

Kimberly M. Smith, M.Sc.
Managing Scientist

Professional Profile

Ms. Kimberly M. Smith is a Managing Scientist and Nutrition Manager in Exponent's Health Sciences Centre for Chemical Regulation and Food Safety. She has 10 years of experience in food and nutrition, food and ingredient regulations, epidemiology, and exercise physiology. She specialises in complex dietary intake and risk assessments and has a strong background in regulatory consulting, as well as working with the food and ingredient manufacturers, the European Food Safety Authority (EFSA), UK Food Standards Agency (FSA), and the US Food and Drug Administration (FDA). She has analysed data from the numerous countries including Japan, Korea, and China with specific experience with the UK National Diet and Nutrition Survey, USDA's Continuing Survey of Food Intake by Individuals, and health indicator, food, and nutrient data from CDC's National Health and Nutrition Examination Survey (NHANES III, NHANES 1999–2006), and the Total Diet Study. She is Exponent's lead analyst for their proprietary software Food Analysis and Residue Evaluation (FARE™) and has experience with additional statistical software packages. Ms. Smith has conducted extensive analyses of fatty acid consumption, modelled hypothetical fatty acid consumption if major ingredients were altered in the diet, and summarized the resulting health benefits. Ms. Smith has worked on regulatory approvals of food additives, novel foods, food ingredients, nutrition and health claims, pesticides, and biocides, Generally Recognized As Safe (GRAS) evaluations of food ingredients, matters including California Proposition 65, foods derived from biotechnology, and food contaminants.

Prior to joining Exponent, Ms. Smith was a nutrition counsellor and fitness advisor for the Central Intelligence Agency in Langley, Virginia. Ms. Smith was a graduate student and teaching assistant at the University of Maryland, responsible for instructing the undergraduate nutrition course. She also gained valuable experience while assisting graduate research projects relating to nutrition and exercise physiology at Virginia Tech.

Ms. Smith's software capabilities include Microsoft Office Applications, Endnote, SAS, STATA, Wesvar, SPSS and proprietary software programs including DEEM and FARE.

Academic Credentials and Professional Honours

M.Sc., Nutrition, University of Maryland, 2006

B.Sc., Human Nutrition, Foods, and Exercise, Virginia Polytechnic Institute and State University, 1999

Languages

Spanish, French

Publications

Smith KM, Barraji LM, Kantor M, Sahyoun NR. Relationship between fish intake, n-3 fatty acids, mercury and risk markers of CHD (National Health and Nutrition Examination Survey 1999–2002). *Public Health Nutr* 2009 Aug; 12:1261–1269.

Sanchez CA, Barraji L, Blount BC, Scrafford C, Valentin-Blasini L, Smith KM, and Krieger RI. Perchlorate exposure from food crops produced in the lower Colorado river region. *JESEE* 2008 May 26 (electronic publication ahead of print).

DiRienzo M, Lemke S, Petersen B, Smith K. Effect of substitution of high stearic low linolenic acid soybean oil for hydrogenated soybean oil on fatty acid intake. *Lipids* 2008 May; 43:451-6.

DiRienzo M, Astwood J, Petersen B, Smith K. Effect of substitution of low linolenic acid soybean oil for hydrogenated soybean oil on fatty acid intake. *Lipids* 2006; 41:149–157.

Smith K, Sahyoun N. Fish consumption: Recommendations versus advisories, can they be reconciled? *Nutr Rev* 2005; 63(2):39–46.

Tran N, Barraji L, Smith K, Javier A, Burke T. Combining food frequency and survey data to quantify long-term dietary exposure: A methyl mercury case study. *Risk Analysis* 2004; 24(1):19–30.

Yost L, Tao S, Egan S, Barraji L, Smith K, Tsuji J, Lowney Y, Schoof R, Rachman N. Estimation of dietary intake of inorganic arsenic in U.S. children. *Hum Ecol Risk Assess* 2004; 10:473–483.

Presentations

Smith K. The collection and use of food consumption data in the United Kingdom. 8th International Fresenius Conference-Food Safety and Dietary Risk Assessment, Mainz, Germany, February 2010.

Wang C, Smith K, Petersen B, Lemke S. Predicted fatty acid intakes resulting from stearidonic acid enriched soybean oil fortification: NHANES 1999–2002. 33rd National Nutrient Databank Conference, New Orleans, LA, April 2009.

Wang C, Smith K, Petersen B, Lemke S. Impact of including a high Stearidonic acid oil on fatty acid intake of US population. 100th AOCS Annual Meeting & Expo, Orlando, FL, May 3–6, 2009.

