Andrew J. Spieker, Ph.D.

CONTACT INFORMATION

Vanderbilt University Medical Center
Department of Biostatistics
2525 West End Ave, Suite 1100
Nashville, TN, 37203
Phone: 615.875.4426
E-mail: andrew.spieker@vumc.org
Faculty webpage: https://biostat.app.vumc.org/wiki/Main/AndrewSpieker
Website: https://andrewspieker.com

EDUCATION AND TRAINING

- B.S., Mathematics. Northeastern University, Boston, MA, 2011

- M.S., Biostatistics. University of Washington, Seattle, WA, 2015

- Ph.D., Biostatistics. University of Washington, Seattle, WA, 2016
    Dissertation: Recovering Natural History: Modeling Cardiovascular Biomarkers in the Presence of Endogenous Medication Use

- Postdoctoral Researcher, University of Pennsylvania, Department of Biostatistics, Epidemiology, and Informatics, and Center for Causal Inference, 2016–2018

- Associate Fellow, Leonard Davis Institute of Health Economics, 2017–2018

ACADEMIC APPOINTMENTS

- Assistant Professor of Biostatistics, Vanderbilt University Medical Center, 2018–

OTHER EMPLOYMENT

- Research Assistant, Beth Israel Deaconess Medical Center, 2010–2012

- Research Assistant, Collaborative Health Studies Coordinating Center, 2012–2015

- Research Assistant, Fred Hutchinson Cancer Research Center, 2015–2016

PROFESSIONAL ORGANIZATIONS

- International Biometric Society (Western North American Region), 2015–2017

- International Biometric Society (Eastern North American Region), 2014–

- American Statistical Association, 2015–

- Society for Causal Inference, 2021–

AWARDS AND HONORS

- University of Washington Department of Biostatistics: Best Research Poster Award (as selected by incoming students), 2013
- University of Washington Department of Biostatistics: Outstanding Teaching Assistant Award, 2014
- WNAR Student Paper Competition: Most Outstanding Paper Award, 2015
- WNAR Student Paper Competition: Most Outstanding Oral Presentation Award, 2015
- Atlantic Causal Inference Conference: Ten Have Poster Presentation Award Runner-up, 2017
- Outstanding Faculty Mentor Award, Vanderbilt University Department of Biostatistics, 2020

PROFESSIONAL ACTIVITIES

University of Washington

- Student Representative, Departmental Self-Study Committee, 2012–2013
- Member, Educational Policy and Teaching Evaluation Committee, 2014–2016
- Member, Faculty/Student Relations Committee, 2015–2016

University of Pennsylvania, Department of Biostatistics, Epidemiology, and Informatics

- Member, Post-Doc Training Task Force, 2017–2018

Vanderbilt University Medical Center, Department of Biostatistics

- Member, Selection Committee for Arbogast Collaborative Award, 2020
- Member, Comprehensive Exam Committee, 2019–2021
- Organizer, Weekly Biostatistics Seminar Series, 2018–2022
- Founder/Organizer, Vanderbilt Causal Inference Workshop, 2018–
- Member, Faculty Search Committee, 2019–
- Member, Strategic Directions Committee, 2019–
- Chair, Comprehensive Exam Committee, 2021–

Vanderbilt University Medical Center

- Member, DSMB: The Effect and Contribution of a Perioperative Ketamine Infusion in an Established Enhanced Recovery Pathway (B. Raymond, P.I.), 2021–
- Member, Geoffrey Fleming Academy for Excellence in Education Mentorship Program, 2021–

Extramural Professional Activities

Editorial

- Associate Editor, *Observational Studies* (2021–)

Leadership

- Program Chair, Biometrics Section, Joint Statistical Meetings (2022)

Conference committees

- Member, David P. Byar Young Investigator Award Committee, (2018, 2019)
- ENAR Poster Session Judge (2019)
- Member, ENAR Distinguished Student Paper Awards Committee (2018, 2019, 2020)
- ICSA Applied Statistics Symposium Poster Session Judge (2020)

Conference sessions organized and chaired

- Chair: Survival Analysis and Semi-parametric and Non-parametric Models. ENAR: Washington, D.C., March 2017.
- Chair: Recent Developments in Observational Data. WNAR: Santa Fe, NM, June 2017.
- Chair: Comparative Effectiveness Research. ENAR: Atlanta, GA, March 2018.
- Organizer and Chair: Recent Advances in Bayesian Methods for Cost and Cost-Effectiveness Analysis. ICHPS: San Diego, CA, January 2020.
- Organizer and Chair: Recent Advances in Causal Inference. 13th International Conference on Computational and Methodological Statistics: London, UK, December 2021.

