

**Carrie M. Kuehn, M.P.H., RAC**  
**Managing Scientist**

**Professional Profile**

Ms. Carrie Kuehn is a Managing Scientist in Exponent's Health Sciences Center for Epidemiology, Biostatistics, and Computational Biology. Ms. Kuehn is an epidemiologist with training in pharmacoepidemiology and biostatistics, and is Regulatory Affairs Certified (RAC) in U.S. FDA pharmaceutical and medical device regulatory affairs. She has over 10 years of experience in designing and conducting observational research studies; collecting, analyzing, and interpreting population-based data; and preparing reports and publications. Ms. Kuehn has extensive analytical experience working with large datasets, public use and administrative data (e.g., birth certificate records), and multivariate modeling. At Exponent, Ms. Kuehn specializes in pharmacoepidemiology research; issues of general causation as they relate to pharmaceutical and medical device product liability; medical device regulatory affairs; and management of multidisciplinary technical and litigation support projects.

Prior to joining Exponent, Ms. Kuehn was a Senior Associate in Epidemiology at Amgen, Inc. At Amgen, she conducted analyses of observational and clinical data, developed observational study protocols, conducted literature review of various diseases, wrote manuscripts, and contributed to epidemiologic sections of regulatory documents. Her experience in pharmacoepidemiology includes an understanding of drug development processes, regulatory requirements, risk management, safety, post-market surveillance, and the role of observational research in pharmaceutical development. As a Project Coordinator at the Fred Hutchinson Cancer Research Center, Ms. Kuehn managed an epidemiologic study of water contaminants in association with childhood cancer. She also conducted epidemiologic analyses using Washington State birth certificate and cancer registry data to examine factors associated with birth defects and childhood leukemia. Ms. Kuehn was also a Research Scientist in the University of Washington, Department of Rehabilitation Medicine, and spent four years as a pathology assistant in the King County Medical Examiner's Office.

Ms. Kuehn earned a Master of Arts in Biocultural (Physical) Anthropology and a Master of Public Health in Epidemiology, both from the University of Washington, Seattle. Ms. Kuehn has also completed a Certificate in U.S. Pharmaceutical and Medical Device Regulatory Affairs from the Regulatory Affairs Professional Society in addition to training in project management, communications, and leadership. She excels in seeing projects to completion, communicating with teams, and maintaining organization across multi-functional groups.

**Academic Credentials and Professional Honors**

M.P.H., Epidemiology, Maternal and Child Health, University of Washington, Seattle, 2003  
M.A., Biocultural Anthropology, University of Washington, Seattle, 2002  
B.A., Anthropology, University of Washington, Seattle, 1996

## **Licenses and Certifications**

Regulatory Affairs Certified (RAC)

## **Publications**

Searles Nielsen S, Mueller BM, Kuehn CM. Water quality monitoring records for estimating tap water arsenic and nitrate: a validation study. *Environ Health* 2010; 9:4.

Searles Nielsen S, Mueller BM, Kuehn CM. An evaluation of semi-quantitative test strips for the measurement of nitrate in drinking water in epidemiologic studies. *J Expos Sci Environ Epidemiol* 2008; 18:142–148.

Yorkston KM, Kuehn CM, Johnson KL, Ehde DM, Jensen MP, Amtmann D. Measuring participation in multiple sclerosis: A comparison of the domains of frequency, importance, and self-efficacy. *Disab Rehab* 2008; 30(2):88–97.

Cetin K, Johnson KL, Ehde DM, Kuehn CM, Amtmann D, Kraft GH. Antidepressant use in multiple sclerosis: Epidemiologic study of a large community sample. *Multiple Sclerosis* 2007; 13(8):1046–1053.

Jensen MP, Kuehn CM, Amtmann D, Cardenas DD. Symptom burden in persons with spinal cord injury. *Arch Phys Med Rehab* 2007; 88(5):638–645.

Johnson KL, Dudgeon B, Kuehn CM, Walker W. Assistive technology use among adolescents and young adults with spina bifida. *Am J Pub Health* 2007; 97(2):330–336.

Kuehn CM, Mueller BA, Checkoway H, Swanson M. Risk of malformations associated with residential proximity to hazardous waste sites in Washington State. *Environ Res* 2007; 103(3):405–412.

Mueller BA, Kuehn CM, Shapiro-Mendoza CK, Tomashek KM. Fetal deaths and proximity to hazardous waste sites in Washington State. *Environ Health Perspect* 2007; 115(5):776–780.

