

Dominik D. Alexander, Ph.D., MSPH
Senior Managing Scientist

Professional Profile

Dr. Dominik D. Alexander is a Senior Managing Scientist in Exponent's Health Sciences Center for Epidemiology, Biostatistics, and Computational Biology. He has extensive experience in health research methodology, particularly in the conceptualization, design, analysis, and interpretation of epidemiologic studies. Dr. Alexander has published on a diverse range of topics and types of studies, including original epidemiologic research, qualitative reviews, and quantitative meta-analyses. He has conducted numerous "state of the art" reviews on complex medical and scientific issues, and he has experience in statistical computing, including multivariate regression analysis and meta-analysis techniques.

Since joining Exponent, Dr. Alexander has been involved in numerous projects related to occupational and environmental exposures and cancer outcomes. For example, he has examined trichloroethylene exposure and cancer; benzene and other solvent exposures and non-Hodgkin lymphoma and leukemia; pesticides and cancer; low-level arsenic exposure in drinking water and bladder cancer; hexavalent chromium exposure and stomach cancer; and asbestos exposure and mesothelioma. He has also evaluated potential health risks associated with dioxin exposure.

Dr. Alexander also has extensive experience in nutritional epidemiology, and has worked on several projects related to dietary factors and a variety of health outcomes. His work in this area includes conducting comprehensive qualitative and quantitative epidemiologic assessments of meat consumption and cancer, examining the role of partially hydrolyzed whey protein infant formula in reducing the risk of atopic dermatitis, and assessing how fast food consumption is evaluated scientifically. He has presented his nutritional epidemiology research in a variety of professional venues, such as national conventions, scientific conferences, and governmental regulatory forums. Dr. Alexander is currently editing a textbook on Nutritional Epidemiology.

Dr. Alexander is a graduate of the University of Alabama at Birmingham (UAB) where he was awarded a National Cancer Institute Fellowship for *Cancer Prevention and Control*. While at UAB, he worked closely with the Department of Pathology, where he designed and implemented epidemiologic studies pertaining to colorectal cancer survival. In particular, he evaluated racial disparities in survival. He conducted an analysis of tumor differentiation among colon cancer patients, and found that racial disparity in survival was largely attributable to aggressive tumor behavior among African American patients with poorly differentiated tumors. Prior to his graduate work at UAB, Dr. Alexander worked at the H. Lee Moffitt Cancer Center and Research Institute in Tampa, Florida where he worked on a clinical trial comparing two imaging modalities, digital vs. film mammography, for the Digital Medical Imaging Program in the Department of Radiology.

Academic Credentials and Professional Honors

Ph.D., Epidemiology, School of Public Health, University of Alabama at Birmingham, 2004
M.S.P.H., Epidemiology and Biostatistics, College of Public Health, University of South Florida, 2001
B.A.S., Community Public Health, University of Minnesota, 1997

National Cancer Institute Cancer Fellowship, Cancer Prevention and Control Training Program, University of Alabama-Birmingham (2001–2004); The 2003 William C. Bailey Award for Excellence in Cancer Prevention and Control Research, UAB Comprehensive Cancer Center Annual Research Retreat; Lifetime member of MENSA International High Intelligence Society (2002); Academic Fellowship, University of South Florida (2000–2001)

Peer-Reviewed Publications

Alexander DD, Cabana MD. Partially hydrolyzed 100% whey protein infant formula and reduced risk of atopic dermatitis: a meta-analysis. *J Pediatric Gastroenterology Nutr* 2010, in press.

Alexander DD, Morimoto L, Mink PJ, Lowe KA. Summary and meta-analysis of prospective studies of animal fat intake and breast cancer. *Nutr Res Rev* 2010, in press.

Alexander DD, Schmitt DF, Tran N, Barraj L, Cushing CA. Partially hydrolyzed 100% whey protein infant formula and atopic dermatitis risk reduction: A systematic review of the literature. *Nutr Rev* 2010, in press.

Anderson B, Hardin MJ, Alexander DD, Meleth S, Grizzle WE, Manne U. Comparison of the predictive qualities of three prognostic models built on a molecular biomarker dataset of colorectal cancer. *Frontiers in Bioscience* 2010, in press.

Alexander DD, Wagner ME. Benzene exposure and Non-Hodgkin Lymphoma: A meta-analysis of epidemiologic studies. *J Occup Environ Med.* 2010 Feb; 52(2):169–89.

Kelsh MA, Alexander DD, Mink PJ, Mandel JH. Occupational trichloroethylene exposure and kidney cancer: A meta-analysis. *Epidemiology* 2010 Jan; 21(1):95–102.

Erdreich LS, Alexander DD, Wagner ME, Reinemann D. Meta-analysis of stray voltage on dairy cattle. *J Dairy Sci* 2009 Dec; 92(12):5951–5963.