Ad hoc reviewer

- *British Medical Journal* (2016)
- *Pharmacoepidemiology and Drug Safety* (2016, 2017)
- *American Journal of Epidemiology* (2015, 2016, 2017, 2018)
- *Journal of the American Statistical Association* (2017, 2018)
- *PLOS One* (2018)
- *International Journal of Biostatistics* (2017, 2019, 2020)
- *Cancer* (2020)
- *International Journal of Epidemiology* (2020)
- *Observational Studies* (2020)
- *Biostatistics* (2016, 2017, 2020)
- *Statistics and its Interface* (2020, 2021)
- *Circulation: Cardiovascular Quality and Outcomes* (2018, 2019, 2021)
- *Journal of the Royal Statistical Society, Series C* (2016, 2021)
- *Statistics in Medicine* (2019, 2020, 2021)
- *The Annals of Applied Statistics* (2021)

TEACHING ACTIVITIES AND MENTORING

<u>Instructor: High school courses</u>

Massachusetts Institute of Technology Educational Studies Program

- Counting Principles (Summer 2009)
- Calculus AB (September 2009 - May 2010)
- Multivariable Calculus (Summer 2010)
- Counting Principles (Summer 2011)
- Calculus BC (September 2010 - May 2011)
- Calculus BC (September 2011 - May 2012)

<u>Instructor: Undergraduate courses</u>

University of Washington

- Biostatistics 311 - Regression Methods in the Health Sciences (Spring 2016)

<u>Instructor: Graduate courses</u>

University of Pennsylvania Perelman School of Medicine

- Health Policy Research 604 - Introduction to Statistics for Health Policy (Fall 2017)

Vanderbilt University Medical Center

- Biostatistics 6312 - Modern Regression Analysis (Spring 2020)
- Biostatistics 6312 - Modern Regression Analysis (Spring 2021)

<u>Instructor: Short courses</u>

Vanderbilt Center for Quantitative Science Summer Institute

- Introduction to Causal Inference (2019, 2021)

Massachusetts Institute of Technology Educational Studies Program

- Introduction to Calculus (2008, 2009)
- Group Theory (2008, 2009)
- Number Theory (2009)
- Stochastic Processes (2009)
- Introduction to Topology (2009)
- Introduction to Real Analysis (2009)
- Complex Variables (2009, 2010)

Graduate Teaching Assistantships

University of Washington

- Biostatistics 524 - Design of Medical Studies (Spring 2014)
- Biostatistics 570 - Advanced Regression Methods I (Autumn 2014)
- Biostatistics 571 - Advanced Regression Methods II (Winter 2015)
- Biostatistics 524 - Design of Medical Studies (Spring 2015)

Research supervision

Primary advisor

- Aaron Lee (MS, Biostatistics)
- Caroline Birdrow (MS, Biostatistics)
- Jamie Joseph (PhD, Biostatistics)

Committee member

- Thomas Klink (MPH, Global Health Track, 2019); Statistical mentor
- Varvara Probst (MPH, Epidemiology Track, 2020); Statistical mentor
- Nicholas Illenberger (PhD, Biostatistics; University of Pennsylvania); Committee member
- Julia Thome (PhD, Biostatistics); Committee chair

Other advising and mentoring

- Marlena Norwood (*Ad hoc* undergraduate honors project), 2016
  Topic: Simulation studies and nonparametric bootstrapping methods

RESEARCH PROGRAM

Ongoing research

P30 CA 068485-25 (Pietenpol)	09/01/98 – 08/31/25	10%
NIH/NCI		Role: Biostatistician
Cancer Center Support Grant		

P50 CA 098131-18 (Pietenpol)	08/07/03 – 07/21/24	10%
NIH/NCI		Role: Biostatistician
SPORE in Breast Cancer		

