented at the International Symposium on Evaluation of Butadiene and Isoprene Health Risks. Blaine, WA, June 1995.

Divine BJ. Cancer mortality among workers at a butadiene facility. Presented at the International Symposium on Health Hazards of Butadiene and Styrene. Espoo, Finland, April 1993.

Divine BJ. Ethylene oxide—Texaco update. Presented at the 75th annual meeting of the American Occupational Health Conference, Houston, TX, May 1990.

Divine BJ. An update on mortality among workers at a butadiene facility—Preliminary results. Presented at the International Symposium on the Toxicology, Carcinogenesis, and Human Health Aspects of 1,3-Butadiene. Research Triangle Park, NC, April 1988.

Divine BJ. Leukemia in Texas: The Texaco mortality study. Presented at the Seminar on Cancer Prevention and Control, San Antonio. TX, January 1984.

Divine BJ, Barron V. The Texaco mortality study. Mortality among refinery, petrochemical, and research workers. Presented at the Society for Epidemiologic Research meeting, Winnipeg, Manitoba, June 1983.

Divine BJ. Establishing “on-going” surveillance programs in industry. Presented at the seminar on The Expanding Role of Occupational Medicine, Charleston, SC, October 1981.

Divine BJ. Reproductive risks in the workplace. Presented at the American Society of Safety Engineers, Region III, Regional Professional Conference, College Station, TX, February 1981.

Divine BJ. Primary liver cancer and occupation, Brazoria County, Texas, 1960–1975. Presented at the Society for Epidemiologic Research, Student Workshop on Epidemiologic Methods, Seattle, WA, June 1977.

Prior Experience

President and Principal Scientist, Epidemiology Consultants, Inc., 2001–2006
Senior Coordinator, Epidemiology Programs, Texaco Inc., 1991–2001
Senior Staff Epidemiologist, Texaco Inc., 1989–1991
Project Epidemiologist, Texaco Inc., 1985–1989
Senior Epidemiologist, Texaco Inc., 1981–1985
Epidemiologist, Texaco Inc., 1978–1981
Adjunct Assistant Professor of Epidemiology, University of Texas School of Public Health,
1980–2001
Research Technician, The University of Texas Medical Branch, 1976–1978

Project Experience

Responsible for the development of the epidemiology program at Texaco. Activities included developing program business and scientific objectives, developing and monitoring budget, hiring and supervising staff, presentations to management.

Responsible for the design, conduct, evaluation, and supervision of epidemiology studies of Texaco employees to discover or clarify potential problem areas in which work exposures to contaminants may be related to occupational illness. Presented study results to company management and workers, helped develop written and video communication tools, presented the results to interested governmental agencies and at research conferences.

For a study of refinery, petrochemical, and research workers, monitored the contractor doing the original data collection, performed final data quality assessments and study analyses, and wrote company report and articles for publication. Responsible for all aspects of the study update.

Reviewed study proposal and monitored the contractor performing a mortality study of butadiene monomer production workers. Responsible for all aspects of several study updates. Presented various study update results at several international conferences on butadiene. Explained study to representatives from EPA and used the results as a basis for comments on proposed EPA regulations.

Responsible for all aspects of a mortality study of production and pipeline workers. This is the only refinery industry study of this population.

Study results for all of the above studies have been described in numerous publications for which I was the primary author, both in peer-reviewed journals and in internal company reports.

Worked on the development and maintenance of a companywide computerized health surveillance system. Worked with other disciplines within the company and with information technology personnel to design and test the system. Responsible for the maintenance and quality assurance of epidemiological data in the system.

Worked on interdisciplinary team to assess the impact of environmental contamination on the immediate area. After a massive leak at a petroleum marketing terminal contaminated the surrounding neighborhood, the neighborhood, the local health department, and the state health department were concerned about the long-term effects of exposure for local residents. Worked with representatives from the terminal, the health departments, corporate environmental, etc. to develop a long-term plan to track and reassure the residents.

Member of the American Petroleum Industry Benzene Task Force for 12 years. Monitored outside studies of benzene health effects, reviewed API sponsored studies of benzene, reviewed comments on proposed benzene regulations.

Academic Appointments

- Adjunct Assistant Professor of Epidemiology, University of Texas School of Public Health, 1980–2001

Research Experience

- Texaco Refinery, Petrochemical, and Research Workers Mortality Study, Principal Investigator
- Texaco Production and Pipeline Workers Mortality Workers Mortality Study, Principal Investigator
- Texaco Butadiene Monomer Workers Mortality Study, Principal Investigator

Science Advisory Boards/Panels

- Chair, Epidemiology Research Group, American Petroleum Institute, 1988–2001
- Member, Epidemiology Research Group, American Petroleum Institute, 1979–1988
- Member, Epidemiology Task Group, Chemical Manufacturers Association, 1989–1992, 1998–1999
- Member, Health and Product Stewardship Committee, American Petroleum Institute, 1989–2001
- Member, Benzene Task Force, American Petroleum Institute, 1989–2001
- Member, Epidemiology Technical Implementation Panel, American Chemical Council, 2000–2001
- Member, Epidemiology Subcommittee, American Industrial Health Council, 1991–1999
- Member, Epidemiology Steering Committee, International Institute of Synthetic Rubber Producers, 1992–2001
- Member, Epidemiology Committee, Texas Institute for the Advancement of Chemical Technology, 1991–1993

Peer Reviewer

- Occupational and Environmental Medicine

Professional Affiliations

- American College of Epidemiology (member)
- Society for Epidemiologic Research