Alexander DD, Cushing CA. Quantitative assessment of red meat or processed meat consumption and kidney cancer. *Cancer Detection Prev* 2009; 32(5–6):340–351.

Alexander DD, Cushing CA, Lowe KA, Scurman B, Roberts MA. Meta-analysis of animal fat or animal protein intake and colorectal cancer. *Am J Clin Nutr* 2009; 89(5):1402–1409.

Mink PJ, Alexander DD, Barraj LM, Kelsh MA, Tsuji JS. Low-level arsenic exposure in drinking water and bladder cancer: a review and meta-analysis. *Regul Toxicol Pharmacol* 2008 Dec; 52(3):299–310.

Kelsh MA, Alexander DD, Kalmes RM, Buffler PA. Personal use of hair dyes and risk of bladder cancer: A meta-analysis of epidemiologic data. *Cancer Causes Control* 2008; 19(6):549–558.

Mandel JH, Kelsh M, Mink PJ, Alexander DD. Trichloroethylene exposure and non-Hodgkin's lymphoma: Supportive evidence. *Occup Environ Med*. 2008; 65:147–148.

Alexander DD, Waterbor J, Hughes T, Funkhouser E, Grizzle W, Manne U. Racial disparities in colorectal cancer mortality and survival by data source: an epidemiologic review. *Cancer Biomark* 2007; 3(6):301–13.

Alexander DD, Kelsh MA, Mink PJ, Mandel JS, Basu R, Weingart M. A meta-analysis of occupational trichloroethylene exposure and liver cancer. *Int Arch Occup Environ Health* 2007 Nov; 81(2):127–143.

Alexander DD. An environmental cause of orofacial cleft defects or an unexplained cluster? *South Med J*. 2007 Jun; 100(6):553–534.

Alexander DD, Mink PJ, Adami HO, Cole P, Mandel JS, Oken MM, Trichopoulos D. Multiple myeloma: a review of the epidemiologic literature. *Int J Cancer* 2007; 120 Suppl 12:40–61.

Alexander DD, Mink PJ, Adami HO, Chang ET, Cole P, Mandel JS, Trichopoulos D. The non-Hodgkin's lymphomas: a review of the epidemiologic literature. *Int J Cancer* 2007; 120 Suppl 12:1–39.

Alexander DD, Mink PJ, Mandel JH, Kelsh M. A meta-analysis of occupational trichloroethylene exposure and multiple myeloma or leukemia. *Occup Med (Lond)* 2006; 56(7):485–493.

Mandel JH, Kelsh M, Mink PJ, Alexander D, Kalmes R, Weingart M, Yost L, Goodman, M. Occupational trichloroethylene exposure and non-Hodgkin's lymphoma: a review and meta-analysis. *Occup Environ Med*. 2006; 63(9):597–607.

Chatla C, Jhala N, Katkooi V, Alexander D, Meleth S, Grizzle WE, Manne U. Recurrence and survival predictive value of phenotypic expression of bcl-2 varies with tumor stage of colorectal adenocarcinoma. *Cancer Biomarkers* 2005; 1(4–5):241–250.

Alexander D, Jhala N, Chatla C, Steinhauer J, Funkhouser E, Coffey C, Grizzle WE, Manne U. High grade tumor differentiation is an indicator of poor prognosis among African Americans with colonic adenocarcinoma. *Cancer* 2005; 103(10):2163–2170.

Saif MW, Alexander D, Wicox CM. Serum alkaline phosphatase level as a prognostic tool in colorectal cancer: A study of 105 patients. *J Appl Res* 2005; 5(1):88–95.

Alexander D, Chatla C, Funkhouser E, Meleth S, Grizzle WE, Manne U. Postsurgical disparity in survival between African Americans and Caucasians with colonic adenocarcinoma. *Cancer* 2004; 101(1):66–76.

Manne U, Alexander D, Chatla C. Postsurgical disparity in survival between African Americans and Caucasians with colonic adenocarcinoma. *Cancer* 2004; 101(12):2900 (Author Reply).

Book Chapters

Kelsh MA, Alexander DD. Occupational and environmental epidemiology. In: *Encyclopedia of Epidemiology*. Sage Publications, Thousand Oaks, CA, 2007.

Abstracts

Alexander DD, Cabana MD. Partially hydrolyzed 100% whey protein infant formula and reduced risk of atopic dermatitis: A meta-analysis. *Pediatric Academic Societies*, Vancouver, BC, Canada, May 1–4, 2010.

Alexander DD, Cushing CA. A meta-analysis of red or processed meat intake and prostate cancer. *Society for Epidemiologic Research*, Anaheim, CA, 2009.

Alexander DD, Wagner ME, Kelsh MA. Benzene exposure and non-Hodgkin lymphoma: A meta-analysis. *Society for Epidemiologic Research*, Anaheim, CA, June 24, 2009.