U01 AI 132004-03 (Halasa)	07/05/17 – 06/30/21	5%
NIH/NIAID		Role: Biostatistician
High vs. Standard Dose Flu Vaccine in Adult Stem Cell Transplant Recipients		

U01 IP 001063-05-00 (Halasa)   09/01/16 – 08/31/21   10%
NIH/NCIRD   Role: Biostatistician
Enhanced Surveillance for New Vaccine Preventable Diseases

K12 HL 137943-04 (Kripalani)   09/01/17 – 08/31/22   10%
NIH/NHLBI   Role: Biostatistician
Vanderbilt Scholars in T4 Translational Research (V-STTAR) Program

R34 AI 150532-01 (Halasa)   06/04/20 – 02/28/22   5%
NIH/NIAID   Role: Co-Investigator
High vs. Standard Dose Flu Vaccine in Pediatric Solid Organ Transplant Recipients

U01 AI 152967-01 (Halasa)   09/01/20 – 06/30/25   5%
NIH/NIAID   Role: Co-Investigator
Comparison of High vs. Standard Dose Influenza Vaccines in Adult Solid Organ Transplant Recipients

R21 AI 149303-01 (Halasa)   01/14/20 – 12/31/21   5%
NIH/NIAID   Role: Co-Investigator
Adenovirus Types and Acute Respiratory Illness Severity in Children

U01 AI 135950-03 (Webber Site PI)   02/01/18 – 01/31/21   5%
NIH/NCIRD   Role: Biostatistician
Exosomes and the Immune Response in Allograft Outcomes in Pediatric Transplant Recipients

PMR2065-1B (Grijalva)   10/19/15 –   7.5%
NIH/NIAID   Role: Biostatistician
Master Service Agreement between Campbell Alliance and VUMC

P30 DK 020593-44 (Powers)   12/01/96 – 03/21/22   7.5%
NIH/NIDDK   Role: Biostatistician
Vanderbilt Diabetes Research and Training Center

Completed research
R01 DK 100694-06 (Mayberry)   07/21/14 – 04/30/21
NIH/NIDDK   Role: Biostatistician
Improving Medication Adherence Among Underserved Patients with Type 2 Diabetes

U01 AI 125135-03 (Halasa)   08/19/16 – 07/31/19   Role: Biostatistician
NIH/NIAID
Comparison of High vs. Standard Dose Flu Vaccine in Pediatric Stem Cell Transplant Recipients

RWJF 76037 (Spieker: Site PI) 12/01/18 – 11/30/19 Role: Site PI

Implementation of Medicaid Work Requirements: Factors Influencing Physician Willingness to Request Exemptions

P30 DK 092986-08 (Elasy) 08/01/18 – 07/31/19

NIH/NIDDK Role: Biostatistician

Center for Diabetes Research Pilot & Feasibility Award

ORIGINAL PUBLICATIONS

* - Indicates joint authorship (equal contribution).

<u>Peer-reviewed publications</u>

1. Nodera H, <u>Spieker A</u>, Sung M, Rutkove SB. Neuroprotective effects of Kv7 channel agonist, retigabine, for cisplatin-induced peripheral neuropathy. *Neuroscience Letters* 2011; 505(3): 223–227. PubMed PMID: 21945947.

2. Wang L, <u>Spieker AJ</u>, Li J, Rutkove SB. Electrical impedance myography for monitoring motor neuron loss in the SOD1 G93A amyotrophic lateral sclerosis rat. *Clinical Neurophysiology* 2011; 122(12): 2505–2511. PubMed PMID: 21612980.

3. Narayanaswami P, <u>Spieker AJ</u>, Mongiovi P, Keel, JC, Muzin SC, Rutkove SB. Utilizing a hand-held electrode array for localized muscle impedance measurements. *Muscle and Nerve* 2012; 46(2): 257–263. PubMed PMID: 22806375.

4. Li J, Staats W, <u>Spieker A</u>, Sung M, Rutkove SB. A technique for performing electrical impedance myography in the mouse hind limb: data in normal and ALS SOD1 G93A animals. *PLOS One* 2012; 7(9): e45004. PubMed PMID: 23028733.

5. Sung M, <u>Spieker AJ</u>, Narayanaswami P, Rutkove SB. The effect of subcutaneous fat on electrical impedance myography when using a handheld electrode array: The case for measuring reactance. *Clinical Neurophysiology* 2013; 124(2): 400–404. PubMed PMID: 22917581.