Wang C, Smith K, Petersen B, Lemke S. Impact of substituting frying oil with a low saturated fat and high oleic soybean oil. 100th AOCS Annual Meeting & Expo, Orlando, FL, May 3–6, 2009.

Smith K, Sahyoun N. Relationship between fish intake, omega-3 fatty acids, mercury, and risk markers of coronary heart disease (NHANES 1999–2002). World Congress on Public Health Nutrition, Barcelona, Spain, November 2006.

Johnston J, Smith K, Wang C, Petersen J, McCormick W, Shah H. A model to assess incidental ingestion exposures to residential countertop cleaning products. Poster presentation at ISEA, 2006.

Smith K, Sahyoun N. Fish consumption: Recommendations versus advisories, can they be reconciled? Society for Risk Analysis, Orlando, FL, December 2005.

Javier AF, Rachman NJ, Smith KM. Risks of acrylamide in the diet: Can we demonstrate improvements over time? Poster presentation at the 12th World Congress of Food Science and Technology, Chicago, IL, July 16–20, 2003.

Javier AF, Rachman NJ, Smith KM. Variation in the estimated daily intake of acrylamide from food in the US. Poster presentation at the Institute of Food Technologists Annual Meeting and Food Expo, Chicago, IL, July 12–16, 2003.

Javier A, Barraj L, Petersen B, Rachman N, and Smith K. New approaches to estimation of chronic average daily intakes of substances in foods. American College of Toxicology, Hershey PA, November 2002.

Javier A, Petersen B, Rachman N, and Smith K. Variation in the estimated daily intake of acrylamide from food in the U.S. American College of Toxicology, Hershey PA, November 2002.

Plunkett L, Rachman NJ, Rudenko LR, Smith K, Watters J. Grapefruit juice consumption and Rx medications: How significant are the potential risks? International Society for Exposure Assessment, Charleston SC, November 2001.

Short Courses

International Food Laws and Regulations, University of Michigan, 2007.

Functional Foods—Global Perspective Workshop, I World Congress Public Health Nutrition, Barcelona, Spain, September 2006.

Statistical sampling methodology short course, American Association for Public Opinion Research, 2005.

Director and curriculum developer of the Nutrition Seminar for the Legacy Leadership Institute, August 2004.

Overview of Risk Analysis, Joint Institute for Food Safety and Applied Nutrition short course, 2002.

Prior Experience

Corporate Fitness Trainer/Nutrition Counsellor, U.S. Central Intelligence Agency, 1999–2000

Project Experience

Co-developed a new model to estimate the nutritional impact of replacing the oils currently used in the US and UK food supply with modified oils containing improved fatty acid profiles. Successfully aided an ingredient company in selling new oil to a major food company in order to reduce trans fat in a final food product.

Completed and published a Masters thesis study of the Relationship between fish intake, omega-3 fatty acids, mercury, and risk markers of coronary heart disease (NHANES 1999–2002). Developed research proposal including study design and methodology. Merged, coded and analyzed demographic, lab, examination, and questionnaire variables including extensive reviews of the biomarker, dietary supplement, food and nutrient intake, and 30-day food frequency data. Published one review article and submitted final research study and results for publication (currently in review).

Performed complex dietary intake assessments. Substances of interest have included fatty acids, vitamins, genetically modified ingredients, naturally occurring phytonutrients, contaminants, and heavy metals.

Developed a new model for estimating daily intake of household cleaning products from countertop uses. The model was presented to and is under consideration for use by the US Environmental Protection Agency (EPA) to be used to evaluate safety of household cleaning products.

Created a nutrient database of information from the recent scientific literature to support estimation of current intakes, and a new total intake from proposed fortification of foods.

Prepared Generally Recognized as Safe (GRAS) feasibility evaluation for the use of a naturally occurring phytonutrient. Performed intensive literature searches on the historical use and the different food applications of a fruit.

Supported the development of a newly recognized method for estimating the average daily intake of a food contaminant listed as a reproductive toxicant under California Proposition 65.

Developed a potential alternative approach to the Duplicate Diet (EPA's current and historic method used to estimate the dietary component of total human exposure to environmental

contaminants) to support EPA's National Exposure Research Laboratory (NERL) evaluation of more cost effective methods. Conducted a large literature review to summarize available information on food intake surveys and evaluate the pros and cons of each.

Prepared training manuals and seminars for Exponent's proprietary software program, (FARE™) for Exponent employees as well as government officials (FDA and Health Canada).

Developed a curriculum and taught an introduction to nutrition short course at the Legacy Leadership Institute of the University of Maryland.

Professional Affiliations

- Institute of Food Technologists, 2000–present
- American Association for Public Opinion Research, 2005–present
- American Public Health Association, 2006–present