Alexander DD, Schmitt D, Tran N, Barraji L, Cushing CA. Partially hydrolyzed 100% whey infant formula and atopic dermatitis risk reduction: A systematic review of the literature. *Experimental Biology*, New Orleans, LA, 2009.

Alexander DD, Cushing CA, Lowe KL. Meta-analysis of animal fat intake and colorectal cancer. *Experimental Biology*, New Orleans, LA, 2009.

Alexander DD, Cushing CA, Roberts MA. Quantitative assessment of red and processed meat intake and kidney cancer. *Experimental Biology*, New Orleans, LA, 2009.

Lowe KL, Alexander DD, Morimoto LM. Meta-analysis of animal fat intake and breast cancer. *Experimental Biology*, New Orleans, LA, 2009.

Morimoto LM, Alexander DD, Cushing CA. Meta-analysis of red and processed meat consumption and breast cancer. *Experimental Biology*, New Orleans, LA, 2009.

Manne U, Grizzle WE, Alexander DD, Katkooi V. Racial differences in colorectal cancer: the need to educate clinicians and researchers for improved patient care. *American Association for Cancer Education*, 41st Annual Meeting, Birmingham, AL, October 2007.

Gatto NM, Alexander DD, Kelsh MA. A meta-analysis of occupational exposure to hexavalent chromium and stomach cancer. 19th Annual International Society of Environmental Epidemiology Conference, Mexico City, Mexico, September 5–9, 2007.

Alexander DD, Mink PJ, Mandel JH, Kelsh MA. A meta-analysis of occupational trichloroethylene exposure and multiple myeloma or leukemia. Proceedings 2nd North American Congress of Epidemiology, Seattle, WA, June 2006.

Kelsh MA, Mandel JH, Mink PJ, Weingart M, Alexander DD, Goodman M. A meta-analysis of kidney cancer, non-Hodgkin's lymphoma and occupational trichloroethylene exposure. Proceedings, 2nd North American Congress of Epidemiology, Seattle, WA, June 2006.

Mink PJ, Alexander DD, Barraj L, Kelsh MA, Tsuji J. Meta-analysis of low level arsenic exposure and bladder cancer. Proceedings, 2nd North American Congress of Epidemiology, Seattle, WA, June 2006.

Alexander DD, Mink PJ, Butchko H. How “fast food” is used and interpreted in scientific research: methodological considerations. Proceedings, Experimental Biology 2006, San Francisco, CA, April 2006.

Kapica CM, Alexander DD, Mink PJ, Butchko H. The definition of fast food in published studies. Proceedings, Experimental Biology 2006, San Francisco, CA, April 2006.

Alexander D, Chatla C, Funkhouser E, Jhala N, Grizzle WE, Manne U. Racial differences in survival based on tumor differentiation and stage in patients who have undergone surgery for colon cancer. J Clin Oncol 2004; 22:14S (July Supplement).

Alexander D, Funkhouser E, Saif M. Alkaline phosphatase (AP) as a prognostic tool in colorectal cancer (CRC). Proceedings, American Society of Clinical Oncology 2003; 22:354.

Malhotra P, Kallergi M, Alexander D, et al. Discrepancies between film and digital mammography interpretations. Medical Imaging 2002, Proceedings of SPIE (The International Society for Optical Engineering), February 2002.

Alexander D, Malhotra P, Kallergi M, et al. Digital vs. film mammography: calcification interpretation. American Association of Physicists in Medicine 2001, (July Supplement).

Presentations

Alexander DD, Weed DL. Ongoing assessment of pesticides and colorectal cancer: A weight of evidence evaluation of epidemiologic literature. Environmental Protection Agency SAP draft framework, Washington DC, February 2, 2010.

Alexander DD. Benzene exposure and non-Hodgkin lymphoma: a meta-analysis. Society for Epidemiologic Research, Anaheim, CA, June 24, 2009 (Spotlight Session: Invited Speaker).

Alexander DD. The epidemiology of red and processed meat and cancer. IMS Human Nutrition and Health Committee meeting, Chicago, IL, May 20, 2009 (Invited Speaker).

Erdreich LS, Wagner M, Van Kerkhove M, Alexander DD. Stray voltage meta-analysis: needs, methods and challenges. 46th Annual Rural Energy Conference, La Crosse, WI, February 28, 2008.

Alexander DD. Epidemiologic evaluation of red meat and cancer. Cattle Industry Convention & Trade Show, Nutrition Roundtable, Reno, NV, February 7, 2008 (Invited speaker).

Alexander DD. Red meat scientific assessment. Industry Stakeholder Cancer Forum, Chicago, IL, October 11, 2007 (Invited speaker).