6. Li J, <u>Spieker AJ</u>, Rosen GD, Rutkove SB. Electrical impedance alterations in the rat hind limb with unloading. *Journal of Musculoskeletal and Neuronal Interactions* 2013; 13(1): 37–44. PubMed PMID: 23445913.

7. <u>Spieker AJ</u>, Narayanaswami P, Fleming L, Keel JC, Muzin SC, Rutkove SB. Electrical impedance myography in the diagnosis of radiculopathy. *Muscle and Nerve* 2013; 48(5): 800–805. PubMed PMID: 23483460.

8.   Sung M, Li J, Spieker AJ, Spatz J, Ellman R, Ferguson G, Bateman T, Rosen GD, Bouxsein M, Rutkove SB. Spaceflight and hind limb unloading induce similar changes in electrical impedance characteristics of mouse gastrocnemius muscle. *Journal of Musculoskeletal and Neuronal Interactions* 2013; 13(4): 405–411. PubMed PMID: 24292610.

9.   Spieker AJ, Delaney JAC, McClelland RL. Evaluating the treatment effects model for estimation of cross-sectional associations between risk factors and cardiovascular biomarkers influenced by medication use. *Pharmacoepidemiology and Drug Safety* 2015; 24(12): 1286–1296. PubMed PMID: 26419411.

10. Hsi RS, Spieker AJ, Stoller ML, Jacobs DR Jr., Reiner AP, McClelland RL, Kahn AJ, Chi T, Szklo M, Sorensen MD. Coronary artery calcium score and association with recurrent nephrolithiasis: The Multi-Ethnic Study of Atherosclerosis. *Journal of Urology* 2015; 195(4): 971–976. PubMed PMID: 26454103.

11. Johnson M, Pierson ER., Spieker AJ, Nielsen S, Posso S, Kita M, Buckner J, Goverman J. Distinct T cell signatures define subsets of multiple sclerosis patients. *Neurology: Neuroimmunology & Neuroinflammation* 2016; 3(5): e278. PubMed PMID: 27606354.

12. Spieker AJ, Huang Y. A method to address between-subject heterogeneity for identification of principal surrogate markers in repeated low-dose challenge HIV vaccine studies. *Statistics in Medicine* 2017; 36(26): 4167–4181. PubMed PMID: 28758224.

13. Stephens-Shields AJ, Spieker AJ, Yang W, Anderson A, Drawz P, Fischer M, Sozio SM, Feldman H, Joffe M, Green T, The CRIC Study Investigators. Blood pressure and the risk of chronic kidney disease progression using multistate marginal structural models in the CRIC study. *Statistics in Medicine* 2017; 36(26): 4071–4080. PubMed PMID: 28791722.

14. Spieker AJ, Roy JA, Mitra N. Analyzing medical costs with time-dependent treatment: The nested g-formula. *Health Economics* 2018; 27(7): 1063–1073. PubMed PMID: 29663579.

15. Spieker AJ, Delaney JAC, McClelland RL. A method to account for covariate-specific treatment effects when estimating biomarker associations in the presence of endogenous medication use. *Statistical Methods in Medical Research* 2018; 27(8): 2279–2293. PubMed PMID: 29984639.

16. Wan J*, Oganisian A*, Spieker AJ, Hoffstad OJ, Mitra N, Margolis DJ, and Takeshita J. Racial/ Ethnic variation in use of ambulatory and emergency care for atopic dermatitis among U.S. children. *Journal of Investigative Dermatology* 2019; 139(9): 1906–1913. PubMed PMID: 30878673.

17. Klink T, Rankin DA, Piya B, Spieker AJ, Faouri S, Shehabi A, Williams JV, Khuri-Bulos N, Halasa NB. Evaluating the diagnostic accuracy of the WHO Severe Acute Respiratory Infection (SARI) criteria in Middle Eastern children under two years over three respiratory seasons. *PLOS One* 2020; 15(4): e0232188. PubMed PMID: 32353012.

18. Nelson LA, Spieker A, Greevy R, LeStourgeon LM, Wallston KA, Mayberry LS. User engagement among diverse adults in a 12-month text message-delivered diabetes support intervention: Results from a randomized controlled trial. *JMIR mHealth and uHealth* 2020; 8(7): e17534. PubMed PMID: 32706738.

