

Elizabeth A.S. Koehler

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Education

- M.S. in Biostatistics*, University of Washington, Seattle, WA August 2007
Thesis: "Exploration of Monte Carlo Error"
Advisors: Dr. Sebastien Haneuse and Dr. Elizabeth Brown
- B.S. in Mathematics*, Colorado State University, Fort Collins, CO May 2004
Concentration in Statistics
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Experience

Vanderbilt Department of Biostatistics

Biostatistician III

October 2009 - present

Biostatistician II

October 2007 - October 2009

Summary

- collaborate with a variety of investigators (more than 55 by Nov 30, 2010) on at least 63 projects, most pertaining to cancer research
- methods used daily: logistic regression, survival analysis, graphical summaries, randomization schemes, competing risks regression, and correlated data techniques
- methods used less often: resampling, cluster, diagnostic, and simulation methods

Responsibilities

- write statistical methods and results sections of manuscripts
- design randomized experiments
- prepare statistical sections and review R01 submissions
- write responses to reviewers regarding statistical questions
- participate in setting up an international data sharing collaboration
- supervise a graduate student summer intern

Internal Service Activities

- present various statistical ideas at seminars, journal club, continuing education and substitute lecturing for the MS of Clinical Investigation Biostatistics 1 course
- develop a function to create a balanced block crossover randomization design <http://data.vanderbilt.edu/~graywh/brew/elizabeth.html>
- develop Continuous Quality Improvement project to improve recruitment of MS candidates with close collaboration of HR
- co-chair MS search committee activities
- attend and actively participate in biostatistics lunchtime clinics where investigators can come for free advice

University of Washington Biostatistics Department, Seattle WA

Research Assistant

September 2004 - August 2007

- collaborate with a variety of investigators on projects involving logistic regression and item response theory at Group Health Center for Health Studies
- collaborate with psychologists on projects that involved latent class analysis, missing data imputation, and longitudinal data, at the UW Autism Center
- aid in manuscript development and writing

Teaching Assistant

July 2006 - August 2006

- prepare and lead hour discussion sections four days of the week
- grade homework, hold office hours

QLT USA, Fort Collins CO

Biostatistics Intern

May 2004 - August 2004

- independently develop SAS programs to validate over 9,000 pages of existing tables and listings in clinical study reports and FDA submissions
- review documents for FDA submission

Internship

Research Experience for Undergraduates in Statistics

The Ohio State University

Summer 2003

- assist a graduate student in entomology with the statistical analysis of her master's project which aimed to determine whether bees injected with a cocaine-like substance moved differently than placebo-injected bees

Software

- Coauthor and maintainer of “*MCE: Tools for evaluating Monte Carlo error*”:
<http://cran.r-project.org/web/packages/MCE>
available from CRAN, since December, 2008. Updated April 28, 2010.
- Balanced block randomization for cross-over designs:
<http://data.vanderbilt.edu/~graywh/brew/crossoverdesign.html>

Extramural Activities

Judge for ASA Project Competition for high school student statistics projects

2009

ASA Middle Tennessee Chapter President

March 2009 - present

- applied for and received funding for ASA Member Initiative 2010 proposal to organize a high school teacher retreat submitted on behalf of the chapter
- held a retreat for high school teacher October 16, 2010 to learn about how our chapter can best assist them

Publications

1. Simmons J, Chow E, **Koehler E**, Esbenshade A, Sanders J, Smith L, Friedman D: Significant 25-hydroxyvitamin D deficiency in child and adolescent survivors of acute lymphoblastic leukemia: treatment with high-dose chemotherapy compared with allogenic stem cell transplant. *Pediatric Blood and Cancer*, 56(7): 1114-1119, 2011.
2. Hassanein M, Weidow B, **Koehler E**, Bakane N, Garbett S, Shyr Y, Quaranta V: Development of high-throughput quantitative assays for glucose uptake in cancer cell lines. *Molecular Imaging and Biology* epub Aug 31, 2010.
3. Esbenshade A, Simmons J, Koyama T, **Koehler E**, Whitlock J, Friedman D: Body mass index and blood pressure changes over the course of treatment of pediatric acute lymphoblastic leukemia. *Pediatric Blood and Cancer*, 56(3):372-378, 2011.
4. Chong P, **Koehler E**, Shyr Y, Weikert D, Watson J, Rowland J, Lee D: Driving with an Immobilized Upper Extremity: A Randomized Higher-Order Crossover Trial. *Journal of Bone and Joint Surgery*, 92(13):2263-2269, 2010.
5. Mukherjee K, Peng D, Brifkani Z, Belkhiri A, Pera M, Koyama T, **Koehler E**, Revetta F, Washington M, El-Rifai W: Dopamine and cAMP regulated phosphoprotein MW 32 kDa is overexpressed in early stages of gastric tumorigenesis. *Surgery* 148(2):354-363, 2010.