Dowden P, Alarcon N, Vollan T, Cumley G, Kuehn CM, Amtmann D. Survey of SLP caseloads in Washington State schools: Implications and strategies for action. *Lang Speech Hearing Serv Schools* 2006; 37:104–117.

Johnson KL, Kuehn CM, Yorkston KM, Kraft GH, Klasner E, Amtmann D. Patient perspectives on disease-modifying therapy in multiple sclerosis. *Int J MS Care* 2006; 8(1):11–18.

Podvin D, Kuehn CM, Mueller BA, Williams M. Maternal and birth characteristics in relation to childhood leukemia. *Paediatric Perinatal Epidemiol* 2006; 20(4):312–322.

Johnson KL, Amtmann D, Yorkston KM, Klasner ER, Kuehn CM. Medical, psychological, social and programmatic barriers to employment for people with multiple sclerosis: A review of the literature. *J Rehab* 2004; 70.

Johnson KL, Yorkston KM, Klasner ER, Kuehn CM, Amtmann D. The cost and benefits of employment: A qualitative study of experiences in individuals with multiple sclerosis. *Arch Phys Med Rehab* 2004; 85:201–209.

Yorkston KM, Johnson KL, Klasner ER, Amtmann D, Kuehn CM. Getting the work done: A qualitative study of individuals with multiple sclerosis. *Disab Rehab* 2003; 25(8):369–379.

Kuehn CM, Taylor KM, Mann FA, Wilson AJ, Harruff RC. Validation of chest x-ray comparisons for unknown decedent identification. *J Foren Sci* 2002; 47 (4):725–729.

### **Book Chapters**

Weiler (Kuehn) CM, Taylor KM. Forensic anthropology. pp. 179–189. In: *Forensic Medicine Sourcebook*. Muth AS (ed.), Omnigraphics, Detroit, MI 1999.

### **Other Publications**

Nawrocki SP, Baumann K, Weiler (Kuehn) CM, Schultz J. Analysis of human remains from the Rhoads Historic Cemetery (12-MA-777), Indianapolis, Marion Co., Indiana. University of Indianapolis Archeology & Forensics Laboratory, Special Publication #3, 1998.

Weiler (Kuehn) CM, Baumann K. Analysis of human remains from a disturbed historic cemetery near Princeton, Gibson County, Indiana (96-0034 / UI-18-96). Technical report on file at the University of Indianapolis Archeology & Forensics Laboratory, 1997.

### **Published Abstracts**

Amtmann D, Johnson KL, Kuehn CM, Vollan T. Satisfaction with quality of life in patients with MS. Poster. *Int J MS Care* 2004; 6(2):79.

Brown TR, Kraft GH, Gray T, Kuehn CM. Scrambled eggs: Misidentification of Ashworth scales in research and clinical practice. *Int J MS Care* 2004; 6(2):80.

Johnson KL, Kuehn CM, Vollan T, Amtmann D. Psychosocial factors among medically underserved individuals with MS. *Int J MS Care* 2004; 6 (2):77.

Kuehn CM, Johnson KL, Vollan T, Amtmann D. Geographic differences in MS populations in Washington State. *Int J MS Care* 2004; 6(2):72.

Kuehn CM, Johnson KL, Yorkston KM, Klasner E, Amtmann D. Disease modifying therapy and multiple sclerosis: Insider perspectives on utilization and adherence. *Int J MS Care* 2003; 5(3):97.

Yorkston KM, Johnson KL, Klasner ER, Amtmann D, Kuehn CM. Getting the work done: A qualitative study of individuals with multiple sclerosis. *Int J MS Care* 2003; 5(3):89.

Johnson KL, Yorkston KM, Kuehn CM, Klasner E, Gibbons L. Employment and multiple sclerosis—A qualitative and quantitative approach. Abstract. *Int J MS Care* 2002; 4(2):102. (Consortium of MS Centers Annual Meeting, Chicago, IL, June 5–9, 2001).

Kuehn CM, Newell-Morris L, Holman D, Streissguth A. Handedness and directional dermatoglyphic asymmetry in individuals exposed to alcohol prenatally. Abstract. *Am J Phys Anthropol* 2002; Supplement 34:98.

Yorkston KM, Johnson KL, Kuehn CM, Klasner E, Kraft G. Age and gender issues related to MS: A survey study. Abstract. *Int J MS Care* 2002; 4(2):94. Consortium of MS Centers Annual Meeting, Chicago, IL, June 5–9, 2001.

Kuehn CM, Newell-Morris L, Reason L, Streissguth A. Fluctuating dermatoglyphic asymmetry in individuals exposed to alcohol prenatally. Abstract. *Am J Hum Biol* 2001; 13(1):127–128.