19. Gordetsky J, Spieker AJ, Rodriguez Pena MDC, Kamanda S, Anderson MR, Cheville J, Boorjian S, Frank I, Prieto Granada C, Comperat E, Hirsch MS, Iczkowski KA, Imblum B, Schwartz L, Giannico GA, Rais-Bahrami S. Squamous cell carcinoma of the bladder Is not associated with high-risk HPV. *Urology* 2020; 144: 158–163. PubMed PMID: 32681917.

20. Spieker AJ, Ko E, Roy JA, Mitra N. Nested g-computation: A causal approach to analysis of censored medical costs in the presence of time-varying treatment. *Journal of the Royal Statistical Society, Series C (Applied Statistics)* 2020; 69(5):1189–1208 (arXiv:1705.08742).

21. Probst V, Datyner EK, Haddadin Z, Rankin DA, Hamdan L, Rahman HK, Spieker A, Stewart LS, Guevara C, Yepsen E, Schmitz JE, Halasa NB. Human adenovirus species in children with acute respiratory illnesses. *Journal of Clinical Virology* 2021; 134: 104716. PubMed PMID: 33360858.

22. Nelson LA, Greevy R, Spieker A, Wallston KA, Elasy TA, Kripalani S, Gentry C, Bergner EM, LeStourgeon LM, Williamson SE, Mayberry LS. Effects of a tailored text messaging intervention among diverse adults with type 2 diabetes: Evidence from the 15-month REACH randomized controlled trial. *Diabetes Care* 2021; 44(1): 26–34. PubMed PMID: 33154039.

23. Halasa N, Piya B, Stewart LS, Rahman H, Payne DC, Woron A, Thomas L, Constantine-Renna L, Garman K, McHenry R, Chappell J, Spieker AJ, Fonnesbeck C, Batarseh E, Hamdan L, Wikswo ME, Parashar U, Bowen MD, Vinjé J, Hall AJ, Dunn JR. The changing landscape of pediatric viral enteropathogens in the post–rotavirus vaccine era. *Clinical Infectious Diseases* 2021; 72(4): 576–585. PubMed PMID: 32009161.

24. Howard LM, Rankin DA, Spieker AJ, Gu W, Haddadin Z, Probst V, Rahman H, McHenry R, Guevara-Pulido C, Williams JV, Faouri S, Shehabi A, Khuri-Bulos N, Halasa NB. Clinical features of parainfluenza infections among young children hospitalized for acute respiratory illness in Amman, Jordan. *BMC Infectious Diseases* 2021; 21(1): 323. PubMed PMID: 33827449.

25. Spieker AJ, Illenberger N, Roy JA, Mitra N. Net benefit separation and the determination curve: A probabilistic framework for cost-effectiveness estimation. *Statistical Methods in Medical Research* 2021; 30(5): 1306–1319 (arXiv:1912.00039). PubMed PMID: 33826460.

26. Spieker AJ, Delaney JAC, McClelland RL. Semi-parametric estimation of biomarker age trends with endogenous medication use in longitudinal data. *Observational Studies* 2021; 7: 110-129 (arXiv: 2101.09233).

27. Haddadin Z, Beveridge S, Fernandez K, Rankin DA, Probst V, Spieker AJ, Markus TM, Stewart LS, Schaffner W, Lindegren ML, Halasa N. Respiratory syncytial virus disease severity in young children. To appear in *Clinical Infectious Diseases* 2021+. PubMed PMID: 33095882.

28. Hamdan L, Vandekar S, Spieker AJ, Rahman H, Ndi D, Shekarabi ES, Thota J, Rankin DA, Haddadin Z, Markus T, Aronoff DM, Schaffner W, Gaddy JA, Halasa NB. Epidemiological trends of racial disparities in early- and late-onset group B streptococcus disease in Tennessee. To appear in *Clinical Infectious Diseases* 2021+. PubMed PMID: 33031511.

