

Kyle D. Rudser

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Education

University of Washington, Seattle, WA Ph.D. Biostatistics	2007
University of Washington, Seattle, WA M.S. Biostatistics	2005
St. Olaf College, Northfield, MN B.A. Chemistry and Mathematics with concentration in Statistics	2002

Statistical Research Interests

Design and monitoring of clinical trials, survival analysis, longitudinal analysis, nonparametric approaches

Statistical Appointments

Assistant Professor Division of Biostatistics, School of Public Health Biostatistical Design and Analysis Center, Clinical and Translational Science Institute University of Minnesota	2008 – present
Postdoctoral Senior Fellow Resuscitation Outcomes Consortium (ROC) Department of Biostatistics, University of Washington	2007 – 2008
Research Assistant Resuscitation Outcomes Consortium (ROC) Department of Biostatistics, University of Washington	2007
Statistical Consultant Division of Nephrology, University of Washington	2002 – 2007

Honors and Awards

Runner-up, Biometric Society (WNAS) Student Paper Competition - Written “Nonparametric Inference for Arbitrary Functionals of Survival”	2007
Winner, UW Biostatistics Student Poster Competition - Faculty’s Choice “Nonparametric Inference for Arbitrary Survival Functionals”	2006
Runner-up, UW Biostatistics Student Poster Competition “Error Spending Functions for Group Sequential Trial Designs”	2005
NIH Cancer Epidemiology and Biostatistics Training Grant	2005 – 2007
Magna Cum Laude, St. Olaf College	2002
Phi Lambda Upsilon Honorary Chemical Society	2002
Buntrock Regent Scholar, St. Olaf College	1999 – 2002

Academic All-American	1999 – 2002
Dean’s List, St. Olaf College	1999 – 2002
Eagle Scout	1994

Departmental Service

University of Minnesota

Admissions Committee	2010 – Present
Biostatistical Design and Analysis Center RA Supervisor	2010 – Present
Faculty Search Committee, Division of Biostatistics	2010
Search Committee, Biostatistical Design and Analysis Center	2010
Course Development Committee	2008 – 2009
Statistical Consulting; Data Analysis	

University of Washington

Computing Committee	2005 – 2007
New Course Development	2005 – 2007
Functional Biostatistics Computing	
Faculty-Student Relations Committee	2002 – 2006

Professional Activities

Organizer of Invited Paper Session - JSM 2010, Vancouver B.C., August 2010
 “Survival Analysis: Alternatives to the Hazard Ratio as a Summary Measure”

Organizer of Topic-Contributed Panel Session - JSM 2011, Miami FL, August 2011
 “Adaptive Clinical Trial Designs: Advantages over ‘Standard’ Group Sequential Designs?”

Membership in Professional Societies:

International Biometric Society - Western North American Region	2005 – 2008
International Biometric Society - Eastern North American Region	2009 – present
American Statistical Association	2009 – present
Society for Clinical Trials	2011 – present

Journal Manuscript Submission Review in:

Contemporary Clinical Trials, Obesity Surgery, Clinical Trials, Statistics in Medicine

Advisory Boards and Review Committees:

- Participant - Data Safety Monitoring Committee**
 Clinical Trial in Pancreatic Cancer; Pfizer Inc.
- Participant - Data Safety Monitoring Committee**
 Clinical Trial for Female Sterilization Device; Hologic, Cytyc, and Adiana
- Participant - Data Safety Monitoring Committee**
 Clinical Trial in Breast Cancer; Helsinn
- Participant - Data Safety Monitoring Committee**
 Three Clinical Trials in Breast Cancer; Pfizer Inc.
- Participant - Data Safety Monitoring Board**
 Clinical Trial of Hemofiltration after Out-Of-Hospital Cardiac Arrest; NIH/NHLBI

Scientific Review Committee, Clinical and Translational Science Institute, University of Minnesota

CTSA Consortium Biostatistics/Epidemiology/Research Design (BERD) Key Function Committee

