Nicholas J. Seewald, Ph.D.

Curriculum Vitae

May 2022

Department of Health Policy and Management
Johns Hopkins Bloomberg School of Public Health
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Education

2021	Ph.D.	Statistics. University of Michigan. Advised by Daniel Almirall, Ph.D. Thesis "Design and Analytic Considerations for Sequential, Multiple-Assignment Randomized Trials with Continuous Longitudinal Outcomes"
2018	M.A.	Statistics. University of Michigan.
2015	M.S.	Biostatistics. University of Michigan.
2013	B.S.	Mathematics (with Life Science), *cum laude*. University of Notre Dame.

Academic Positions

2021-23 Postdoctoral Fellow, Johns Hopkins Bloomberg School of Public Health

Advised by Elizabeth A. Stuart, Ph.D. and Emma E. (Beth) McGinty, Ph.D.

Publications

Peer-Reviewed Articles

1. McGinty, E.E., Bicket, M.C., **Seewald, N.J.**, Stuart, E.A., Alexander, G.C., Barry, C.L., McCourt, A.D., Rutkow, L. (2022) "Effects of state opioid prescribing laws on use of opioid and other pain treatments among commercially insured U.S. adults." *Annals of Internal Medicine*. https://doi.org/hss3
2. **Seewald, N.J.**, Kidwell, K.M., Wu, T., Nahum-Shani, I., Almirall, D. (2020) "Sample size considerations for comparing dynamic treatment regimens in a sequential multiple-assignment randomized trial with a continuous longitudinal outcome." *Statistical Methods in Medical Research*, 29:7, 1891-1912. https://doi.org/gf85ss
3. **Seewald, N.J.**, Smith, S.N., Lee, A.J., Klasnja, P., Murphy, S.A. (2019) "Practical Considerations for Data Collection and Management in Mobile Health Micro-randomized Trials." *Statistics in Biosciences*, 11:2, 355-370. https://doi.org/gfsvx7
4. Klasnja, P., Smith, S., **Seewald, N. J.**, Lee, A., Hall, K., Luers, B., Heckler, E., Murphy, S. A. (2018), "Efficacy of contextually-tailored suggestions for physical activity: A micro-randomized optimization trial of HeartSteps." *Annals of Behavioral Medicine*, 53:6, 573-582. https://doi.org/hh5s

5. Kidwell, K. M., **Seewald, N. J.**, Tran, Q., Kasari, K., Almirall, D. (2018), "Design and Analysis Considerations for Comparing Dynamic Treatment Regimens with Binary Outcomes from Sequential Multiple Assignment Randomized Trials." *Journal of Applied Statistics*, 45:9, 1628-1651. https://doi.org/hh5r

6. Meurer, W. J., **Seewald, N. J.**, Kidwell, K. M. (2017), "Sequential Multiple Assignment Randomized Trials: An Opportunity for Improved Design of Stroke Reperfusion Trials." *Journal of Stroke and Cerebrovascular Diseases*, 26:4, 717-724. https://doi.org/hh5t

7. Kadakia, K.C., Kidwell, K.M., **Seewald, N.J.**, Snyder, C.F., Storniolo, A.M., Otte, J.L., Flockhart, D.A., Hayes, D.F., Stearns, V., Henry, N.L. (2017), "Prospective assessment of patient-reported outcomes and estradiol and drug concentrations in patients experiencing toxicity from adjuvant aromatase inhibitors." *Breast Cancer Research and Treatment*, 164, 411-419. https://doi.org/gbktjs

8. Hertz, D. L., Kidwell, K. M., **Seewald, N. J.**, Gersch, C.L., Desta, Z., Flockhart, D.A., Storniolo, A-M., Stearns, V., Skaar, T.C., Hayes, D.F., Henry, N.L., and Rae, J. M. (2016), "Polymorphisms in Drug-Metabolizing Enzymes and Steady-State Exemestane Concentration in Postmenopausal Patients with Breast Cancer." *The Pharmacogenomics Journal*, 17, 521-527. https://doi.org/f9pc88

9. Kadakia, K. C., Snyder, C. F., Kidwell, K. M., **Seewald, N. J.**, Flockhart, D.A., Skaar, T.C., Desta, Z., Rae, J.M., Otte, J.L., Carpenter, J.S., Storniolo, A.M., Hayes, D.F., Stearns, V., Henry, N. L. (2016), "Patient-Reported Outcomes and Early Discontinuation in Aromatase Inhibitor-Treated Postmenopausal Women With Early Stage Breast Cancer." *The Oncologist*, 21:5, 539-546. https://doi.org/hh5w

10. Hertz, D. L., Caram, M. V., Kidwell, K. M., Thibert, J. N., Gersch, C., **Seewald, N. J.**, Smerage, J., Rubenfire, M., Henry, N.L., Cooney, K.A., Leja, M., Griggs, J.J., and Rae, J.M. (2016), "Evidence for association of SNPs in ABCB1 and CBR3, but not RAC2, NCF4, SLC28A3 or TOP2B, with chronic cardiotoxicity in a cohort of breast cancer patients treated with anthracyclines." *Pharmacogenomics*, 17, 231-240. https://doi.org/f83s4t