29. Haddadin Z, Schuster JE, Spieker AJ, Rahman H, Blozinski A, Stewart L, Campbell AP, Lively JY, Michaels MG, Williams JV, Boom JA, Sahni LC, Staat M, McNeal M, Selvarangan R, Harrison CJ, Weinberg GA, Szilagyi PG, Englund JA, Klein EJ, Curns AT, Rha B, Langley GE, Hall AJ, Patel MM, Halasa NB. Acute respiratory illnesses in children in the SARS-CoV-2 pandemic: Prospective multicenter study. To appear in *Pediatrics* 2021+. PubMed PMID: 33986150.

30. Haddadin Z, Rankin DA, Lipworth L, Suh M, McHenry R, Blozinski A, George SS, Fernandez KN, Varjabedian R, Spieker AJ, Shepard DS, Halasa NB. Respiratory virus surveillance in infants across different clinical settings. To appear in *Journal of Pediatrics* 2021+. PubMed PMID: 33774057.

31. Haddadin Z, Batarseh E, Hamdan L, Stewart LS, Piya B, Rahman H, Spieker AJ, Chappell J, Wikswo ME, Dunn JR, Payne DC, Vinjé J, Hall A, Halasa N. Characteristics of GII.4 norovirus versus other genotypes in sporadic pediatric infections in Davidson County, Tennessee, USA. To appear in *Clinical Infectious Diseases* 2021+. PubMed PMID: 32667045.

32. Spieker AJ, Greevy R, Mayberry L, Nelson L. Bounding the local average treatment effect in an instrumental variable analysis of engagement with a mobile intervention. To appear in *The Annals of Applied Statistics*, 2021+ (arXiv:2008.06473).

Invited commentaries and responses

33. Spieker AJ. Comment on "Penalized Spline of Propensity Methods for Treatment Comparison" by Zhou, Elliott, and Little. *Journal of the American Statistical Association* 2019; 114(S25): 20–23.

34. Haddadin Z, Spieker AJ, Schaffner W, Halasa N. Reply to author. (Response to "Clinical disease severity scores and viral loads in children with RSV infection" by Mejias et al.) To appear in *Clinical Infectious Diseases* 2021+. PubMed PMID: 33216146.

Manuscripts under review or pending submission

35. Spieker AJ*, Gordetsky J*, Maris AS, Dehan LM, Denney JE, Arnold Egloff SA, Scarpato K, Barocas D, Giannico GA. PTEN expression and morphologic patterns in prostatic adenocarcinoma. Undergoing revisions for re-submission to *Histopathology*.

36. Nelson LA, Spieker AJ, Kripilani S, Rothman R, Roumie C, Coco J, Fabbri D, Levy P, Collins SP, McNaughton CD. User preferences for and engagement with text messages to support antihypertensive medication adherence: Findings from a pilot study evaluating an emergency department-based behavioral intervention. Undergoing revisions for re-submission to *Patient Education and Counseling*.

37. Schmidt H*, Spieker AJ*, Luo T, Szymczak J, Grande D. Physicians and Medicaid work requirements: Variability in primary care physician response to patient exemption requests. Submitted to JAMA Internal Medicine.

38. Illenberger N, Mitra N, Spieker AJ. A regression framework for a probabilistic measure of cost-effectiveness. Submitted to *Health Economics* (arXiv:2101.10466).

39. Hamdan L, Probst V, Vandekar S, Stewart LS, Rahman H, Spieker AJ, Ogokeh C, Rha B, Boom JA, Munoz F, Englund JA, Selvarangan R, Staat MA, Weinberg GA, Azimi PH, Klein EJ, McNeal M, Sahni LC, Singer MN, Szilagyi PG, Harrison CJ, Patel M, Campbell AP, Halasa NB. Influenza clinical testing and antiviral treatment in hospitalized children with acute respiratory illness, 2015-2016. Submitted to *Clinical Infectious Diseases*.

40. Haddadin Z, Spieker AJ, Rahman H, Rankin D, Talj R, Yanis A, Schmitz J, Chappell J, Halasa NB. Respiratory pathogens during the COVID-19 pandemic: alterations in detection and seasonality. Submitted to *Clinical Infectious Diseases*.

41. Nelson LA*, Spieker AJ*, Mayberry LS, McNaughton C, Greevy R. Estimating the impact of engagement with digital health interventions on patient outcomes in randomized trials. Pending submission to *Journal of the American Medical Informatics Association*.

42. Illenberger N, Spieker AJ, Mitra N. Identifying optimally cost-effective dynamic treatment regimes with a Q-learning approach. Pending submission to *Biometrics*.