Publications

1. Kestenbaum B, Sampson JN, **Rudser KD**, Patterson DJ, Seliger SL, Young B, Sherrard DJ, Andress DL. "Serum phosphate levels and mortality risk among patients with early chronic renal disease." *J Am Soc Nephrol*: 2005; Feb; 16(2):520-528.
2. Smith JM, **Rudser K**, Gillen D, Kestenbaum B, Seliger S, Weiss N, McDonald RA, Davis CL, Stehman-Breen C. "Risk of lymphoma after renal transplantation varies with time: an analysis of the United States Renal Data System." *Transplantation*: 2006; Jan; 81(2):175-180.
3. B A Young, **K Rudser**, B Kestenbaum, S L Seliger, D Andress, E J Boyko. "Racial and ethnic differences in incident myocardial infarction in end-stage renal disease patients: TheUSRDS." *Kidney Int*: 2006; May; 69(9):1691-1698.
4. Kestenbaum, B., **Rudser, K.**, Shlipak, M., Fried, L., Newman, A., Katz, R., Sarnak, M., Seliger, S., Stehman-Breen, C., Prineas, R., Siscovick, D. "Kidney Function, Electrocardiographic Findings, and Cardiovascular Events Among Older Adults." *Clin J Am Soc Nephrol*: 2007; May; 2(3):501-508.
5. **Rudser, KD.**, deBoer, IH., Dooley, A., Young, B., Kestenbaum, B. "Fracture Risk Following Parathyroidectomy Among Chronic Hemodialysis Patients." *J Am Soc Nephrol* 2007; Aug; 18(8):2401-2407, doi:10.1681/ASN.2007010022.
6. deBoer, I., Astor, B., Kramer, H., Palmas, W., **Rudser, K.**, Seliger, S., Shlipak, M., Siscovick, D., Tsai, M., Kestenbaum, B., "Mild elevations of urine albumin excretion are associated with atherogenic lipoprotein abnormalities in the Multi-ethnic Study of Atherosclerosis (MESA)." *Atherosclerosis* 2008; Mar; 197(1):407-414, doi:10.1016/j.atherosclerosis.2007.06.018. PMID: PMC2288670
7. **Rudser, K.** and Emerson, S. "Implementing Type I & Type II Error Spending for Two-Sided Group Sequential Designs." *Contemp Clin Trials* 2008; May; 29(3):351-358, doi:10.1016/j.cct.2007.09.002.
8. Haneuse, S., **Rudser, K.**, Gillen, D. "The separation of timescales in Bayesian survival modeling of the time-varying effect of a time-dependent exposure." *Biostatistics* 2008; Jul; 9(3):400-410, doi:10.1093/biostatistics/kxm038.
9. Kestenbaum, B., **Rudser, K.**, deBoer, I., Peralta, C., Fried, L., Shlipak, M., Palmas, W., Stehman-Breen, C., Siscovick, D. "Differences in Kidney Function and Incident Hypertension: The Multi-Ethnic Study of Atherosclerosis." *Ann Intern Med* 2008; Apr; 148(7):501-508. PMID: PMC3044648
10. Shoben, A., **Rudser, K.**, deBoer, I., Young, B., Kestenbaum, B. "Association of Oral Calcitriol with Survival in Nondialyzed CKD." *J Am Soc Nephrol* 2008; Aug; 19(8):1613-1619, doi:10.1681/ASN.2007111164. PMID: PMC2488261
11. Buchwald, H., Menchaca, H., Michalek, V., **Rudser, K.**, Rohde, T., O'Dea, T., Connett, J., Gorlin, J. "Oxygen Transport Rate of Banked Red Blood Cells Pilot Study and New Paradigm For Transfusions." *Vox Sang* 2009; Jan; 96(1):44-48, doi: 10.1111/j.1423-0410.2008.01121.x.
12. Newgard, C., **Rudser, K.**, Atkins, D., Berg, R., Osmond, M., Bulger, E., Davis, D., Schreiber, M., Warden, C., Rea, T., Emerson, S.; ROC Investigators "The Availability and Use of Out-of-Hospital Physiologic Information to Identify High Risk Injured Children in a Multisite, Population-Based Cohort." *Prehosp Emerg Care* 2009; Oct-Dec; 13(4):420-31. PMID: PMC3008574