## **Presentations**

Ong K, Watson H, Patel J, Kuehn C, Ochoa J. Bare-metal and drug-eluting coronary stent procedures: Utilization in the United States from 1998 to 2008. Poster, 3<sup>rd</sup> North American Congress of Epidemiology, Montreal, June 21–24, 2011.

Yong M, Kuehn C, Kelsh M, Wagner M, Yang A, Franklin J. Associations between platelet count and survival and disease progression in thrombocytopenic patients with myelodysplastic syndromes. Poster, 52nd Annual Meeting of the American Society of Hematology, Orlando, Florida, December 4–7, 2010.

Kaye J, Fryzek J, Kuehn CM, Schoonen M, Deuson R. MDS incidence and mortality in UK general practice research database. Poster. 9th International Symposium on Myelodysplastic Syndrome, Florence, Italy, May 16–19, 2007.

Kuehn CM, Anthony M, Belozeroff V. A review of directed acyclic graphs and their role in the identification of confounders for epidemiologic research. Poster. IBS-EM 14 Conference, Thousand Oaks, CA, April 24–27, 2007.\*

Kuehn CM. Applications of GIS to epidemiologic studies. Platform. IBS-EM 13 Conference, Ventura, CA, April 24–27, 2006.

Kuehn CM, Anthony M, Badamgarav E, Farivar SS. Creating a resource for observational research at Amgen: Osteoporosis cohort study summary. Poster. IBS-EM 13 Conference, Ventura, CA, April 24–27, 2006.\*

Amtmann D, Johnson KL, Kuehn CM, Hinton K, Ehde D, Kraft G. Subgroups of individuals living with MS: Implications for interventions. Platform. Consortium of MS Centers Annual Meeting, Orlando, FL, June 1–5, 2005.

Johnson KL, Kraft G, Kuehn CM, Hinton K, Amtmann D. Antidepressant use among individuals with MS. Poster. Consortium of MS Centers Annual Meeting, Orlando, FL, June 1–5, 2005.

Dudgeon BJ, Johnson KL, Kuehn CM, DiGiacomo A. Assistive technology use by adolescents and young adults with spina bifida. Poster. American Occupational Therapy Association Annual Conference & Expo, Long Beach, CA, May 12–15, 2005.

Kuehn CM, Mueller BA, Checkoway H, Erickson C. Using GIS to estimate environmental exposure: Missing data and potential bias. Platform. American Public Health Association 132nd Annual Meeting, Washington, DC, November 6–10, 2004.

Nielsen SS, Kuehn CM, Mueller BA. Use of water quality surveillance data in epidemiologic studies. Poster. Society of Exposure Analysis Conference, Philadelphia, PA, October 19, 2004.

Amtmann D, Johnson KL, Kuehn CM, Vollan T. Impact of fatigue and cognitive changes on unemployment in multiple sclerosis. American Association of Spinal Cord Injury Psychologists and Social Workers Annual Conference, Las Vegas, NV, September 7–9, 2004.

Johnson K, Dudgeon BD, Kuehn CM, Vollan T. Assistive technology and adolescents with spina bifida. Poster. CDC's 2nd Conference on Birth Defects, Developmental Disabilities, Disability and Health, and Heritable Blood Disorders, Washington, DC, July 26–28, 2004.

Amtmann D, Johnson KL, Kuehn CM, Vollan T. Satisfaction with quality of life in patients with MS. Poster. Consortium of MS Centers Annual Meeting, Toronto, Canada, June 2–6, 2004.

Brown TR, Kraft GH, Gray T, Kuehn CM. Scrambled EGGS: Misidentification of Ashworth scales in research and clinical practice. Consortium of MS Centers Annual Meeting, Toronto, Canada: June 2–6, 2004.

Johnson KL, Kuehn CM, Vollan T, Amtmann D. Psychosocial factors among medically underserved individuals with MS. Poster. Consortium of MS Centers Annual Meeting, Toronto, Canada, June 2–6, 2004.

Kuehn CM, Johnson KL, Vollan T, Amtmann D. Geographic differences in MS populations in Washington State. Poster. Consortium of MS Centers Annual Meeting, Toronto, Canada, June 2–6, 2004.

Kuehn CM, Mueller BA, Checkoway H, Swanson M. Risk of malformations associated with residential proximity to hazardous waste sites in Washington State. Poster. 9th Annual CDC Maternal and Child Health Epidemiology Conference, Tempe, AZ, December 10–12, 2003.\*

Kuehn CM, Johnson KL, Yorkston KM, Klasner E, Amtmann D. Delaying disability in multiple sclerosis: Patient perspectives on disease modifying therapy. Poster. American Public Health Association 131st Annual Meeting, San Francisco, CA, November 15–19, 2003.