43. Wiese AD, Osmundson SS, Mitchel, Jr. EM, Adgent M, Phillips S, Patrick SW, <u>Spieker AJ</u>, Grijalva CG. The risk of serious opioid-related events associated with common opioid prescribing regimens in the postpartum period after cesarean. Pending submission to *American Journal of Obstetrics and Gynecology.*

44. <u>Spieker AJ</u>, Nelson LA, Rothman R, Roumie C, Kripilani S, Coco J, Fabbri D, Levy P, Collins SP, Wang T, McNaughton CD. User preferences for and engagement with text messages to support antihypertensive medication adherence: Findings from a pilot study evaluating an emergency department-based behavioral intervention. Pending submission to *Journal of General Internal Medicine*.

PRESENTATIONS

<u>Invited workshops</u>

1. Computing session for propensity score methods. First Causal Inference and Big Data Summer Institute: Philadelphia, PA, July 2017.

2. Computing session for propensity score and matching methods. Second Causal Inference and Big Data Summer Institute: Philadelphia, PA, June 2018.

3. Introduction to causal inference. Causal Inference and Pharmacoepidemiology Summer Institute: Piscataway, NJ, July 2019.

4. Propensity scores: Matching and inverse probability of treatment weighting. Summer Short Course on Causal Inference, University of Pennsylvania Center for Causal Inference (Virtual), June 2020.

5. Propensity scores: Matching and inverse probability of treatment weighting. Causality in Clinical Research: What, Why, When and How, University of Pennsylvania Center for Causal Inference (Virtual), December 2020.

6. Propensity score and matching methods. Vanderbilt University Medical Center, Department of Biostatistics Continuing Education Seminar Series (Virtual), January 2021.

<u>Invited conference presentations</u>

1. Causal approaches to cost and cost-effectiveness analysis with time-dependent treatment regimes. ENAR: Atlanta, GA, March 2018.

2. Approaches to cost-effectiveness analysis based on individual monetary benefit. ENAR: Philadelphia, PA, March 2019.

3. Population-level cost-effectiveness analysis: The individual net benefit from a causal perspective. Third International Conference on Econometrics and Statistics: Taichung, Taiwan, June 2019.

4. Comment on "Penalized Spline of Propensity Methods for Treatment by Zhou, Elliott, and Little". JSM: Denver, CO, July 2019.

5. A second-generation cost-effectiveness acceptability curve based on the Bayesian credible interval for net monetary benefit. International Conference on Health Policy Statistics: San Diego, CA, January 2020.

6. Bounds for local average treatment effects in instrumental variable analyses of mobile interventions. ICSA Applied Statistics Symposium (Virtual): December 2020.

7. Bounding local average treatment effects under exclusion-restriction violations in mobile health interventions. Fourth International Conference on Econometrics and Statistics (Virtual): June 2021.

8. Semi-parametric estimation of biomarker age trends with endogenous medication use in longitudinal data. Thirteenth International Conference on Computational and Methodological Statistics: London, UK, December 2021.

Department seminars

1. Flexible modeling of biomarker associations in the presence of endogenous treatment. Collaborative Health Studies Coordinating Center. Seattle, WA, March 2015.

2. Extending Heckman's treatment effects model to allow heterogeneity in the effects of medication use. FDA Center for Drug Evaluation and Research. White Oak, MD, September 2015.

3. Understanding natural history in the presence of endogenous medication use. Weill Cornell Medical College Division of Biostatistics and Epidemiology. New York, NY, January 2016.

4. Accounting for endogenous medication use when estimating natural biomarker associations using observational data. Stanford Medicine Quantitative Sciences Unit. Palo Alto, CA, March 2016.

5. Recovering natural history: Modeling biomarker age trends in the presence of endogenous medication use. University of Pennsylvania Division of Biostatistics. Philadelphia, PA, October 2016.

6. The nested g-formula: A causal approach to analysis of medical cost data in the presence of censoring. University of Washington, Collaborative Health Studies Coordinating Center. Seattle, WA, May 2017.

7. Analyzing medical cost outcomes with time-dependent treatment. New York University Department of Population Health. New York, NY, October 2017.

8. The nested g-formula: A causal approach for analyzing medical cost outcomes. New York University Division of Biostatistics. New York, NY, January 2018.