Alexander DD. Meta-analysis of occupational trichloroethylene exposure and lymphohematopoietic malignancies and liver cancer. Epidemiology Seminar Series, University of Illinois, Chicago, IL, November 17, 2006 (Invited speaker).

Alexander DD, Mink PJ, Mandel JH, Kelsh MA. A meta-analysis of occupational trichloroethylene exposure and multiple myeloma or leukemia. Proceedings, 2nd North American Congress of Epidemiology, June 2006, Seattle, WA (Poster Presentation, Presenter: DD Alexander)

Kelsh MA, Mandel JH, Mink PJ, Weingart M, Alexander DD, Goodman M. A meta-analysis of kidney cancer, non-Hodgkin's lymphoma and occupational trichloroethylene exposure. Proceedings, 2nd North American Congress of Epidemiology, Seattle, WA, June 2006 (Symposium, Speaker: MA Kelsh).

Mink PJ, Alexander DD, Barraj L, Kelsh MA, Tsuji J. Meta-analysis of low level arsenic exposure and bladder cancer. Proceedings, 2nd North American Congress of Epidemiology, Seattle, WA, June 2006 (Poster Presentation, Presenter: PJ Mink).

Mink PJ, Alexander DD, Barraj L, Kelsh Ma, Tsuji J. A review and meta-analysis of low-level arsenic exposure in drinking water and bladder cancer. Presentation to the Canadian Pest Management Regulatory Agency, Ottawa, Canada, June 2006 (Speaker: PJ Mink).

Alexander DD, Mink PJ, Butchko H. How "fast food" is used and interpreted in scientific research: methodological considerations. Experimental Biology 2006, San Francisco, CA, April 2006. (Poster Presentation, Presenter: DD. Alexander).

Kapica CM, Alexander DD, Mink PJ, Butchko H. The definition of fast food in published studies. Experimental Biology 2006, San Francisco, CA, April 2006. (Poster Presentation, Presenter: CM Kapica).

Mink PJ, Alexander DD, Barraj LM, Kelsh MA, Tsuji JS. Meta-analysis of low level arsenic exposure and bladder cancer: implications for risk assessment in the United States. 45th Annual Meeting of the Society of Toxicology, San Diego, CA, March, 2006. (Poster Presentation, Presenter: PJ Mink)

Dominik D. Alexander, Ph.D.

Mandel JH, Alexander DD, Kelsh MA. Occupational trichloroethylene exposure: recent insights from epidemiologic and toxicologic perspectives. State of the Art Conference of the American College of Occupational and Environmental Medicine, Chicago, IL, October 2005. (Invited Speaker: JH Mandel).

Alexander D, Jhala N, Chatla C, Steinhauer J, Funkhouser E, Coffey C, Grizzle WE, Manne U. Racial differences in survival based on tumor differentiation and stage in patients who have undergone surgery for colon cancer. The 2004 American Society of Clinical Oncology Annual Meeting, New Orleans, LA, June 2004. (Poster Presentation, Presenter: D. Alexander).

Chatla C, Alexander D, Manne U. Prognostic significance of Bcl-2 expression and p53 nuclear accumulation based on nodal status in patients with colorectal adenocarcinoma. The 95th Annual meeting of the American Association for Cancer Research, Orlando, Florida, March 2004. (Poster Presentation, Presenter: C. Chatla).

Alexander D. Post-surgical disparity in survival between African-Americans and Caucasians with colonic adenocarcinomas. The UAB Comprehensive Cancer Center Annual Research Retreat, Birmingham, Alabama, October 2003. (Poster Presentation, Presenter: D. Alexander).

Malhotra P, Kallergi M, Alexander D, et al. Discrepancies between film and digital mammography interpretations. The annual meeting for Medical Imaging: Observer Performance Studies, San Diego, CA, February 26–28, 2002. (Poster Presentation, Presenter: P. Malhotra).

Alexander D, Malhotra P, Kallergi M, et al. Digital vs. film mammography. The American Association of Physicists in Medicine Conference, Salt Lake City, UT, July 22–26, 2001. (Poster Presentation, Presenter: D. Alexander).

Peer Reviewer

- *American Journal of Epidemiology*
- *Journal of the National Cancer Institute*
- *Public Health Nutrition*
- *Journal of Food Composition and Analysis*
- *Risk Assessment*
- *Cancer*
- *Cancer Epidemiology Biomarkers and Prevention*
- *American Journal of Preventive Medicine*
- *Southern Medical Journal*
- *International Journal of Cancer*
- *Journal of Women's Health*

Professional Affiliations

- American Society of Nutrition (Member: 2009–present)
- International Society for Environmental Epidemiology (Member: 2005–2008)
- American Public Health Association (Contributing Member: 2005–2008)
- Society for Epidemiologic Research (2005–present)
- American College of Epidemiology (2003–present)
- MENSA International High Intelligence Society (2002–present)
- Infectious Disease Association (1999–2001)