13. Newgard, C., **Rudser, K.**, Hedges, J., Kerby, J., Stiell, I., Davis, D., Morrison, L., Bulger, E., Terndrup, T., Minei, J., Bardarson, B., Emerson, S.; ROC Investigators “A Critical Assessment of the Out-of-Hospital Trauma Triage Guidelines For Physiologic Abnormality.” *J Trauma* 2010; Feb; 68(2):452-62.
14. Buchwald, H., **Rudser, K.**, Williams, S., Michalek, V., Vagasky, J., Connett, J. “Overall Mortality, Incremental Life Expectancy, and Cause of Death at 25 Years in the Program On the Surgical Control of the Hyperlipidemias.” *Ann Surg* 2010; June; 251(6):1034-1040, doi:10.1097/SLA.0b013e3181deb4d0.
15. Emerson, SC, **Rudser, KD**, Emerson, SS “Exploring the Benefits of Adaptive Sequential Designs in Time to Event Endpoint Settings.” *Stat Med* 2011; May; 30(11):1199-1217. doi: 10.1002/sim.4156.
16. Yannopoulos, D., Matsuura, T., Schultz, J., **Rudser, K.**, Halperin, H., Lurie, K. “Sodium nitroprusside enhanced cardiopulmonary resuscitation improves survival with good neurological function in a porcine model of prolonged cardiac arrest.” *Crit Care Med* 2011; Jun; 39(6): 1269-1274.
17. Yang, L., **Rudser, K.**, Higgins, L., Rosen, H., Zaman, A., Corless, C., David, L., Gourley, G. “Novel Biomarker Candidates to Predict Hepatic Fibrosis in Hepatitis C Identified by Serum Proteomics.” *Dig Dis Sci* 2011; Nov; 56(11): 3305-3315. PMID: PMC3181275
18. Kelly, A., Metzger, A., **Rudser, K.**, Fitch, A., Fox, C., Nathan, B., Steinberger, J., Deering M., Schwartz, B., Abuzzahab, A., Gandrud, L., Moran, A., Billington, C., Schwarzenberg, S. “Exenatide as a Weight-Loss Therapy in Extreme Pediatric Obesity: A Randomized, Controlled Pilot Study.” *Obesity (Silver Spring)* 2011; Nov 10; doi: 10.1038/oby.2011.337.
19. Kelly, A., Gonzalez-Campoy, M., **Rudser, K.**, Katz, H., Metzger, A., Thalin, M., Bank, A. “Carvedilol - Lisinopril Combination Therapy and Endothelial Function in Obese Individuals with Hypertension.” (Accepted: *J Clin Hypertens*)
20. Utz, J., Lorentz, C., Markowitz, D., **Rudser, K.**, Diethelm-Okita, B., Erickson, D., Whitley, C. “START, a Double Blind, Placebo-controlled Pharmacogenetic Test of Responsiveness to Saproterin Dihydrochloride in Phenylketonuria Patients.” (Accepted: *Mol Genet Metab*)
21. **Rudser, K.**, LeBlanc, M., Emerson, S. “Distribution-free Inference on Contrasts of Arbitrary Summary Measures of Survival.” (Accepted: *Stat Med*)
22. Drake, T., **Rudser, K.**, Seaquist, E., Saeed, A. “Chromium Infusion in Hospitalized Patients with Severe Insulin Resistance: A Retrospective Analysis.” (Accepted: *Endocrine Practice*)

Submitted Work

1. **Rudser, K.**, Bendert, E., Koopmeiners, J. “Sample Size and Screening Size Trade Off in the Presence of Subgroups with Different Expected Treatment Effects.” (Submitted: *Clinical Trials*)
2. Shoben, A., **Rudser, K.**, Emerson, S. “Estimates of Information Growth in Longitudinal Clinical Trials.” (Submitted: *Biometrics*)
3. Eisengart, J., **Rudser, K.**, Tolar, J., Orchard, P., Ziegler, R., Shapiro, E. “Intravenous enzyme replacement is associated with better cognitive outcomes after transplant in mucopolysaccharidosis Type IH.” (Submitted: *Lancet*)
4. Libang, Y., **Rudser, K.**, Wey, A., Higgins, L., Gourley, G. “Urine Protein Biomarker Candidates for Eosinophilic Esophagitis.” (Submitted: *J Pediatr Gastroenterol Nutr*)
5. Polgreen, L., **Rudser, K.**, Deyo, M., Smith, A., Baker, K.S., Petryk, A. “Changes in Biomarkers of Bone Resorption and Impact on Bone Mineral Density Over the First 6 Months After Pediatric Hematopoietic Cell Transplantation.” (Submitted: *Bone*)