9. The nested g-formula: A causal approach for analyzing medical cost outcomes. University of Pennsylvania Division of Biostatistics. Philadelphia, PA, January 2018.

10. The nested g-formula: A causal approach for analyzing medical cost outcomes. University of British Columbia Department of Statistics. Vancouver, BC, January 2018.

11. Analyzing medical cost outcomes with time-dependent treatment. British Columbia Children's Hospital Research Institute. Vancouver, BC, January 2018.

12. The nested g-formula: A causal approach for analyzing medical cost outcomes. University of Utah Department of Population Health. Salt Lake City, UT, February 2018.

13. Analyzing medical cost outcomes with time-dependent treatment. Hunstman Cancer Institute. Salt Lake City, UT, February 2018.

14. Analyzing medical cost outcomes with time-dependent treatment. University of Massachusetts Amherst Department of Biostatistics. Amherst, MA, February 2018.

15. The nested g-formula: A causal approach for analyzing medical cost outcomes. Vanderbilt University Department of Biostatistics Seminar. Nashville, TN, February 2018.

16. Analyzing cost outcomes with time-varying treatment: Guidance for resource allocation and health policy decisions. Drexel University Biostatistics Seminar. Philadelphia, PA, February 2018.

17. Analyzing cost outcomes with time-varying treatment: Guidance for resource allocation and health policy decisions. State University of New York at Albany Epidemiology and Biostatistics Seminar. Albany, NY, February 2018.

18. Using observational data to aggregate evidence of clinical efficacy with information on medical costs. Vanderbilt University Medical Center Department of Biomedical Informatics. Nashville, TN, February 2019.

19. Bounding local average treatment effects in studies of engagement with mobile interventions. University of Québec at Montréal (Virtual). September 2020.

20. Bounding local average treatment effects in studies of engagement with mobile interventions. University of Pennsylvania Center for Causal Inference (Virtual). October 2020.

21. Bounding local average treatment effects in studies of engagement with mobile interventions. Fox Chase Cancer Center (Virtual). January 2021.

22. Bounding local average treatment effects in studies of engagement with mobile interventions. Vanderbilt University Medical Center Department of Biostatistics (Virtual). January 2021.

23. Bounding local average treatment effects in studies of engagement with mobile interventions. University of California at Davis (Virtual). March 2021.

Contributed conference presentations

1. (Oral) A comparison of methods for biomarker associations with endogenous treatment. ENAR: Baltimore, MD, March 2014.

2. (Oral) Extending Heckman's treatment effects model to allow for treatment heterogeneity. WNAR: Boise, ID, June 2015. (WNAR Most Outstanding Oral Presentation Award).

3. (Oral) Extending Heckman's treatment effects model to non-additive treatment effects. Joint Statistical Meetings: Seattle, WA, August 2015.

4. (Oral) Accounting for heterogeneity when evaluating surrogate endpoints in a discrete-time survival model. ENAR: Austin, TX, March 2016.

5. (Oral) A constrained covariance modeling approach for estimation of marginal age trends in the presence of endogenous medication use. ENAR: Washington, D.C., March 2017.

6. (Poster) A nested g-computation approach for analysis of censored medical cost data. Atlantic Causal Inference Conference: Chapel Hill, NC, May 2017. (Thomas R. Ten Have Poster Session Runner-up).

7. (Oral) A nested g-computation approach to analyze medical cost outcomes in the presence of censoring. WNAR: Santa Fe, NM, June 2017.

8. (Oral) A new direction for health policy decisions based on subgroup discovery: The cost-effectiveness determination curve. Joint Statistical Meetings: Vancouver, BC, August 2018.

9. (Oral) Bounding local average treatment effects in studies of engagement with mobile interventions. ENAR (Virtual). March 2021.

10. (Oral) Statistical methods to understand the role of engagement in studies of mobile health interventions. JSM (Virtual). August 2021.

STATISTICAL SOFTWARE PACKAGES (R)

- `uwIntroStats`: Emerson SS, Spieker AJ, Williamson BD, Hee Wai T, Lim S. Descriptive Statistics, Inference, Regression, and Plotting in an Intro Stats. Course.
- `endogenous`: Spieker AJ. Classical Simultaneous Equation Models.