11. Randolph, A. H., **Seewald, N. J.**, Rickert, K. and Brown, S. N. (2013), "Tris (3, 5-di-tert-butylcatecholato) molybdenum (VI): Lewis acidity and nonclassical oxygen atom transfer reactions." *Inorganic Chemistry*, 52:21, 12587-12598. https://doi.org/f5g68q

12. Marshall-Roth, T., Liebscher, S. C., Rickert, K., **Seewald, N. J.**, Oliver, A. G. and Brown, S. N. (2012), "Nonclassical oxygen atom transfer reactions of oxomolybdenum(vi) bis(catecholate)." *Chemical Communications*, 48, 7826-7828. https://doi.org/hh5x

Peer-Reviewed Book Chapters

1. Smith, S.N., **Seewald, N.J.**, Klasnja, P. "Design Considerations for Preparation, Optimization, Evaluation and Maintaining Digital Therapeutics" (To appear). In *Digital Therapeutics for Mental Health and Addiction: State of the Science and Vision for the Future*, edited by N. Jacobson, T. Kowatsch, and L. Marsch.

2. **Seewald, N.J.**, Hackworth, O., Almirall, D. (2021) "Sequential, multiple assignment, randomized trials (SMART)". In *Principles and Practice of Clinical Trials*, edited by S. Piantadosi and C.L. Meinert. Cham: Springer. https://doi.org/hh5z

3. Smith, S.N., Lee, A.J., Hall, K., **Seewald, N.J.**, Boruvka, A., Murphy, S.A., Klasnja, P. (2017) "Design lessons from a micro-randomized pilot study in mobile health". In *Mobile Health*, edited by J. Rehg, S.A. Murphy, and S. Kumar, 59-82. Cham: Springer. https://doi.org/hh5v

Other Publications

1. **Seewald, N.J.**, Sun, J., Liao, P. (2016), "MRT-SS Calculator: An R Shiny Application for Sample Size Calculation in Micro-Randomized Trials," arXiv:1609.00695 [stat.ME]

In Preparation

1. McGinty, E.E., **Seewald, N.J.**, Bandara, S., Cerdá, M., Daumit, G., Eisenberg, M., Griffin, B.A., Igusa, T., Jackson, J.W., Kennedy-Hendricks, A., Marsteller, J., Miech, E.J., Purtle, J., Schmid, I., Schuler, M.S., Yuan, C.T., Stuart, E.A. (under review). "Scaling interventions to manage chronic disease: Innovative methods at the intersection of health policy research and implementation science." *Prevention Science*.
2. **Seewald, N.J.**, Almirall, D. "Sample size and timepoint tradeoffs for comparing dynamic treatment regimens in a longitudinal SMART."
3. **Seewald, N.J.**,

Teaching Experience

Graduate Student Mentor, University of Michigan

1. *STATS 250: Introduction to Statistics and Data Analysis* — AY 2019-20, AY 2020-1
   Instructor: Brenda Gunderson, Ph.D.; Jack Miller, Ph.D.

Graduate Student Instructor, University of Michigan

1. *STATS 250: Introduction to Statistics and Data Analysis* — Spring 2018, AY 2019-20, AY 2020-1
   Instructor: Brenda Gunderson, Ph.D.; Jack Miller, Ph.D.
2. *STATS 415: Data Mining* — Winter 2018
   Instructor: Liza Levina, Ph.D.
3. *STATS 500: Statistical Learning I: Regression* — Fall 2017
   Instructor: Brian Thelan, Ph.D.

Instructional Assistant, University of Michigan

1. *STATS 250: Introduction to Statistics and Data Analysis* — Summer 2020
   Supervisor: Jack Miller, Ph.D.

Teaching Assistant, Summer Program in Quantitative Methods of Social Research, Inter-university Consortium for Political and Social Research

1. *Multilevel Models I: Introduction and Application* — Summer 2018, Summer 2019
   Instructor: Mark Manning, Ph.D.
2. *Introduction to the R Statistical Computing Environment* — Summer 2018, Summer 2019
   Instructor: John Fox, Ph.D.

Consulting Experience

Statistical Consultant

1. *Committee for Children*, Seattle, WA — May 2021 - Present

Graduate Student Consultant, University of Michigan

1. *Consulting for Statistics, Computing, and Analytics Research (CSCAR)* — Sept. 2018 - Dec. 2018

Presentations and Posters

Presentations

2022	Guest Lecture, Seminar On Statistical Methods for Mental Health [330.805.01], Johns Hopkins Bloomberg School of Public Health. Instructor Elizabeth A. Stuart. "Difference in Differences with Variable Treatment Timing." *Invited*.
	MNeuroNetwork Lab Seminar, University of Michigan. *Invited*.
2021	Working Group on Clinical Research, University of Rochester Medical Center. *Invited*.
	ENAR Spring Meeting. Virtual.
2020	Joint Statistical Meetings. Virtual.
	ENAR Spring Meeting. Virtual.
2019	International Conference on Computational and Methodological Statistics. London, UK.
	Joint Statistical Meetings. Denver, CO, USA.
	Society for Clinical Trials Annual Meeting. New Orleans, LA, USA.
2018	Joint Statistical Meetings. Vancouver, BC, Canada.
	ENAR Spring Meeting. Atlanta, GA, USA.
2015	Graduate Student Statistical Topics Seminar Series, Department of Statistics, University of Michigan.