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6. Moreira R, Revetta F, **Koehler E**, Washington M: Diagnostic utility of IgG and IgM immunohistochemistry in autoimmune liver disease. *World Journal of Gastroenterology* 16(4):453-457, 2010.
7. Su Y, Amiri K, Horton L, Yu Y, Ayers G, **Koehler E**, Kelley M, Puzanov I, Richmond A, Sosman J: A phase I trial of bortezomib with temozolomide in patients with advanced melanoma: toxicities, anti-tumor effects, and modulation of therapeutic targets. *Clinical Cancer Research*, 16(1): 348-357, 2010.
8. Lockhart A, Rothenberg M, Dupont J, Cooper W, Chevalier P, Sternas L, Buzenet G, **Koehler E**, Sosman J, Schwartz L, Gultekin D, Koutcher J, Donnelly E, Andal R, Dancy I, Spriggs D, Tew W: A phase I study of intravenous vascular endothelial growth factor trap, aflibercept, in patients with advanced solid tumors. *Journal of Clinical Oncology*, 28(2): 207-214, 2010.
9. Diaz R, Jaboin J, Morales-Paliza M, **Koehler E**, Phillips J, Stinson S, Gilbert J, Chung CH, Murphy BA, Burkey B, Yarbrough WG, Murphy PB, Shyr Y, Cmelak AJ: Hypothyroidism as a consequence of intensity-modulated radiation therapy (IMRT) with concurrent taxane-based chemotherapy for locally-advanced head and neck cancer (LAHNC). *International Journal of Radiation Oncology, Biology, Physics*, 77 (2): 468-476, 2010.
10. Sisler I, **Koehler E**, Koyama T, Domm J, Ryan R, Levine J, Pulsipher M, Haut P, Schultz K, Taylor D, Frangoul H: Impact of conditioning regimen in allogeneic hematopoietic stem cell transplant for children with acute myelogenous leukemia beyond first complete remission: a pediatric blood and marrow transplant consortium (PBMT) study. *Biology of Blood and Marrow Transplant*, 15(12): 1620-1627, 2009.
11. Estes A, Munson J, Dawson G, **Koehler E**, Zhou XH, Abbott R: Parenting stress and psychological functioning among mothers of preschool children with autism and developmental delay. *Autism*, 13(4): 375-387, 2009.
12. **Koehler E**, Brown E, Haneuse S: On the assessment of Monte Carlo error in simulation-based statistical analyses. *The American Statistician*, 63(2): 155-162, 2009.
13. Merchant N, Rymer J, **Koehler E**, Ayers G, Castellanos J, Kooby D, Weber S, Cho C, Schmidt C, Nakeeb A, Matos J, Scoggins C, Martin R, Kim H, Ahmad S, Chu C, McClaine R, Bednarski B, Staley C, Sharp K, Parikh A: Adjuvant chemoradiation therapy for pancreatic adenocarcinoma: who really benefits? *Journal of the American College of Surgeons*, 208(5): 829-838, 2009.
14. Shinall M Jr, **Koehler E**, Shyr Y, Lovvorn H III: Comparing cost and complications of primary vs. staged surgical repair of neonatally diagnosed hirschsprung's disease. *Journal of Pediatric Surgery*, 43(12): 2220-2225, 2008.
15. Boudreau DM, **Koehler E**, Rulyak SJ, Haneuse S, Harrison R, Mandelson MT: Cardiovascular medication use and risk of colorectal cancer. *Cancer, Epidemiology, Biomarkers and Prevention*, 17(11): 3076-3080, 2008.
16. Munson J, Dawson G, Sterling L, Beauchaine T, Zhou A, **Koehler E**, Lord C, Rogers S, Sigman M, Estes A, Abbott R: Evidence for latent classes of IQ in young children with autism spectrum disorder. *American Journal on Mental Retardation*, 113(6):439-452, 2008.

Presentations

CRC Research Skills Workshop	November 19, 2010
<i>"Survival Snafus: Recognizing and Solving Common Complications in Survival Analysis"</i>	Speaker
Vanderbilt MS in Clinical Investigation Clinical Trials Course	July 23, 2010
<i>"Advanced Randomization"</i>	Guest Lecturer
Vanderbilt Ingram Cancer Center Biostatistics Workshop	June 18, 2010
<i>"Randomization"</i>	Speaker
Vanderbilt Department of Biostatistics Continuing Education	October 2009
<i>"Resampling: Trick or Treat?"</i>	Speaker

Vanderbilt MS in Clinical Investigation Biostat I Course <i>"Beyond the Basics: Statisticians as Your Guide through the Unknown"</i>	August 24, 2009 Guest Lecturer
Vanderbilt Department of Biostatistics Journal Club <i>"Review of Peduzzi's 10 Events per Variable Rule"</i>	July 9, 2009 Speaker
Vanderbilt Ingram Cancer Center Biostatistics Workshop <i>"Complications in Survival Analysis"</i>	February 20, 2009 Speaker
Joint Statistical Meeting; Denver, CO <i>"On The Assessment of Monte Carlo Error in Statistical Experiment"</i>	August 3, 2008 Contributing Speaker
Vanderbilt MS in Clinical Investigation Biostat I Course <i>"Introduction to Competing Risks"</i>	September 25, 2008 Guest Lecturer
Vanderbilt Department of Biostatistics Seminar <i>"Simple Methods to Assess Monte Carlo Error"</i>	April 9, 2008 Speaker
UW Biostatistics Informal Seminar <i>"An Exploration of Monte Carlo Error"</i>	April 25, 2007 Speaker
UW Biostatistics Informal Seminar <i>"Got Class? An Introduction to Latent Class Analysis and Taxometric Methods"</i>	May 3, 2006 Speaker
International Conference on Health Policy Research, Boston, MA <i>"Latent Class Structure of IQ in Preschool Children with Autism"</i>	2005 Contributing Speaker