6. Utz, J., **Rudser, K.**, Doyen, C., Diethelm-Okita, B., Whitley, C. “Delayed Infusion Reactions Associated with Enzyme Replacement Therapies for Lysosomal Storage Disorders.” (Submitted: Mol Genet Metab)
7. Mendenhall, T., Harper, P., Henn, L., **Rudser, K.**, Schoeller, B. “Community-based Participatory Research to Decrease Smoking Prevalence in a High-Risk Young Adult Population: An Evaluation of the Students Against Nicotine and Tobacco Addiction (SANTA) Project.” (Submitted: Am J Prev Med)

Instruction

University of Minnesota

Courses

PubH 7430 Statistical Methods for Correlated Data Fall 2009
 PubH 7465 Biostatistics Consulting Spring 2012

Instructor

PubH 8494 Directed Research in Biostatistics Spring 2011
 “Group Sequential Clinical Trial Designs”
 Partial fulfillment of Ph.D. requirements for a graduate student in Health Informatics with Biostatistics as the supporting program

University of Washington

Lecturer

BIOST 578 & 580 - Functional Biostatistics Computing Summer 2005 – 2007
 (number change in 2006)

Teaching Assistant

STAT 512 - Statistical Inference Fall 2003
 STAT 513 - Statistical Inference Winter 2004

Guest Lecturer

BIOST 517 & 518 - Applied Biostatistics I & II 2005 – 2007
 BIOST 572 - Advanced Regression Methods: Machine Learning

Talks and Presentations

International Biometric Society - WNAR 2005, Anchorage, AK; June 2005

Contributed Talk: *Implementing Type I & Type II Error Spending For Two-Sided Group Sequential Designs*

International Biometric Conference - IBC 2006, Montreal, Canada; July 2006

Contributed Talk: *Nonparametric Regression Analysis of Restricted Means and Quantiles in the Presence of Right Censored Data*

San Diego State University, Department of Statistics, San Diego, CA; March 2007

Invited Talk: *Separating Borrowing Information and Forming Contrasts: Nonparametric Inference for Arbitrary Functionals of Survival*

University of Washington Department of Biostatistics, Seattle, WA; May 2007

Invited Talk: *Separating Borrowing Information and Forming Contrasts: Nonparametric Inference for Arbitrary Functionals of Survival*

University of Colorado Denver Health Science Center, Division of Epidemiology and Biostatistics, Denver, CO; May 2007

Invited Talk: *Separating Borrowing Information and Forming Contrasts: Nonparametric Inference for Arbitrary Functionals of Survival*

International Biometric Society - WNAR 2007, Irvine, CA; July 2007

Contributed Talk: *Nonparametric Inference for Arbitrary Functionals of Survival*

Joint Statistical Meetings - JSM 2007, Salt Lake City, UT; August 2007

Contributed Talk: *Variable Importance in Highly Predictive Models*

American Society of Nephrology Renal Week, San Francisco, CA; November 2007

Contributed Poster: *Fracture Risk Following Parathyroidectomy Among Chronic Hemodialysis Patients*

University of Minnesota, Division of Biostatistics, Minneapolis, MN; February 2008

Invited Talk: *Separating Borrowing Information and Forming Contrasts: Nonparametric Inference for Arbitrary Functionals of Survival*

Oregon Health & Science University, Department of Public Health and Preventive Medicine, Portland, OR; February 2008

Invited Talk: *Separating Borrowing Information and Forming Contrasts: Nonparametric Inference for Arbitrary Functionals of Survival*

International Biometric Conference - IBC 2008, Dublin, Ireland; July 2008

Contributed Talk: *Separating Borrowing Information and Forming Contrasts: Nonparametric Inference for Arbitrary Functionals of Survival*

Joint Statistical Meetings - JSM 2008, Denver, CO; August 2008

Contributed Poster: *Separating Borrowing Information and Forming Contrasts: Nonparametric Inference for Arbitrary Functionals of Survival*

Alport Syndrome Treatments and Outcomes Registry Research Collaborative Meeting, Minneapolis, MN; July 2009

Invited Talk: *Alport Syndrome Research Collaborative Meeting: Statistical Aspects for Clinical Trial Options*

Joint Statistical Meetings - JSM 2009, Washington, D.C.; August 2009

Invited Talk: *Distribution-free Inference for Arbitrary Functionals of Survival*

Lysosomal Disease Network WORLD Symposium, Miami, FL; February 2010

Invited Talk: *Statistical Issues in Clinical Trials: Information Growth in Longitudinal Trials*

Joint Statistical Meetings - JSM 2010, Vancouver B.C.; August 2010

Invited Talk: *Distribution-free Inference for Arbitrary Functionals of Survival*