Posters

2019	Michigan Student Symposium for Interdisciplinary Statistical Sciences. Ann Arbor, MI, USA.
2018	Seventh Annual Thomas R. Ten Have Symposium on Statistics in Mental Health. Chicago, IL, USA.
2017	Michigan Student Symposium for Interdisciplinary Statistical Sciences. Ann Arbor, MI, USA.
2015	Michigan Student Symposium for Interdisciplinary Statistical Science. Ann Arbor, MI, USA.
2014	IMPACT Symposium III: Advances in Clinical Trial Statistics: Multiplicity Adjustment and SMARTs. Cary, NC, USA.

Awards

1. Junior Researcher Travel Grant, American Causal Inference Conference, 2022. Supported by the National Science Foundation.
2. Brenda Gunderson Graduate Student Instructor Award. Department of Statistics, University of Michigan, 2021. (Inaugural recipient)
3. Outstanding Graduate Student Instructor. Rackham Graduate School, University of Michigan, 2021. (University-wide)
4. Outstanding Graduate Student Instructor. Department of Statistics, University of Michigan, 2020.
5. Best Departmental Poster, Statistics. Michigan Student Symposium for Interdisciplinary Statistical Sciences, 2017.
6. Best Departmental Poster, Biostatistics. Michigan Student Symposium for Interdisciplinary Statistical Sciences, 2015.

Software

1. SMARTsize: A sample size calculator for sequential, multiple-assignment, randomized trials with binary or continuous outcomes in which the primary aim is to compare two embedded dynamic treatment regimes.
   https://nseewald1.shinyapps.io/SMARTsize/
2. MRT-SS Calculator: A sample size calculator for micro-randomized trials in which the primary aim is to detect the proximal effect of providing an intervention.
   https://pengliao.shinyapps.io/mrt-calculator/

Professional Service

Workshop Design and Facilitation

1. "An Introduction to Adaptive Interventions and Sequential Multiple Assignment Randomized Trials" — April 6, 2022
   Society of Behavioral Medicine Annual Meeting, Baltimore, MD.
   Co-facilitator with Ahnalee Brinks, Ph.D., and Shawna N. Smith, Ph.D.
2. "Building Just-in-Time Adaptive Interventions." — October 25-26, 2021
   Center for Dissemination and Implementation Science Summer Institute, University of Illinois Chicago.
   Small group facilitator
3. "Using SMART Design in Responsive Survey Design." — June 19, 2019
   for Responsive Survey Design: A Research Education Program
   Institute for Social Research, University of Michigan
   Co-facilitator with Ahnalee Brinks, Ph.D.

4. “Getting SMART about Adaptive Interventions in Education.” March 11-14, 2019
   IES-funded training institute at the University of Michigan (R32 4B180003)
   Co-facilitator with other members of d^{3}lab (d3lab.isr.umich.edu)

5. “Getting SMART: Experimental Design and Analysis Methods for Developing Adaptive Interventions” May 19, 2015
   University of California, San Francisco
   Co-facilitator with Inbal Nahum-Shani, Ph.D.

Journal Peer Review Activities

1. Behavior Research Methods
2. Frontiers in Digital Health
3. Journal of the American Statistical Association
4. Psychological Methods
5. R Journal
6. Statistics in Medicine
7. Value in Health

Departmental Service

1. Student Representative, Faculty Diversity, Equity, and Inclusion Committee. Department of Statistics, University of Michigan. AY 2020-1.
2. Co-Lead, Graduate Student Instructor Foundations Colloquium. Department of Statistics, University of Michigan. AY 2020-1.
3. Steering Committee Member, Graduate Student Diversity, Equity, and Inclusion Working Group. Department of Statistics, University of Michigan. 2020-1.

Professional Memberships

1. American Statistical Association (2015 - present)
2. International Biometrics Society, Eastern North American Region (ENAR) (2015 - present)
3. Society for Clinical Trials (2015 - present)
4. Society for Industrial and Applied Mathematics (2020 - present)

Professional Development

2021 U-M Graduate Teacher Certificate. Rackham Graduate School and Center for Research on Learning and Teaching, University of Michigan. crlt.umich.edu/um.gtc

2020 Preparing to Teach: Workshop to prepare graduate students for a role as undergraduate faculty responsible for teaching statistics and data science. preparingtoteach.org

Professional Development Diversity, Equity, and Inclusion Certificate. Rackham Graduate School, University of Michigan