Kuehn CM, Johnson KL, Yorkston KM, Amtmann D, Klasner E. Employment and participation in multiple sclerosis: A public health perspective. Platform. American Public Health Association Annual Meeting, San Francisco, CA, November 15–19, 2003.

Amtmann D, Johnson KL, Yorkston KM, Kuehn CM, Klasner E. Understanding predictors of future participation. Symposium 3-hr, Employment and Participation Among Individuals with MS. Consortium of MS Centers Annual Meeting, San Diego, CA, May 28–June 1, 2003.

Johnson KL, Klasner E, Yorkston KM, Amtmann D, Kuehn CM. Working with multiple sclerosis: A qualitative study. Symposium 3-hr, Employment and Participation Among Individuals with MS. Consortium of MS Centers Annual Meeting, San Diego, CA, May 28–June 1, 2003.

Kuehn CM, Johnson KL, Yorkston KM, Klasner E, Amtmann D. Disease modifying therapy and multiple sclerosis: Insider perspectives on utilization and adherence. Poster. Consortium of MS Centers Annual Meeting, San Diego, CA, May 28–June 1, 2003.

Yorkston KM, Johnson KL, Klasner ER, Amtmann D, Kuehn CM. Getting the work done: A qualitative study of individuals with multiple sclerosis. Poster. Consortium of MS Centers Annual Meeting, San Diego, CA, May 28–June 1, 2003.

VanDerslice J, Patrick G, Kuehn CM. Environmental health tracking in schools: A pilot project. Platform. Washington State Environmental Health Association 58th Annual Education Conference, Wenatchee, WA, May 7–9, 2003.

Podvin D, Kuehn CM, Mueller BA. Maternal and infant characteristics and the risk of childhood leukemia: A case-control study. Poster. 8th Annual CDC Maternal and Child Health Epidemiology Conference, Clearwater, FL, December 11–13, 2002.

Kuehn CM, Podvin D, Mueller BA. Maternal and infant factors and the risk of childhood leukemia. Poster. 9th Annual Joint Conference on Health, Washington State Public Health Association, Wenatchee, WA, October 7–9, 2002.

Johnson KL, Yorkston KM, Kuehn CM, Klasner ER, Amtmann D. Employment and multiple sclerosis: A qualitative and quantitative approach. Poster. Consortium of MS Centers Annual Meeting, Chicago, IL, June 5–7, 2002.

Yorkston KM, Johnson KL, Kuehn CM, Klasner E, Kraft G. Age and gender issues related to MS: A survey study. Poster. Consortium of MS Centers Annual Meeting, Chicago, IL, June 5–7, 2002.

Kuehn CM, Newell-Morris L, Holman D, Streissguth A. Handedness and directional dermatoglyphic asymmetry in individuals exposed to alcohol prenatally. Poster. 71st Annual Meeting of the American Association of Physical Anthropology, Buffalo, NY, April 10–13, 2002.\*

Kuehn CM, Newell-Morris L, Reason L, Streissguth A. Fluctuating dermatoglyphic asymmetry in individuals exposed to alcohol prenatally. Poster. 26th Annual Meeting of the Human Biology Association, Kansas City, MO, March 26–28, 2001.

Weiler (Kuehn) CM, Taylor KM, Harruff RC, Wilson AJ, Mann F. Validation of anteroposterior chest x-ray comparisons for unknown decedent identification. Platform. 52nd Annual Meeting of the American Academy of Forensic Sciences, Reno, NV, February 21–26, 2000.\*

\*Received an award

### **Prior Experience**

Senior Associate Epidemiology, Amgen, Inc, 2005–2008

Research Scientist, Rehabilitation Medicine, University of Washington, 2003–2005

Project Coordinator II, Fred Hutchinson Cancer Research Center, 2002–2004

Epidemiologist I, Office of Environmental Health Assessments, Washington State DOH, 2002–2003

Forensic Autopsy Technician, King County Medical Examiner’s Office, 1998–2001

### **Peer Reviewer**

- *Maternal and Child Health Journal*
- *American Journal of Public Health*
- *American Journal of Epidemiology*

### **Professional Affiliations**

- Regulatory Affairs Professional Society
- Society for Epidemiologic Research
- International Society for Pharmacoepidemiology
- International Epidemiological Association
- American Public Health Association (former member)
- Washington State Public Health Association (former member)